

2018-2019 Squirrel Report

Kentucky Department of Fish and Wildlife Resources



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Introduction

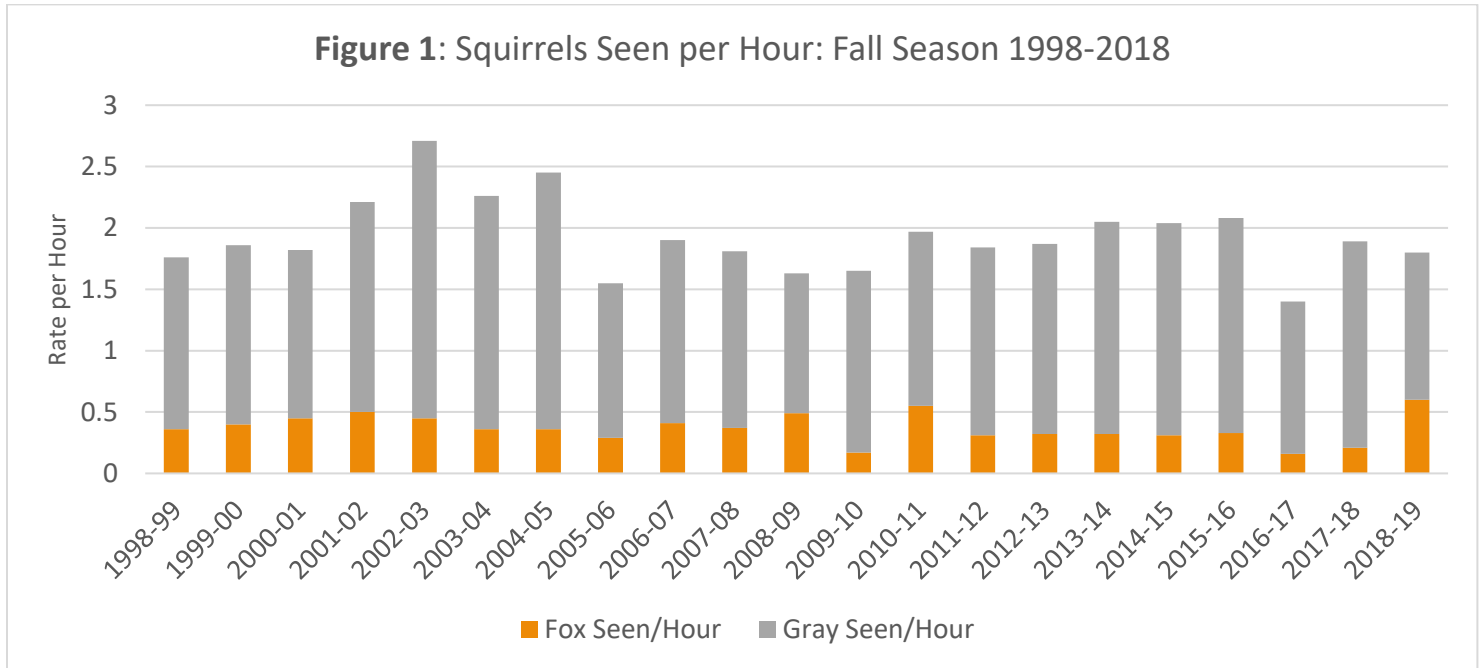
The Small Game Program is administered under the Wildlife Division of Kentucky Department of Fish and Wildlife Resources (KDFWR). The KDFWR is an agency of the Kentucky Tourism, Arts & Heritage Cabinet. A nine-member commission who are nominated by Kentucky’s sportsmen and sportswomen oversees it. The 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 (2018) trending upwards from that low point, however the rate observed across the state was lower than in the 2017 season (Figure 1).



2018-2019 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). Hunters took afield in 5% more counties than in the 2017 season, thank you! 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.

