

2019-2020 Squirrel Report

Kentucky Department of Fish and Wildlife Resources



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Introduction

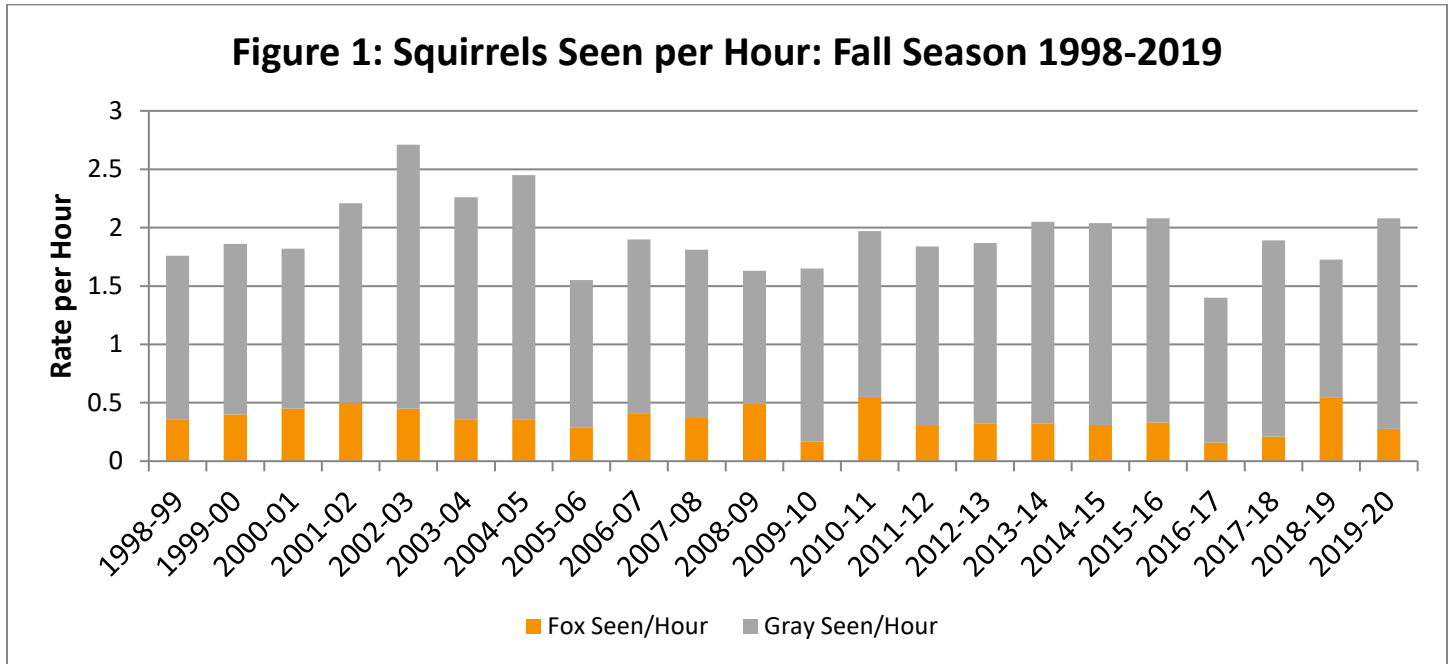
The Small Game Program is administered under the Wildlife Division of Kentucky Department of Fish and Wildlife Resources (KDFWR). The KDFWR is an agency of the Kentucky Tourism, Arts & Heritage Cabinet. A nine-member commission who are nominated by Kentucky’s sportsmen and sportswomen oversees it. The Governor appoints commission members. 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. Hunting season 2016 was a low point in this cycle, with this most recent hunting season (2019) continuing to trend upwards from that low point. The 2019 season was a great year relative to our long-term dataset (Figure 1).



2019-2020 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 and 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.

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 cooperator logs reporting hunts from each county in Kentucky. Warmer colors equal less hunts and cooler colors equal more hunts per county.

