

# 2020-2021 Squirrel Report

## Kentucky Department of Fish and Wildlife Resources



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**Introduction**

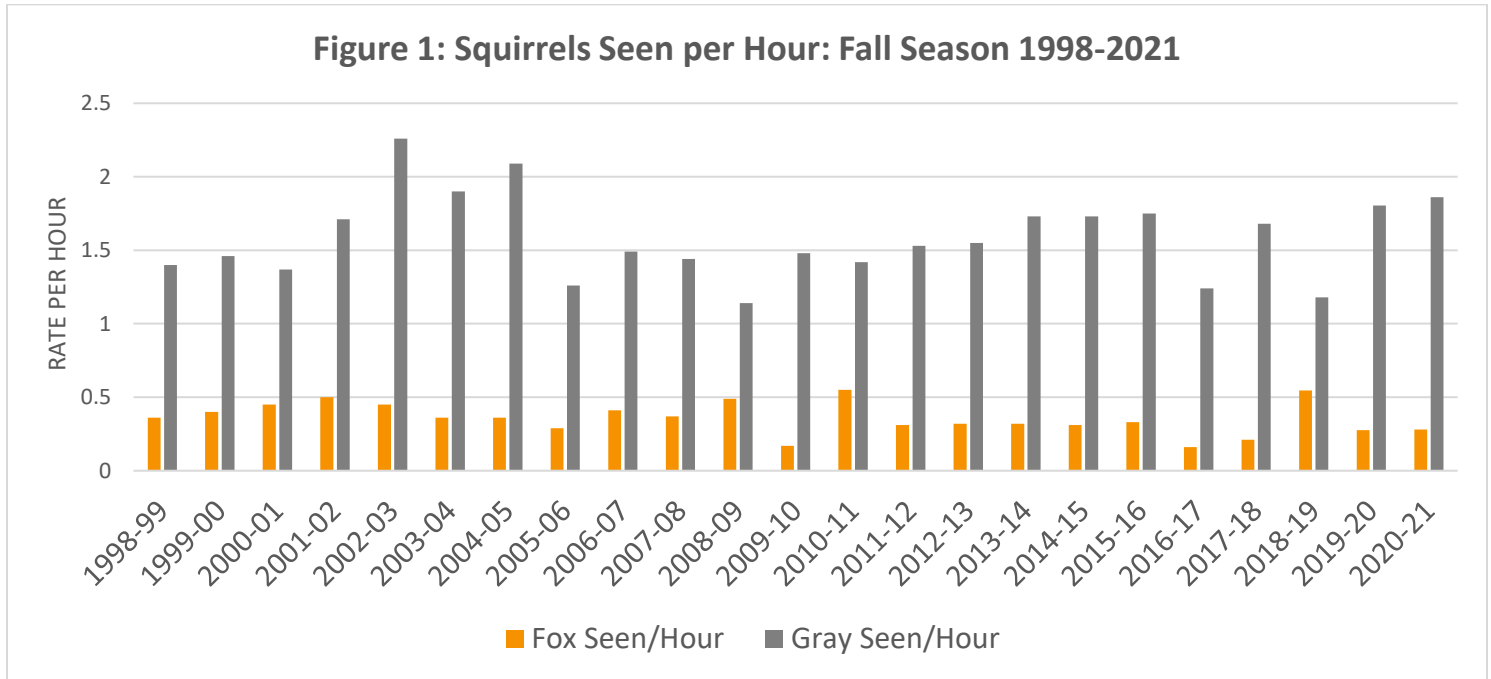
The Small Game Program is administered under the Wildlife Division of Kentucky Department of Fish and Wildlife Resources (KDFWR). The KDFWR is an agency of the Kentucky Tourism, Arts & Heritage Cabinet. A nine-member commission who are nominated by Kentucky’s sportsmen and sportswomen oversees it. The 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 (2020) continuing to trend upwards from that low point. The 2020 season was a great year relative to our long-term dataset (Figure 1).