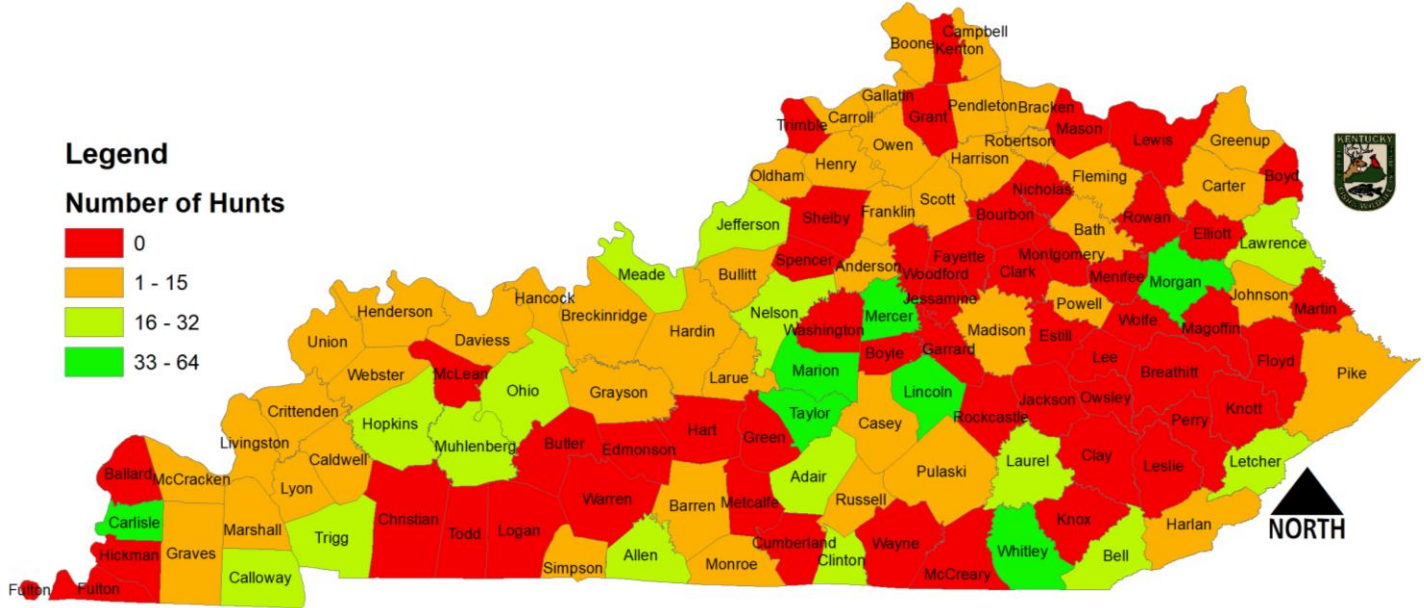


Table 1: Hunting statistics from past hunter cooperator surveys in Kentucky from the 2012 hunting season to present.

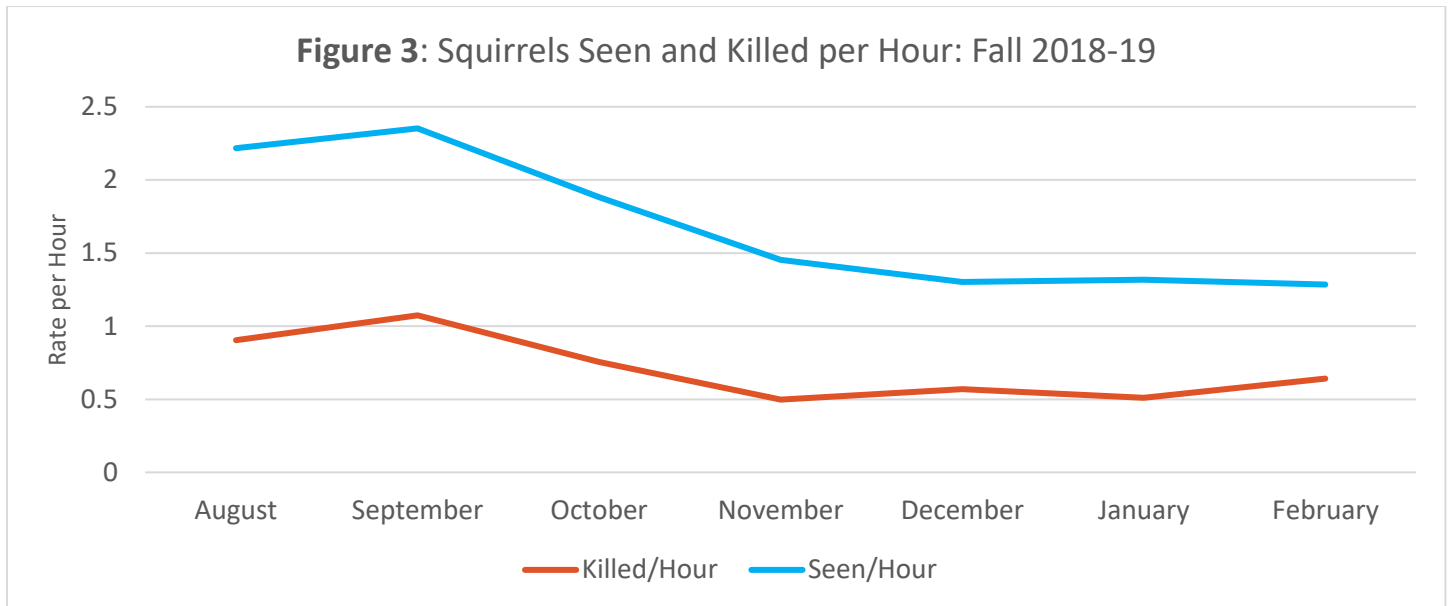
<i>STATISTICS</i>	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<i>Total cooperators</i>	83	81	86	81	59	65	76
<i>Total hunts</i>	1123	1077	1079	1101	646	762	910
<i>Total counties</i>	69	72	73	70	65	60	68
<i>Average hunts/cooperator</i>	13.5	13.2	12.5	13.6	10.9	11.7	13.4
<i>Total hours</i>	3319	3097	3016	3017	1847	1957	2478
<i>Hunts using dogs (%)</i>	13.8	17.6	20.4	24.3	20.7	16.8	36.3
<i>Total fox squirrels seen</i>	1053	1005	929	994	288	405	1373
<i>Total fox squirrels killed</i>	550	533	473	492	152	214	480
<i>Total fox squirrels wounded</i>	39	35	31	23	7	11	34
<i>Total gray squirrels seen</i>	5145	5342	5213	5275	2286	3206	2914
<i>Total gray squirrels killed</i>	2389	2561	2451	2654	1066	1440	1319
<i>Total gray squirrels wounded</i>	227	185	164	156	64	81	87
<i>Harvest of squirrels seen (%)</i>	47.4	48.7	50.7	50.2	47.3	45.8	42.0
<i>Squirrels wounded (%)</i>	4.3	3.4	3.1	2.9	2.75	2.55	2.82
<i>Hunting mortality (%)</i>	51.7	52.2	53.8	53.1	50.1	48.4	44.8