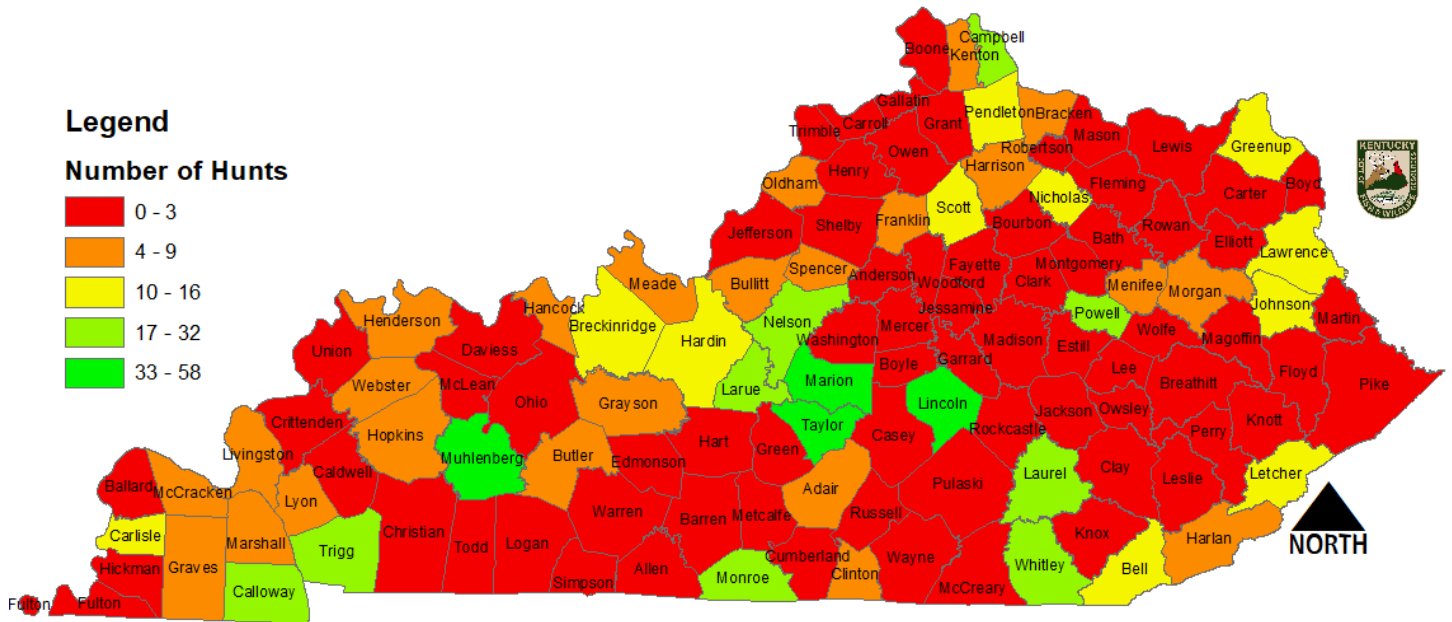


Table 1: Hunting statistics from past hunter cooperator surveys in Kentucky from the 2013 hunting season to present.