**2020-2021 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](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

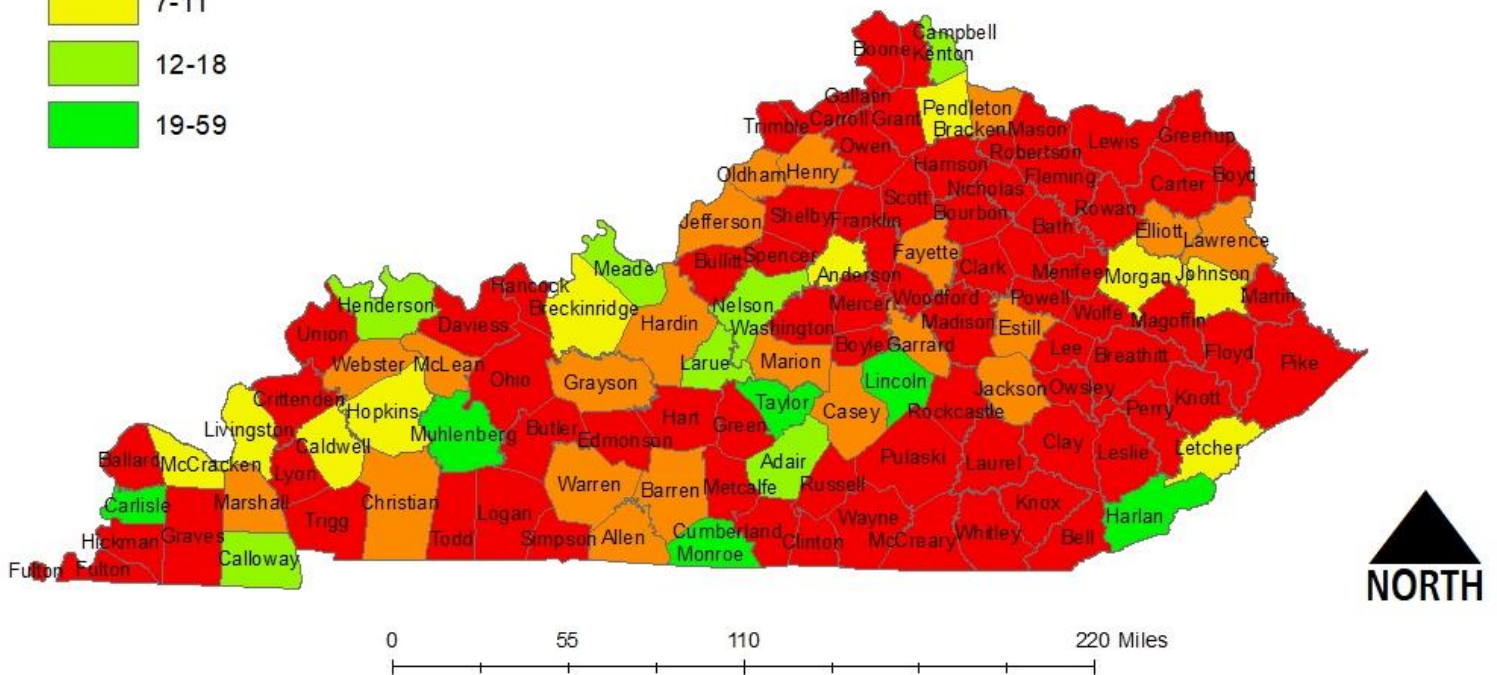
consider filling out a hunting log this year (even if you do not harvest any game). Once again, do not forget to mail in your log and encourage other squirrel hunters to do the same. Why not take someone new hunting this year? The future of hunting depends on it!

