

# 2017-2018 Squirrel Report

## Kentucky Department of Fish and Wildlife Resources



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## Introduction

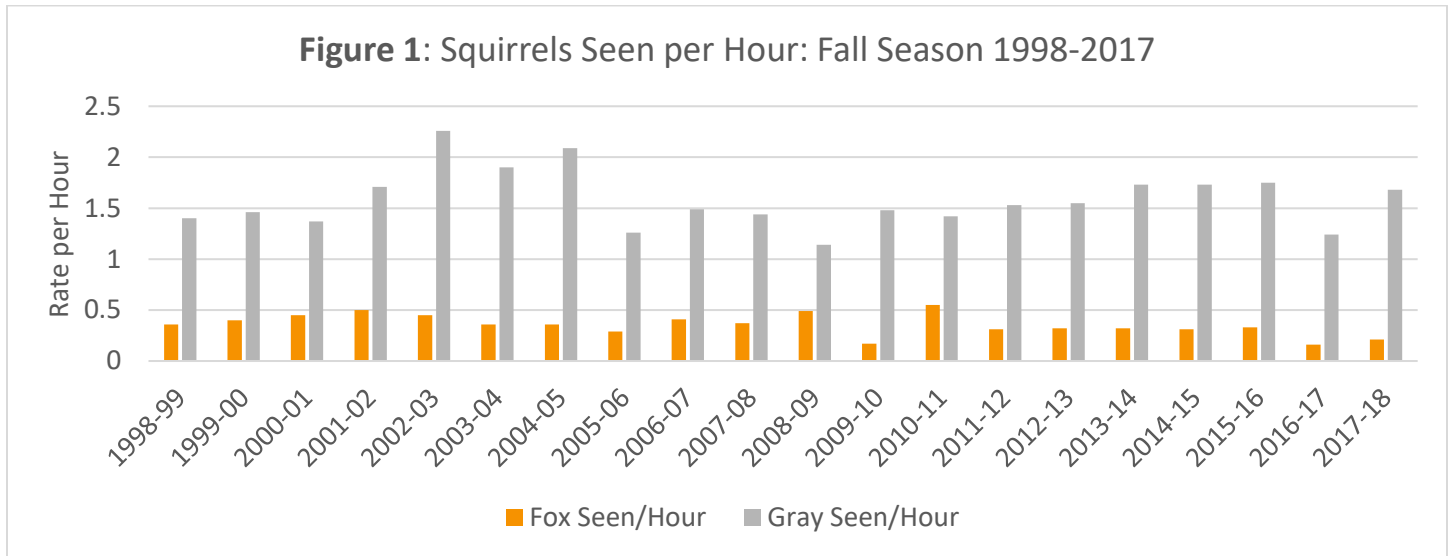
The Small Game Program is administered under the Wildlife Division of Kentucky Department of Fish and Wildlife Resources (KDFWR). The KDFWR is an agency of the Kentucky Tourism, Arts & Heritage Cabinet. It is overseen by a nine-member commission who are nominated by Kentucky’s sportsmen and sportswomen. 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 squirrel population in Kentucky is indexed as squirrels seen per hour afield hunting. These data are generated from hunter cooperator logs. The squirrel population in Kentucky appears to ebb and flow in roughly 7-year cycles. Last hunting season (2016) was a low point in this cycle, with this most recent hunting season (2017) trending upwards (Figure 1).