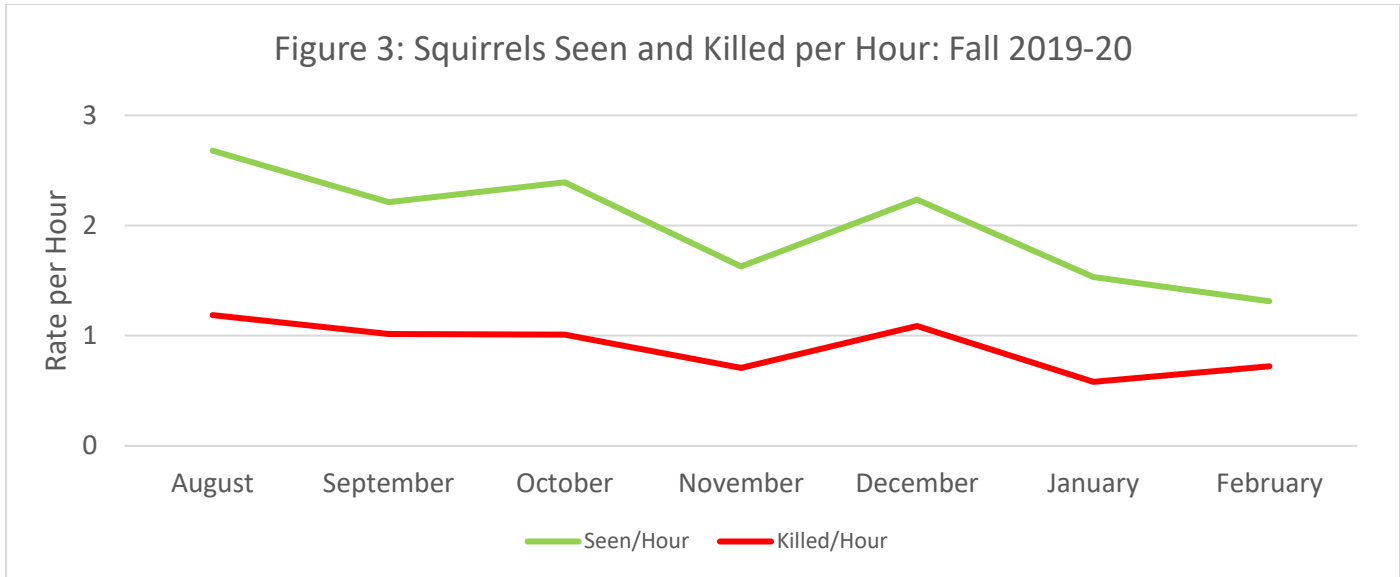
<i>STATISTICS</i>	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<i>Total cooperators</i>	81	86	81	59	65	76	58
<i>Total hunts</i>	1077	1079	1101	646	762	910	679
<i>Total counties</i>	72	73	70	65	60	68	63
<i>Average hunts/cooperator</i>	13.2	12.5	13.6	10.9	11.7	13.4	10.8
<i>Total hours</i>	3097	3016	3017	1847	1957	2478	1756
<i>Hunts using dogs (%)</i>	17.6	20.4	24.3	20.7	16.8	36.3	28.7
<i>Total fox squirrels seen</i>	1005	929	994	288	405	1373	408
<i>Total fox squirrels killed</i>	533	473	492	152	214	480	242
<i>Total fox squirrels wounded</i>	35	31	23	7	11	34	15
<i>Total gray squirrels seen</i>	5342	5213	5275	2286	3206	2914	3351
<i>Total gray squirrels killed</i>	2561	2451	2654	1066	1440	1319	1444
<i>Total gray squirrels wounded</i>	185	164	156	64	81	87	94
<i>Harvest of squirrels seen (%)</i>	48.7	50.7	50.2	47.3	45.8	42.0	44.9
<i>Squirrels wounded (%)</i>	3.4	3.1	2.9	2.75	2.55	2.82	2.90
<i>Hunting mortality (%)</i>	52.2	53.8	53.1	50.1	48.4	44.8	47.8