**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.

## Legend

### Number of Hunts / County

-  0-2
-  3-6
-  7-11
-  12-18
-  19-59



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

<i><b>STATISTICS</b></i>	2014- 15	2015- 16	2016- 17	2017- 18	2018- 19	2019- 20	<b>2020- 21</b>
<i>Total cooperators</i>	86	81	59	65	76	58	41
<i>Total hunts</i>	1079	1101	646	762	910	679	472
<i>Total counties</i>	73	70	65	60	68	63	59
<i>Average hunts/cooperator</i>	12.5	13.6	10.9	11.7	13.4	10.8	11.5
<i>Total hours</i>	3016	3017	1847	1957	2478	1756	1183
<i>Hunts using dogs (%)</i>	20.4	24.3	20.7	16.8	36.3	28.7	24.7
<i>Total fox squirrels seen</i>	929	994	288	405	1373	408	327
<i>Total fox squirrels killed</i>	473	492	152	214	480	242	180
<i>Total fox squirrels wounded</i>	31	23	7	11	34	15	12
<i>Total gray squirrels seen</i>	5213	5275	2286	3206	2914	3351	2202
<i>Total gray squirrels killed</i>	2451	2654	1066	1440	1319	1444	1002
<i>Total gray squirrels wounded</i>	164	156	64	81	87	94	56
<i>Harvest of squirrels seen (%)</i>	50.7	50.2	47.3	45.8	42.0	44.9	46.7
<i>Squirrels wounded (%)</i>	3.1	2.9	2.75	2.55	2.82	2.90	2.7
<i>Hunting mortality (%)</i>	53.8	53.1	50.1	48.4	44.8	47.8	49.4

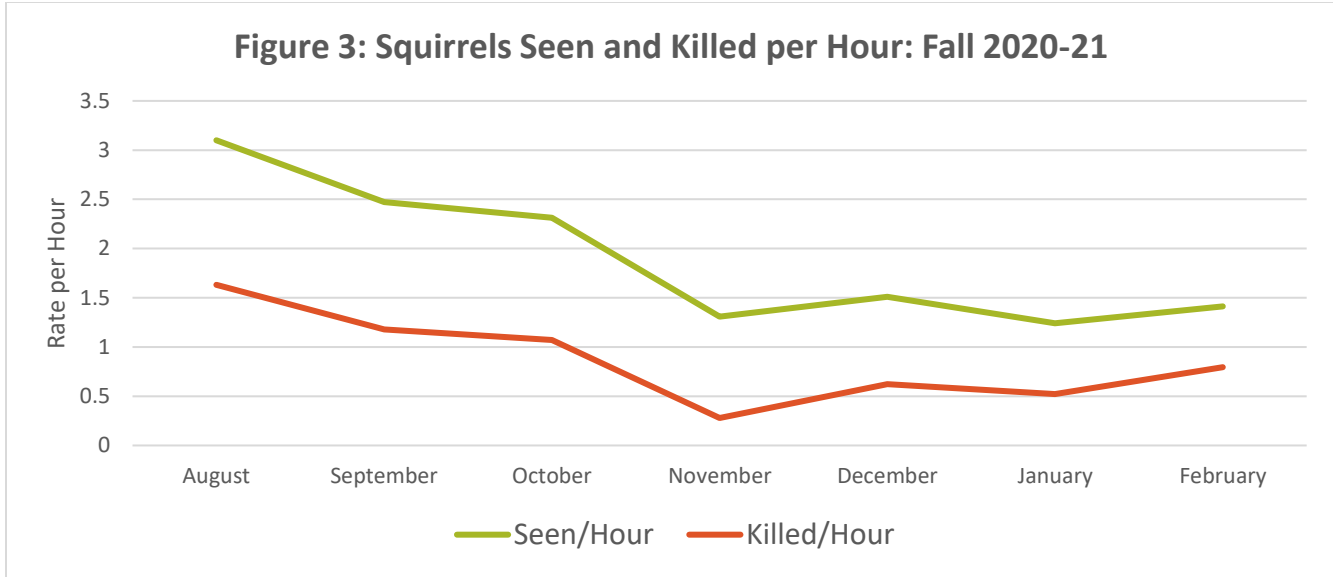
## 2020-21 Hunter Cooperator Results

Logs were received from 41 squirrel hunters this last hunting season (a 30% decrease from last year). Hunters averaged 11.5 hunting trips throughout the season. Twenty-five percent of squirrel hunters used dogs in their pursuit. Data were provided from 472 hunts, from 59 counties, with good distribution across the Commonwealth (Figure 2). Hunters saw an average of 5 squirrels per **hunt** and an average of 2 squirrels per **hour**.