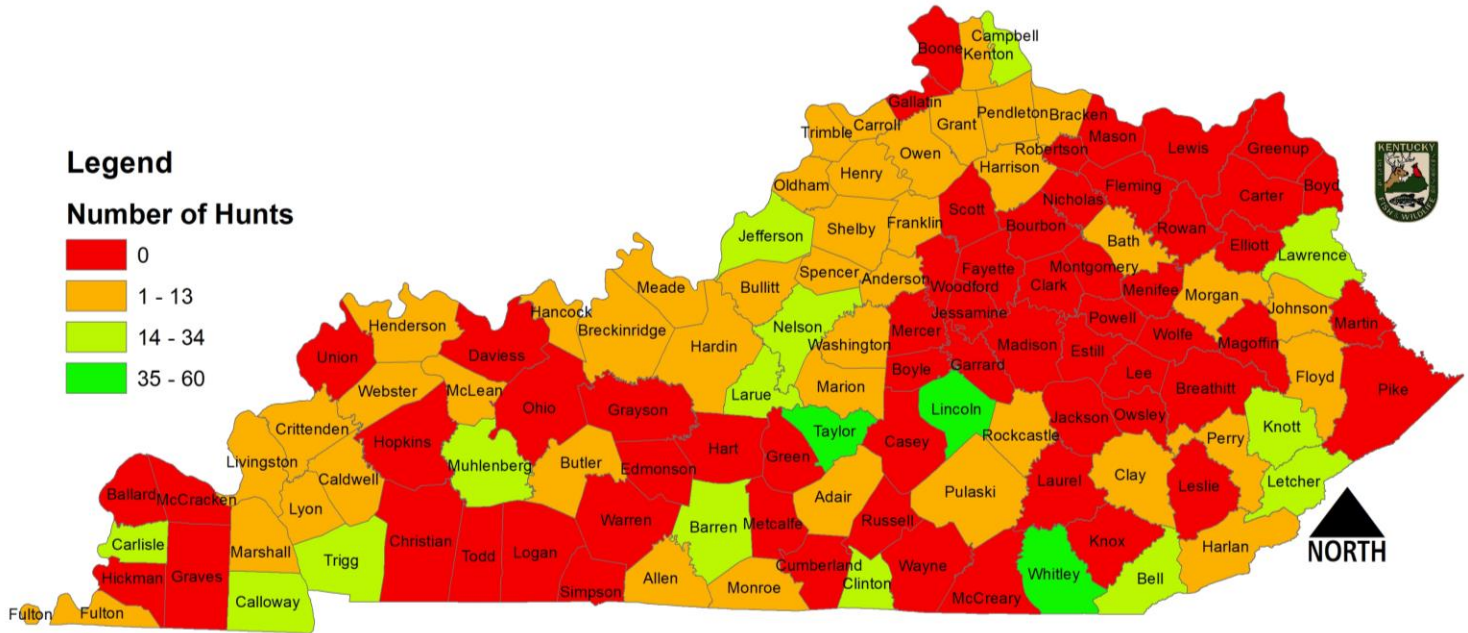
**2017-2018 Squirrel Hunter Cooperator Survey**

The squirrel 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 fox & gray squirrels (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 gives the KDFWR information that can be used to monitor squirrel 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 Squirrel Hunter Cooperator Surveys**

Participation has been decreasing over the last several years, with a sharp decline in the 2016 hunting season (Table 1). Please take a look at the below map (Figure 2), 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 squirrel hunters to do the same. Why not take someone new hunting this year? The future of hunting depends on it!

**Figure 2:** Hunter cooperators logs reporting hunts from each county in Kentucky. Warmer colors equal less hunts and cooler colors equal more hunts per county.