2019-20 Hunter Cooperator Results

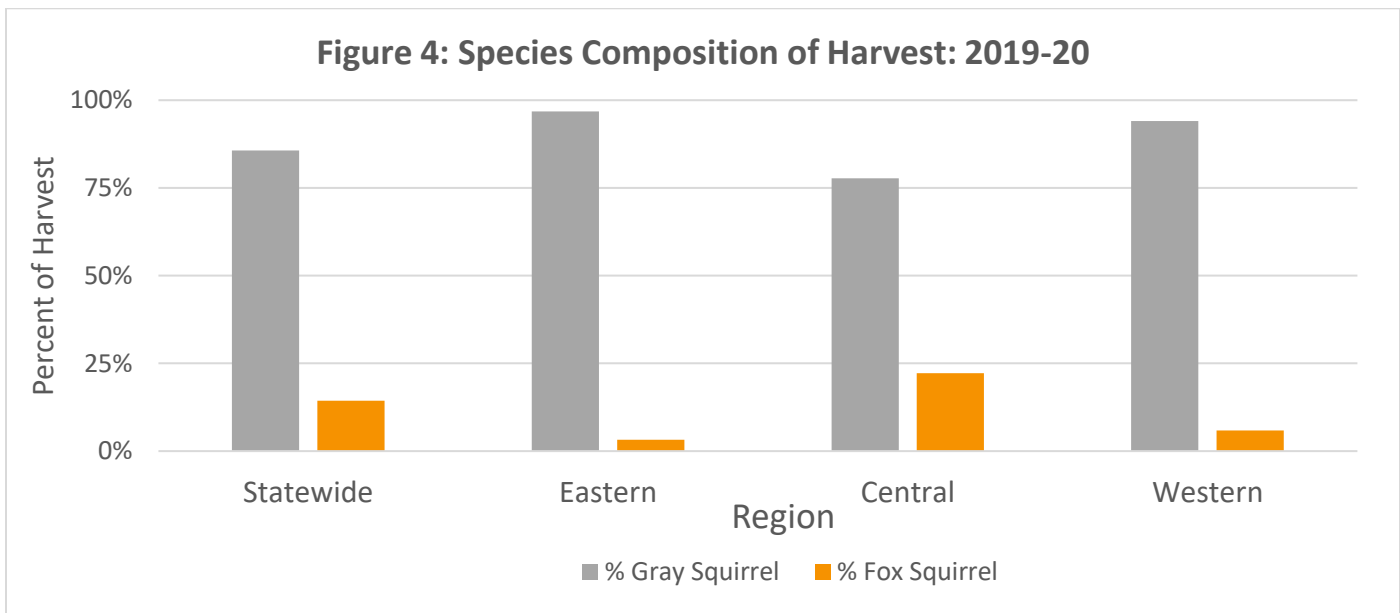
Logs were received from 58 squirrel hunters this last hunting season (a 27% decrease from last year). Hunters averaged 11 hunting trips throughout the season. Twenty-nine percent of squirrel hunters used dogs in their pursuit. Data were provided from 679 hunts, from 63 counties, with good distribution across the Commonwealth (Figure 2). Hunters saw an average of 6 squirrels per **hunt** and an average of 2 squirrels per **hour**.

Harvest Statistics 2019-20

Hunters saw an average of 0.6 fox squirrels and 4.9 gray squirrels per **hunt** and harvested 0.4 fox squirrels and 2.1 gray squirrels per **hunt**. Hunters saw an average of 0.2 fox squirrels and 1.9 gray squirrels per **hour** hunted and harvested 0.1 fox squirrels and 0.8 gray squirrels