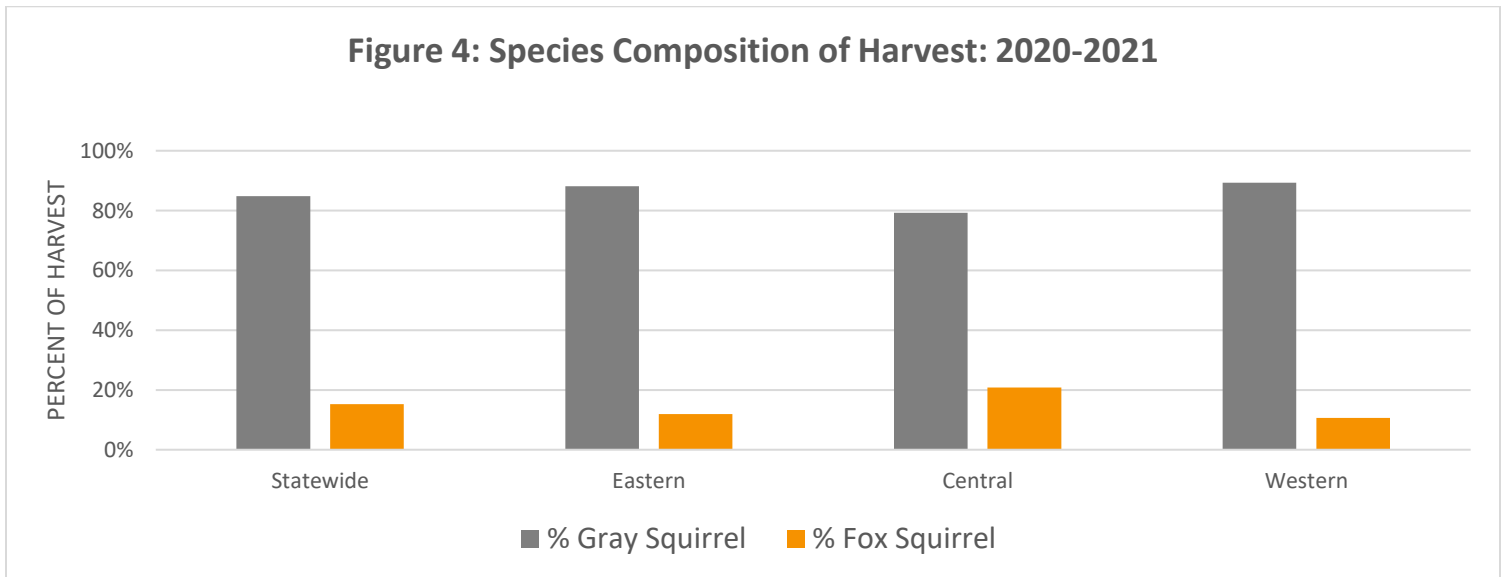
### Harvest Statistics 2020-21

Hunters saw an average of 0.7 fox squirrels and 4.7 gray squirrels per **hunt** and harvested 0.4 fox squirrels and 2.1 gray squirrels per **hunt**. Hunters saw an average of 0.3 fox squirrels and 1.9 gray squirrels per **hour** hunted and harvested 0.2 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).