**Table 1:** Hunting statistics from past hunter cooperator surveys in Kentucky from the 2011 hunting season to present.

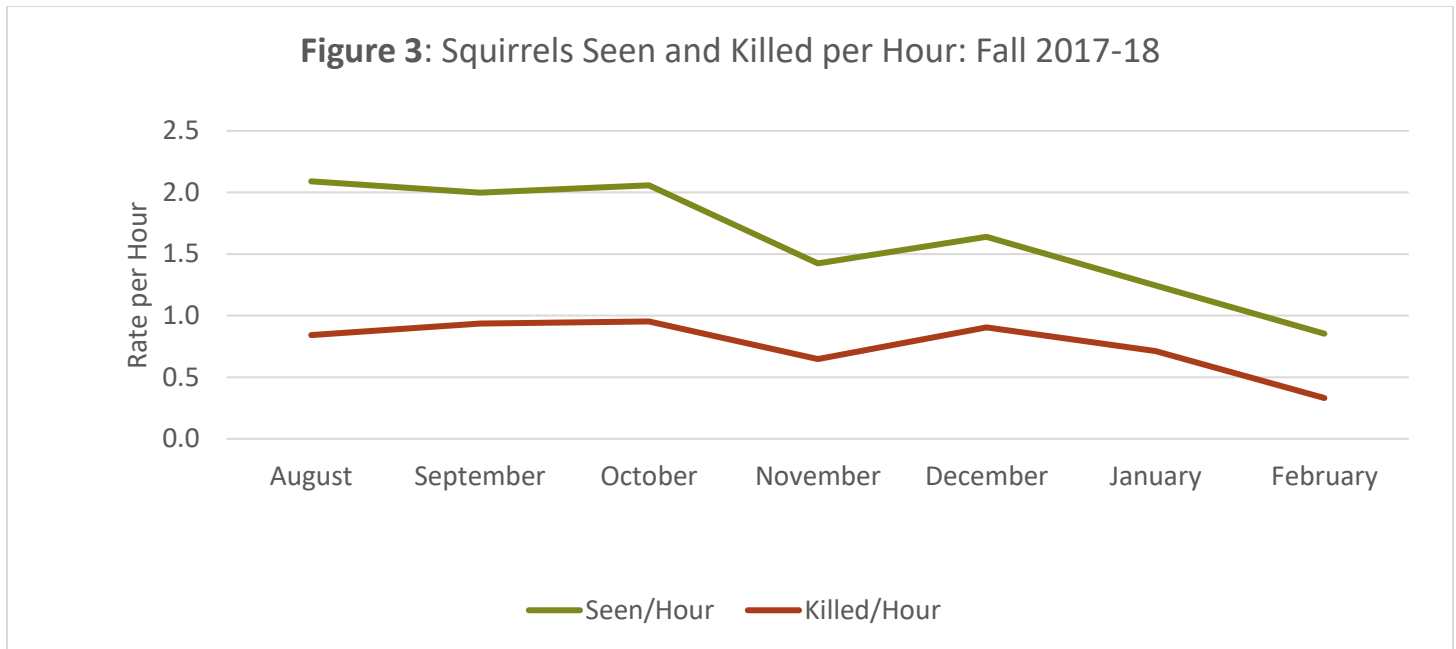
<b>STATISTICS</b>	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	<b>2017-18</b>
<i>Total cooperators</i>	85	83	81	86	81	59	65
<i>Total hunts</i>	1144	1123	1077	1079	1101	646	762
<i>Total counties</i>	76	69	72	73	70	65	60
<i>Average hunts/cooperator</i>	13.3	13.5	13.2	12.5	13.6	10.9	11.7
<i>Total hours</i>	3063	3319	3097	3016	3017	1847	1957
<i>Hunts using dogs (%)</i>	13.0	13.8	17.6	20.4	24.3	20.7	16.8
<i>Total fox squirrels seen</i>	947	1053	1005	929	994	288	405
<i>Total fox squirrels killed</i>	487	550	533	473	492	152	214
<i>Total fox squirrels wounded</i>	40	39	35	31	23	7	11
<i>Total gray squirrels seen</i>	4684	5145	5342	5213	5275	2286	3206
<i>Total gray squirrels killed</i>	2315	2389	2561	2451	2654	1066	1440
<i>Total gray squirrels wounded</i>	177	227	185	164	156	64	81
<i>Harvest of squirrels seen (%)</i>	49.7	47.4	48.7	50.7	50.2	47.3	45.8
<i>Squirrels wounded (%)</i>	3.8	4.3	3.4	3.1	2.9	2.75	2.55
<i>Hunting mortality (%)</i>	53.6	51.7	52.2	53.8	53.1	50.1	48.4

## 2017-18 Hunter Cooperator Results

Logs were received from 65 squirrel hunters this last hunting season (a 10% increase from last year, Thank you!). Hunters averaged 11.7 hunting trips throughout the season. Seventeen percent of squirrel hunters used dogs in their pursuit. Data were provided from 762 hunts, from 60 counties, with good distribution across the Commonwealth (Figure 1). Hunters saw an average of 5 squirrels per **hunt** and an average of 2 squirrels per **hour**.