per **hour** hunted. The number of squirrels **seen** per hour peaked in August (Figure 3). The number of squirrels **harvested** per hour peaked in August (Figure 3).



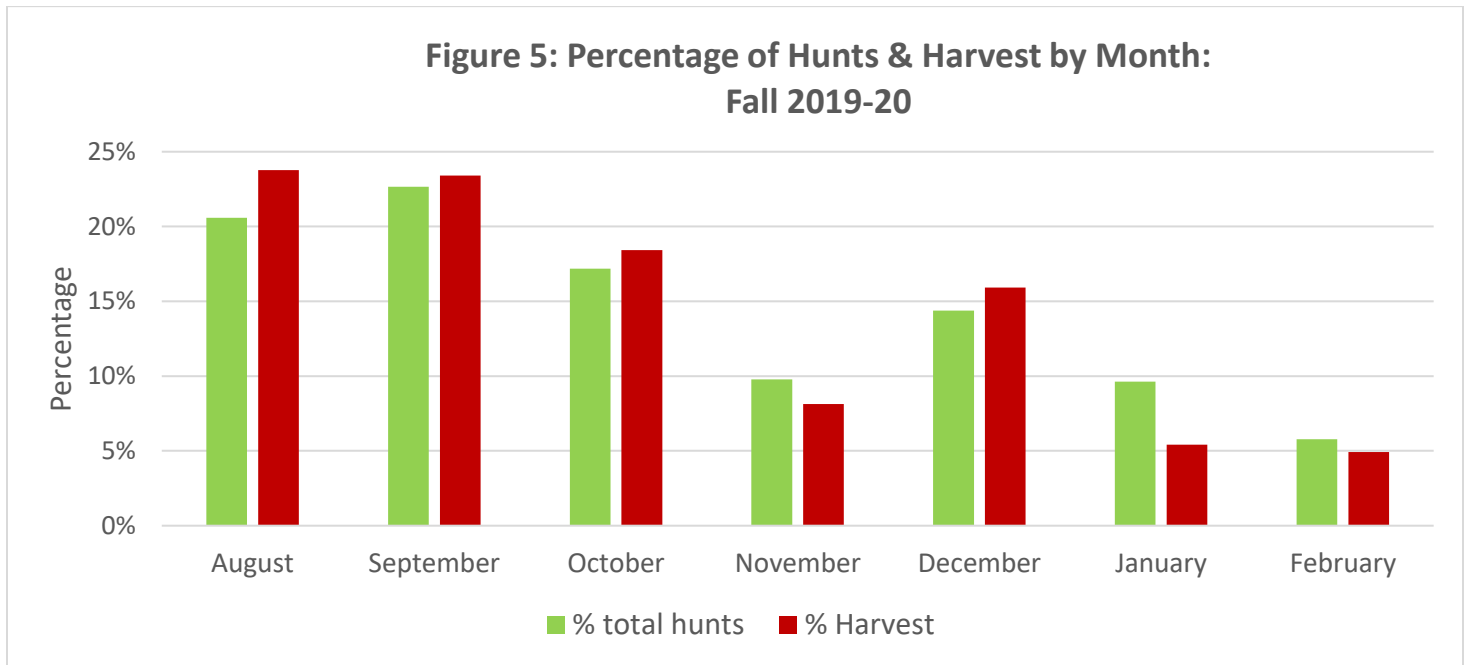
Hunters harvested 45% of squirrels seen and wounded 3%. Assuming wounded squirrels did not survive, the hunting mortality rate was 48% of squirrels seen in 2019-20. Statewide, 86% of the harvest was composed of gray squirrels (Figure 4). This rate suggests Kentucky squirrel hunters prefer hunting in 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. Interestingly, last hunting season the rate of fox squirrel encounters were much lower than previous years, however the amount of gray squirrels hunters were able to see and bag made up for the low number of fox squirrels in the overall trend data (Figure 1).