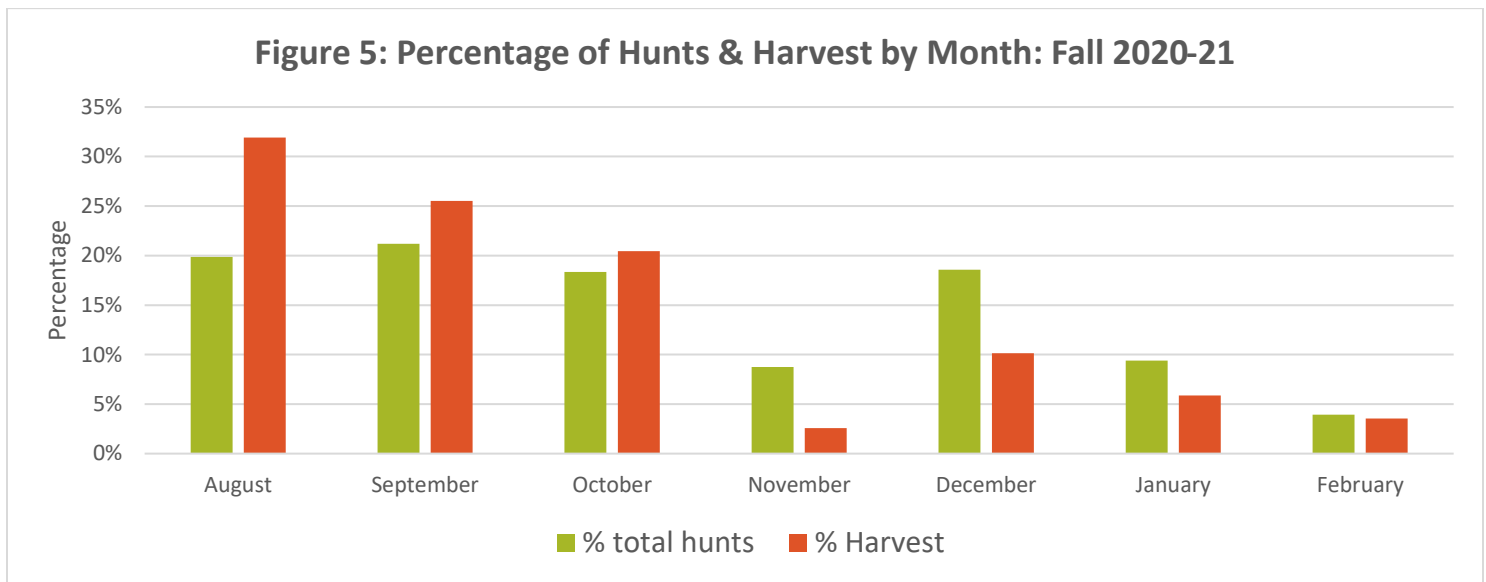
Hunters harvested 48% of squirrels seen and wounded 3%. Assuming wounded squirrels did not survive, the hunting mortality rate was 51% of squirrels seen in 2020-21. Statewide, 87% of the harvest was composed of gray squirrels (Figure 4). This rate suggests Kentucky squirrel hunters prefer hunting in 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. Interestingly, last hunting season the rate of fox squirrels seen and killed was on par with last season- which was much lower than the 2018 season, but on par with the 5-year average (Figure 1).



### Hunter Effort

Hunting effort was greater towards the beginning of squirrel season. Fifty-nine 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.