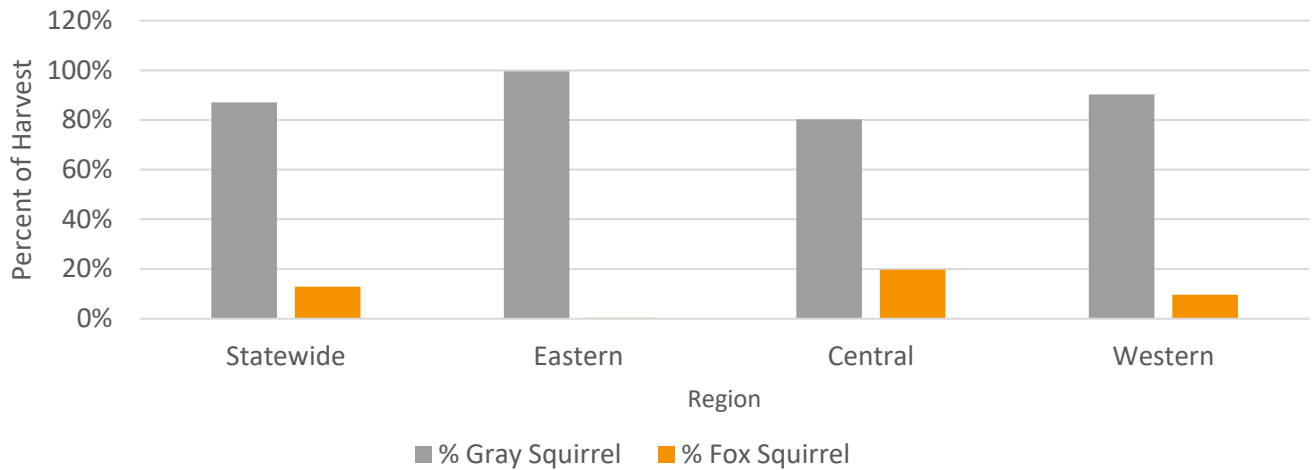
### Harvest Statistics 2017-18

Hunters saw an average of 0.5 fox squirrels and 4.2 gray squirrels per **hunt** and harvested 0.3 fox squirrels and 2 gray squirrels per **hunt**. Hunters saw an average of 0.2 fox squirrels and 1.6 gray squirrels per **hour** hunted and harvested 0.1 fox squirrels and 0.7 gray squirrels per **hour** hunted. The number of squirrels **seen** per hour peaked in August and October (Figure 3). The number of squirrels **harvested** per hour peaked in October (Figure 3).



Hunters harvested 46% of squirrels seen and wounded 3%. Assuming wounded squirrels did not survive, the hunting mortality rate was 49% of squirrels seen in 2017-18. Statewide, 87% of the harvest was composed of gray squirrels (Figure 4). This rate suggests Kentucky squirrel hunters prefer hunting in more extensive forests and woodlands, as gray squirrels frequent this habitat. As opposed to fox squirrels which are found in more edge habitats such as small woodlands and fencerows. It also demonstrates gray squirrels are more abundant in Kentucky than fox squirrels.