Hunter Effort

Hunting effort was greater towards the beginning of squirrel season. Sixty percent of the hunts took place in August to October (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. Hunting pressure stayed relatively consistent into October with a sharp decline in November, likely due to the opening of deer firearm season in which sportspeople in Kentucky took a near record number of deer.

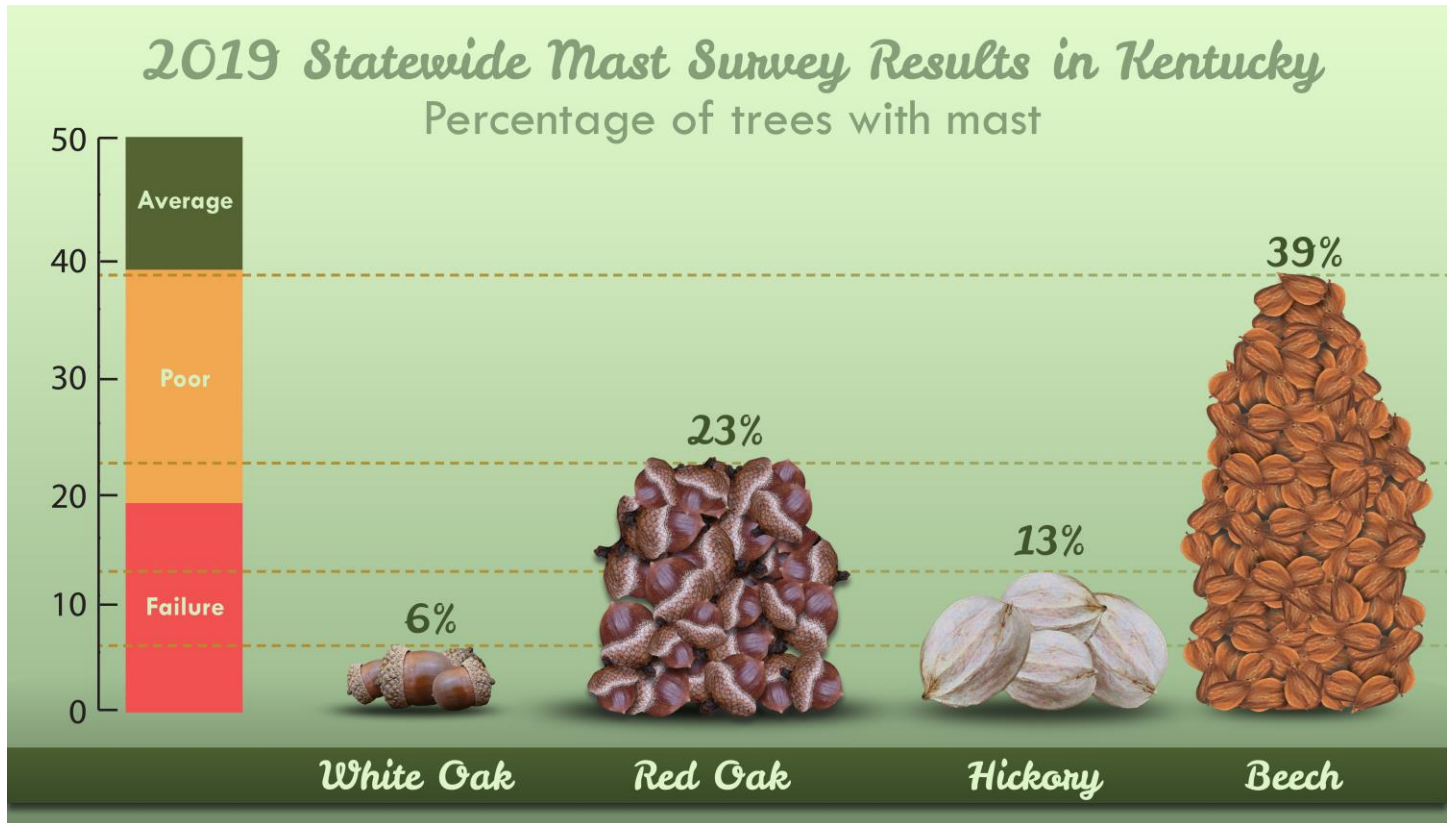


Mast Survey

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 (2019 Statewide Mast Survey Results in Kentucky) shows the proportion of trees bearing acorns (PBA) or other mast across Kentucky. As an example, 6% listed in the white oak column means that for every white oak tree surveyed in Kentucky in 2019, an average of 6% of those trees contained acorns. Statewide, mast production in 2019 was poor for beech and red oak. White oak and hickory trees were considered failures.

The relatively low amounts of quality mast in the woods in 2019 likely resulted in the upturn of squirrels observed per hour compared to last season in Kentucky. As more mast is locally unavailable, more squirrels will be moving around to find food resulting in a greater chance for hunters to encounter them. The Mast Survey for 2020 will be conducted in August 2020 with results posted on KDFWR website and made available upon request.



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. The Small Game Program did not test any animals for disease in the 2019 season.

The Covid-19 pandemic has placed a renewed spotlight on the threat of diseases that may be transmitted between humans and animals. Diseases that move from animals to humans are referred to as zoonotic diseases. Recently a squirrel in Colorado tested positive for bubonic plague. Although this may have sounded like “fake news”, it is likely a true story. Many small mammal species in the semi-arid western United States may be infected with plague through the bite of bacteria carrying fleas. Plague in the west cycles within small mammal populations in the same way tularemia might cycle through squirrels in Kentucky. The bacteria or virus causing the disease is usually carried by a biting insect (fleas, ticks, mosquitos, etc.) and cycles through

the insect to the host(s) and back down to the insects. Often this cycle occurs without causing a large die-off in any given animal population.

Protecting yourself and your pets from diseases such as this includes: wearing long pants and sleeves, utilizing bug repellent on clothes (permethrin) and exposed skin (DEET), treating pets with flea and tick control medication, and wearing gloves when processing game. Generally speaking, it is very rare for sportspeople to contract the common diseases of any given wildlife, however utilizing some of the above mentioned practices may decrease your risk while afield this year.

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; 502-892-4521.

General Information about the 2020-21 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
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 15 – November 13 and November 16, 2020 – February 28, 2021	6
Spring Season	May 15 – June 18, 2021	6
Trapping Season	November 16, 2019 – February 28, 2021	6

Outlook for the 2020-2021 Squirrel Season

As the 2019 Mast Survey results did a good job of predicting the 2019-20 squirrel season, be sure to check out the 2020 Mast Survey this year when available. Last year, hunters saw an average of 2.14 squirrels per hour. This was up from the previous season of 1.8 squirrels seen per hour. This was likely due to the fact that there were fewer oak acorns and beech and hickory nuts available locally for squirrels to eat and cache. Squirrels likely had to move 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, setting the stage for another great year in the 2020-21 hunting season.