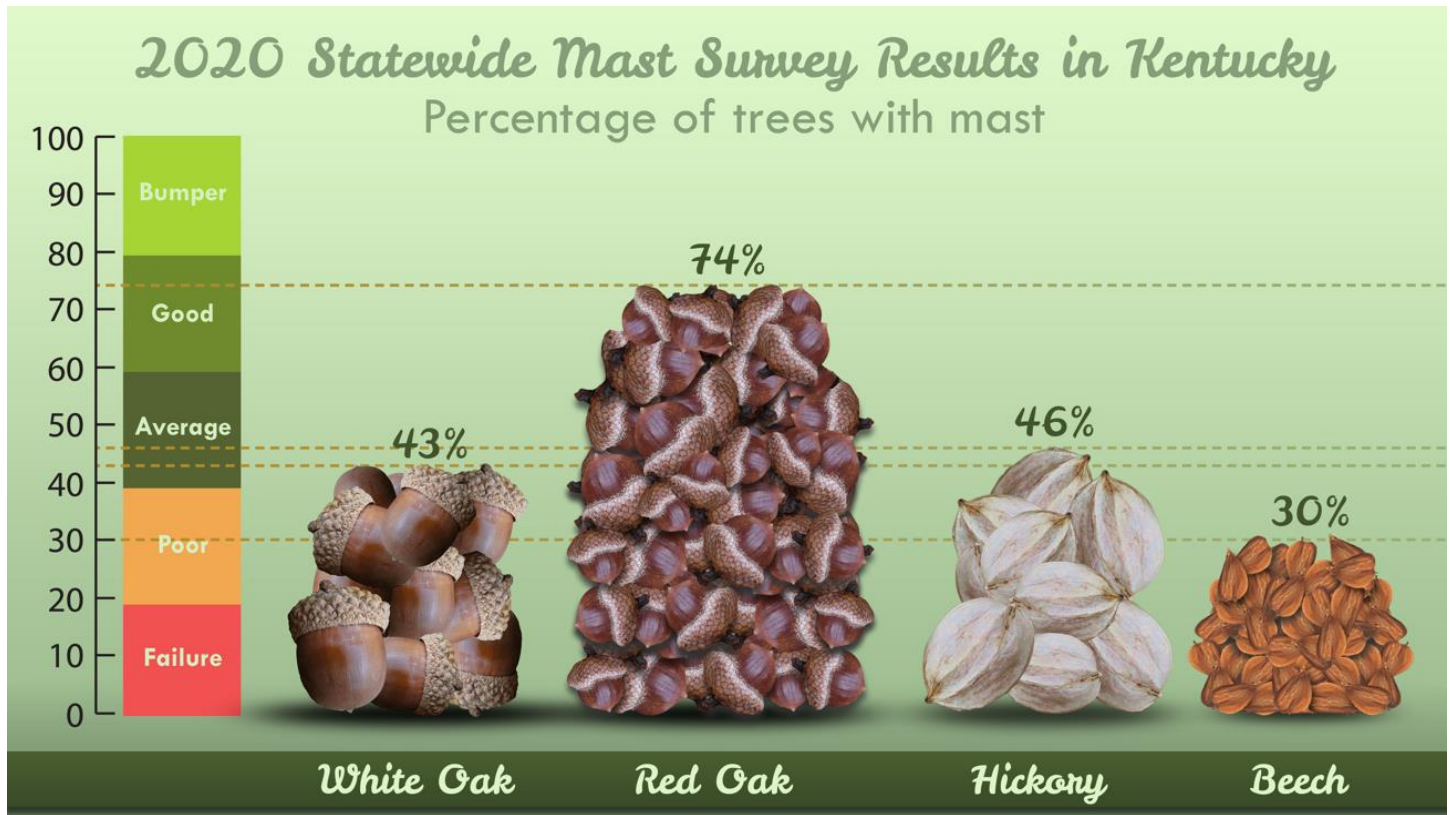
### Mast Survey

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 (2020 Statewide Mast Survey Results in Kentucky) shows the proportion of trees bearing acorns (PBA) or other mast across Kentucky. As an example, 43% listed in the white oak column means that for every white oak tree surveyed in Kentucky in 2020, an average of 43% of those trees contained acorns. Statewide, mast production in 2020 was poor for beech. White oak and hickory trees were considered average. Red oak trees were considered good.

The relatively high amounts of food in the forests in the fall of 2020 usually results in a lower squirrel harvest, as more mast is locally available, fewer squirrels will be moving around to find food resulting in a reduced chance for hunters to encounter them. Looking deeper into the data, the number of hunts per hunter

was almost one more entire hunt. This extra effort by skilled squirrel hunters could have overcome the abundance of mast in Kentucky’s forest in 2020. The Mast Survey for 2021 will be conducted in August 2021 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 2020 season.

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](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	\$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 12 and November 15, 2021 – February 28, 2022	6
Spring Season	May 21 – June 17, 2022	6
Trapping Season	November 15, 2021 – February 28, 2022	6

## Outlook for the 2021-2022 Squirrel Season

Last year, hunters saw an average of 2.14 squirrels per hour. This was up from the previous season of 2.05 squirrels seen per hour. This was likely due to the fact that we are at or nearing the cyclical peak for squirrel populations in the state. Winter was quite mild overall, setting the stage for another great year in the 2021-22 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 June 30, 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 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. Please contact the Private Lands Program Coordinator, Jacob Stewart, [jacob.stewart@ky.gov](mailto:jacob.stewart@ky.gov) or 502-892-4412. Thank you!