**Figure 4: Species Composition of Harvest: 2017-18**

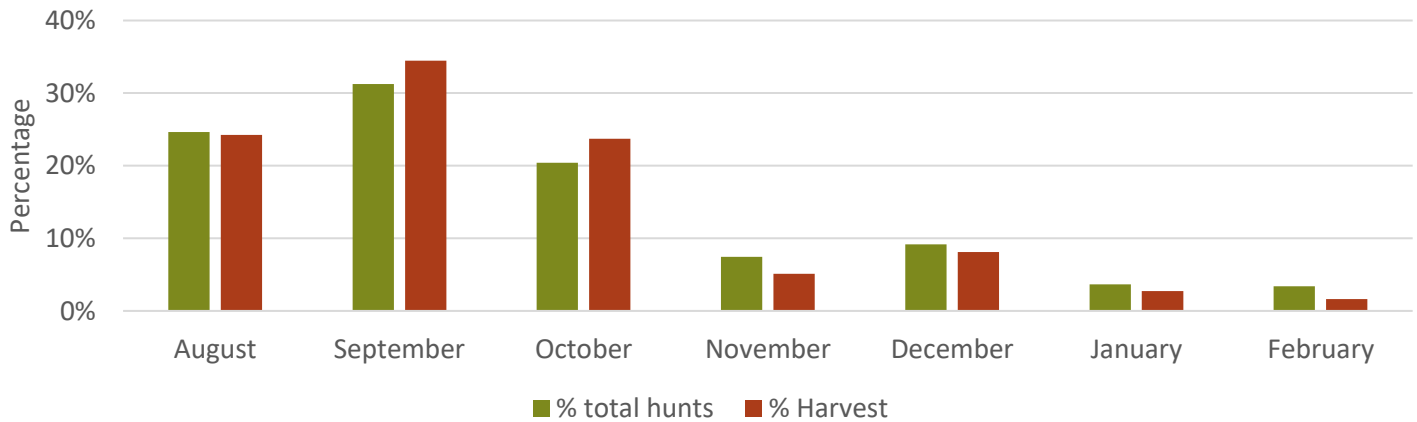


***Hunter Effort***

Hunting effort was greater towards the beginning of squirrel season. Fifty-six percent of the hunts took place in August and September (Figure 5).

The hunter effort index declined as the season progressed, and squirrel-hunting trips were rare in January and February. Squirrel hunting is one of a few seasons open in August and September, and later season opening dates for deer, waterfowl, rabbit, grouse, and quail may account for the greater hunting effort taking place towards the beginning of squirrel season. The percentage of hunts dropped beginning in November, with only 7% of the total hunts occurring in this month. The drop in hunting rate was likely a direct result of the onset of deer gun season. Historical Hunter Cooperator data shows a similar trend.

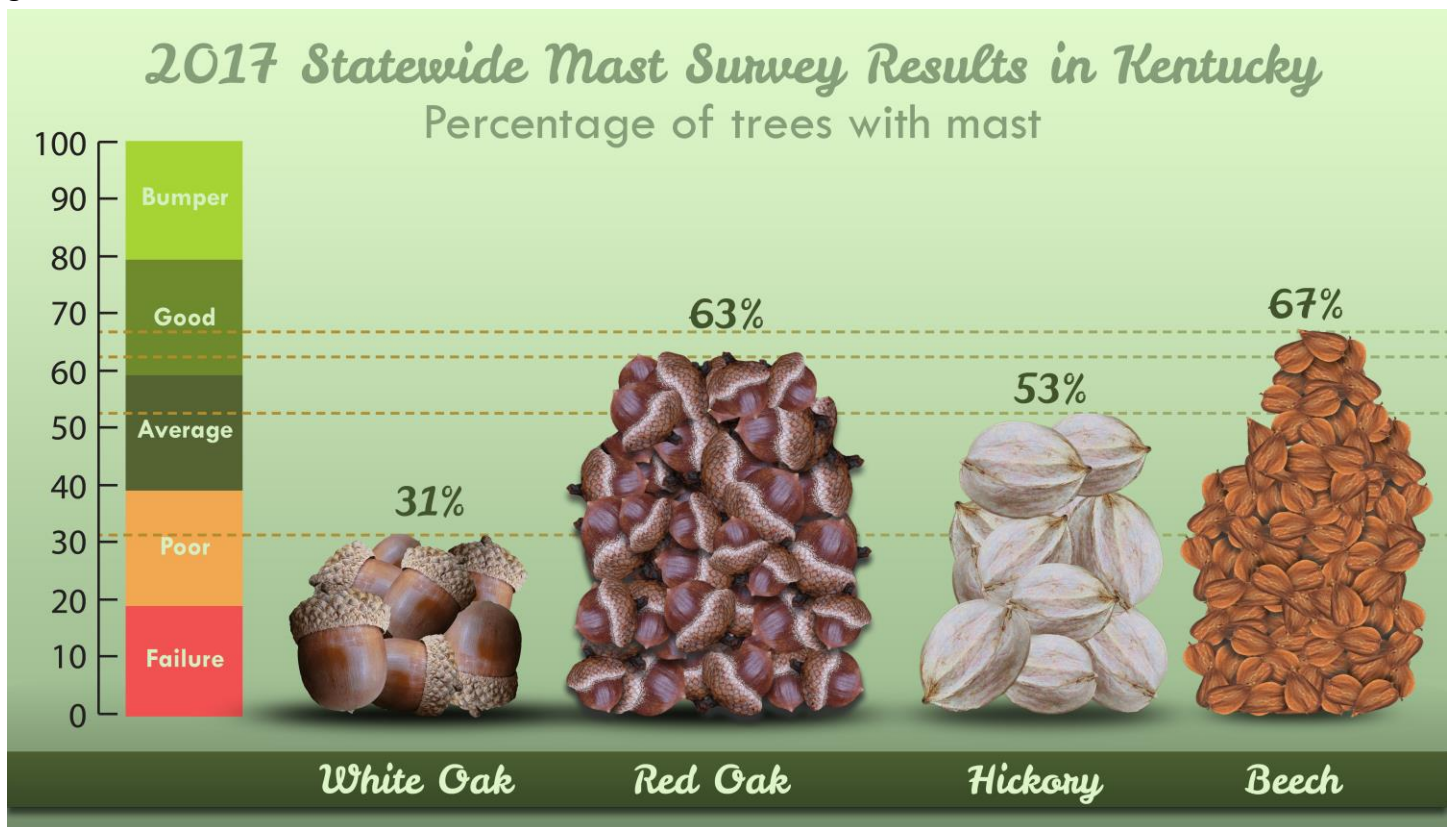
**Figure 5: Percentage of Hunts & Harvest by Month: Fall 2017-18**