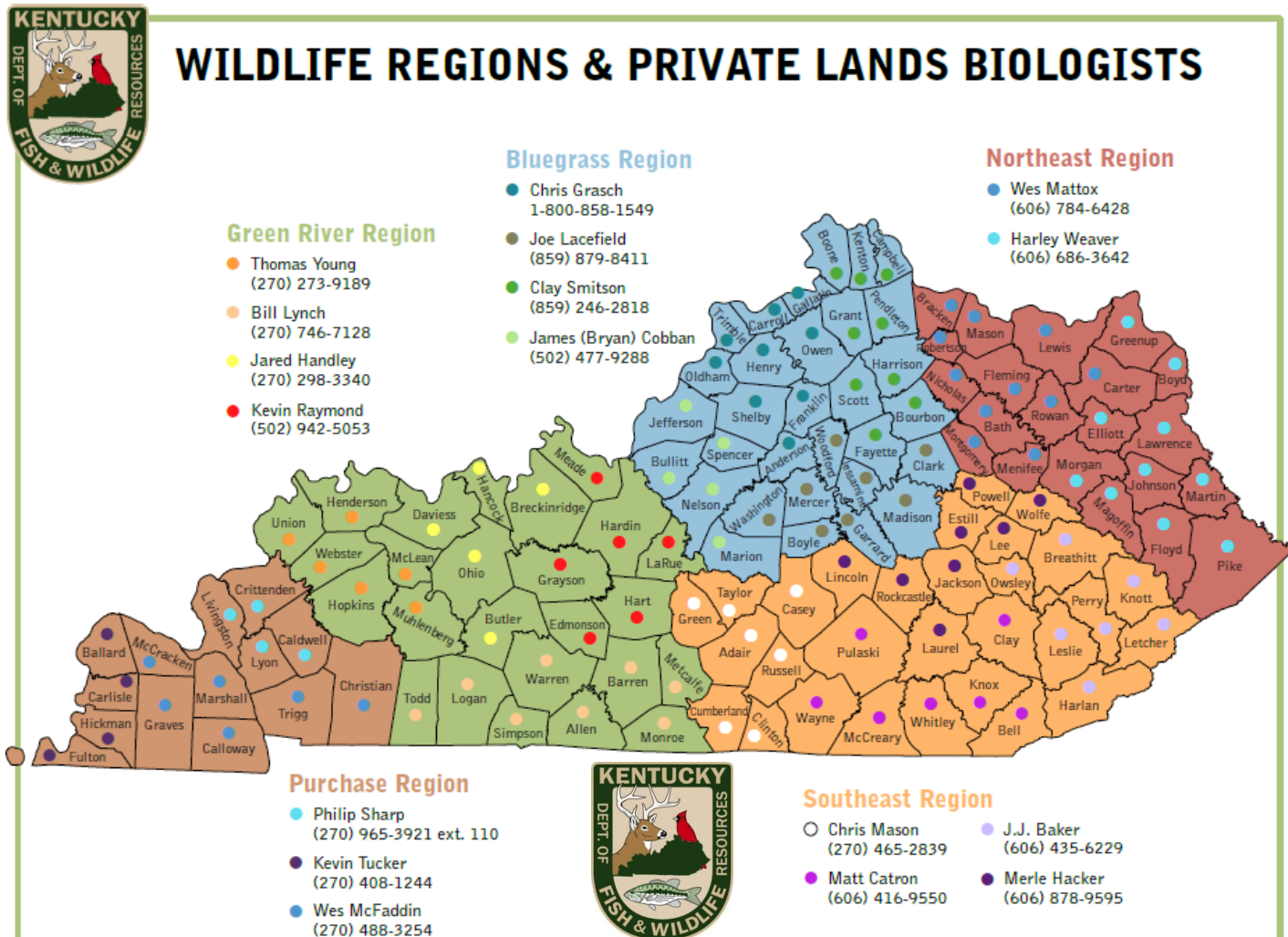
Don't forget to turn in your Hunter Cooperator log at the completion of this year's hunt. Logs should be returned no later than March 31, 2021. In return, we will send you a report and a small gift as a token of our appreciation.

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 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.