## Mast Survey

A statewide mast production survey of Kentucky's most important producers of wildlife foods was initiated in 1953 and has been conducted annually thereafter. A close relationship has been found between a given year's mast production and the following year's squirrel population level statewide. The mast survey looks at the 3 primary mast producing tree groups (hickories, red oaks, and white oaks) with American beech being the only individual species surveyed.

The chart (2017 Statewide Mast Survey Results in Kentucky) shows the proportion of trees bearing acorns (PBA) or other mast across Kentucky. As an example, 31% listed in the white oak column means that for every white oak tree surveyed in Kentucky in 2017, an average of 31% of those trees contained acorns. Statewide, mast production in 2017 was poor for white oak. Red oak, hickory and beech trees were average to good.



## Disease Surveillance

The KDFWR handles disease outbreaks for wildlife across the Commonwealth. There are currently no known disease issues for squirrels in the state. Disease is a natural component of all healthy ecosystems. Some common disease issues that could threaten squirrels in Kentucky are tularemia, mange, or squirrel pox. One gray squirrel from southeast Kentucky was submitted for testing in spring of 2018. This animal was given a diagnosis of squirrel fibroma, AKA squirrel pox. The animal tested negative for tularemia.

Some squirrel hunters hunting early in the fall season may come into contact with squirrels carrying tree squirrel bot flies. The tree squirrel bot fly is an obligate parasite of tree squirrels and chipmunks in North America. The adult flies resemble bumblebees and are about an inch long with black and straw-colored thoraxes and dark wings. Adult flies lay their eggs on twigs, branches and other vegetation that squirrels may come into contact with. The larvae or “bot” emerges from its egg when a tree squirrel host is near and enters the animal through a body cavity (nose, mouth, etc.). The bot will then travel through the animal and settle under the skin. Once settled the bot will create a hole to the outside of the animal’s hide for breathing and getting rid of waste. Although unpleasant to look at, these bot flies have no detrimental effects on the tree squirrel host and harvested squirrels with bot flies are safe to eat. Please see the photo below of a squirrel with a bot fly.



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 2018-19 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	Statewide Bag Limit
Fall Season	August 18 – November 9 and November 12, 2018 – February 28, 2019	6
Spring Season	May 18 – June 14, 2019	6
Trapping Season	November 12, 2018 – February 28, 2019	6

## Outlook for the 2018-2019 Squirrel Season

The 2017 mast crop was rated “poor” for white oak. Beech and hickory trees produced more this year compared to last year. Red oaks produced the same as last year. Taking into account beech, hickory and red oak, Kentucky’s forests were stocked well with food last fall and winter. This falls squirrel hunting should be fantastic! Last year, hunters saw an average of 2 squirrels per hour. This was up from the previous season of 1.4 squirrels seen per hour. This was likely due to the fact that there were less white oak acorns available locally for squirrels to eat and cache. Squirrels likely had to move a little more last season to find food which means they were more likely to be encountered by hunters in the field. Winter was quite mild overall and coupling that with good mast is setting the stage for a banner year in the 2018-19 hunting season.

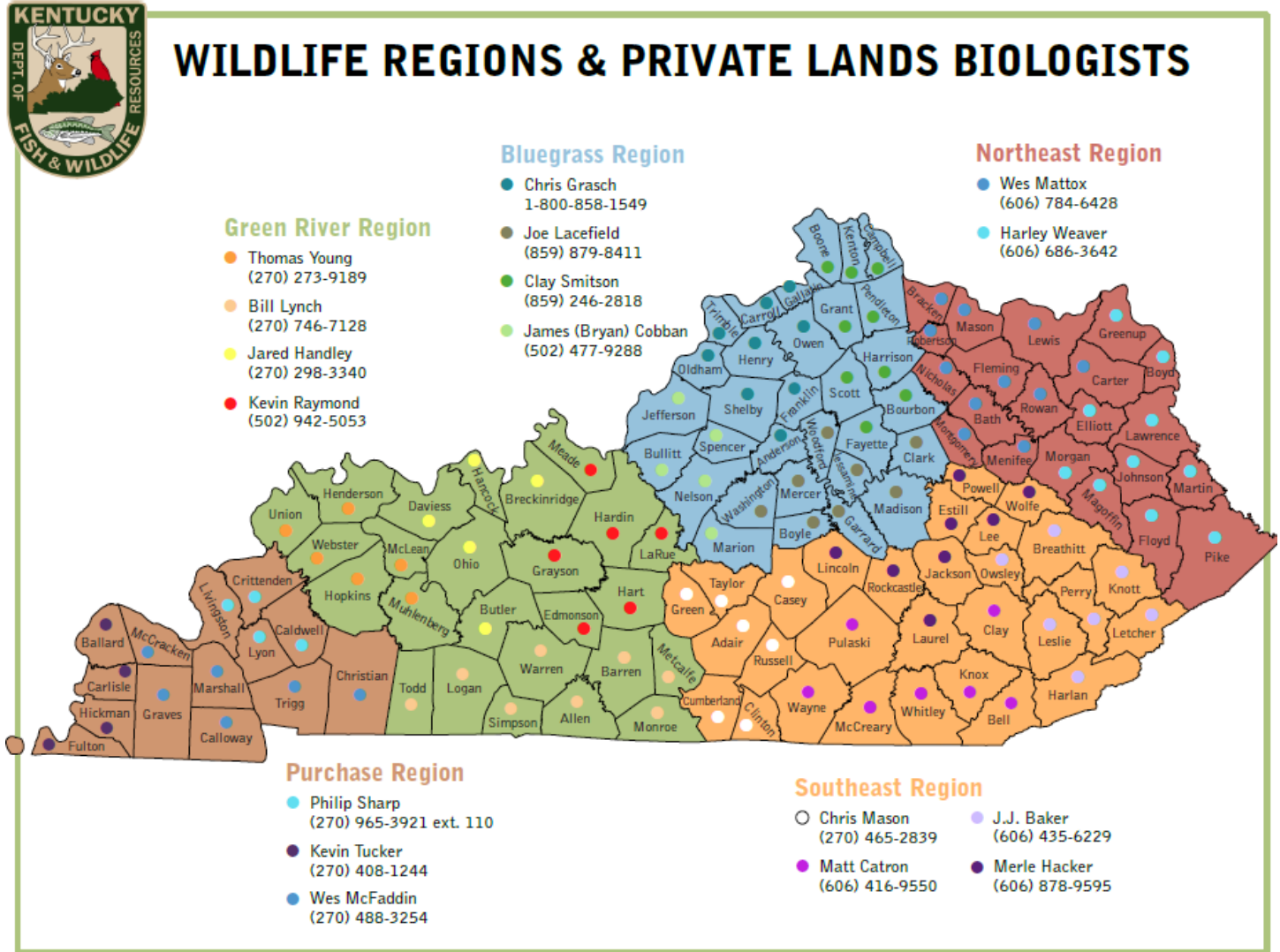
Don't forget to turn in your Hunter Cooperator log at the completion of this year’s hunt. Logs should be returned no later than March 31, 2019. In return, we will send you a report and a small gift as a token of our appreciation.

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

## 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.