2018-19 Hunter Cooperator Results

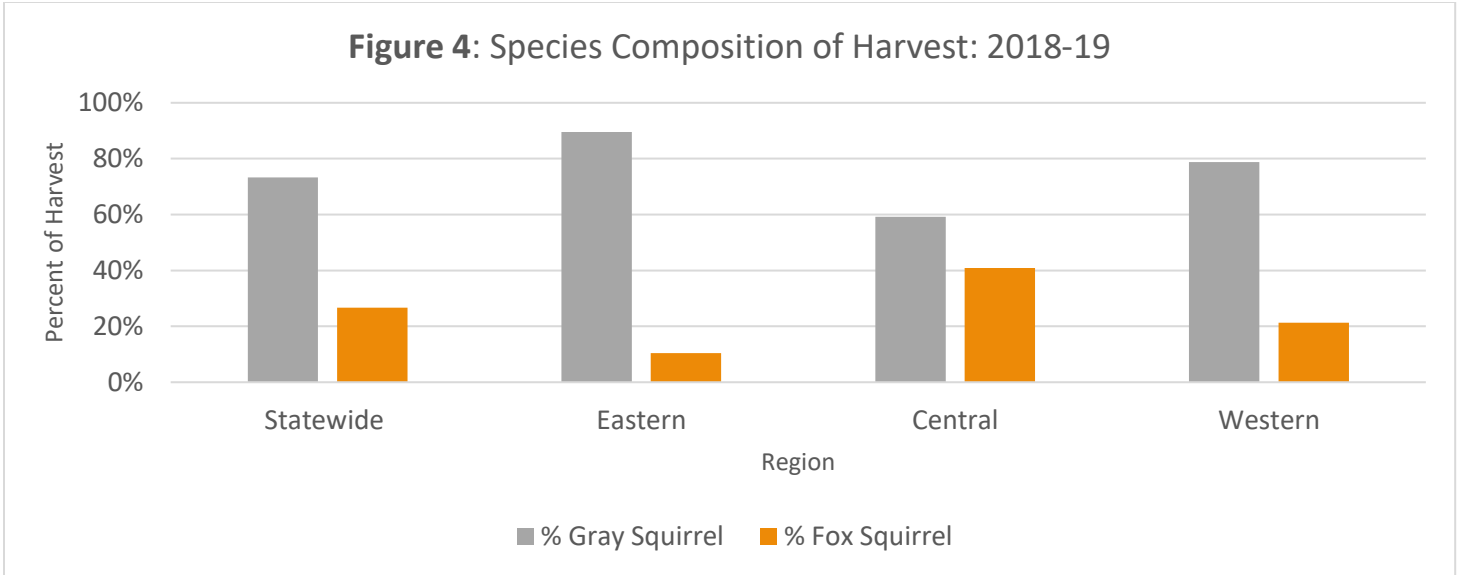
Logs were received from 76 squirrel hunters this last hunting season (a 17% increase from last year, Thank you!). Hunters averaged 13 hunting trips throughout the season. Thirty-six percent of squirrel hunters used dogs in their pursuit. Data were provided from 910 hunts, from 68 counties, with good 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 2018-19

Hunters saw an average of 1.5 fox squirrels and 3.2 gray squirrels per **hunt** and harvested 0.5 fox squirrels and 1.5 gray squirrels per **hunt**. Hunters saw an average of 0.6 fox squirrels and 1.2 gray squirrels per **hour** hunted and harvested 0.2 fox squirrels and 0.5 gray squirrels per **hour** hunted. The number of squirrels **seen** per hour peaked in September (Figure 3). The number of squirrels **harvested** per hour peaked in September (Figure 3).



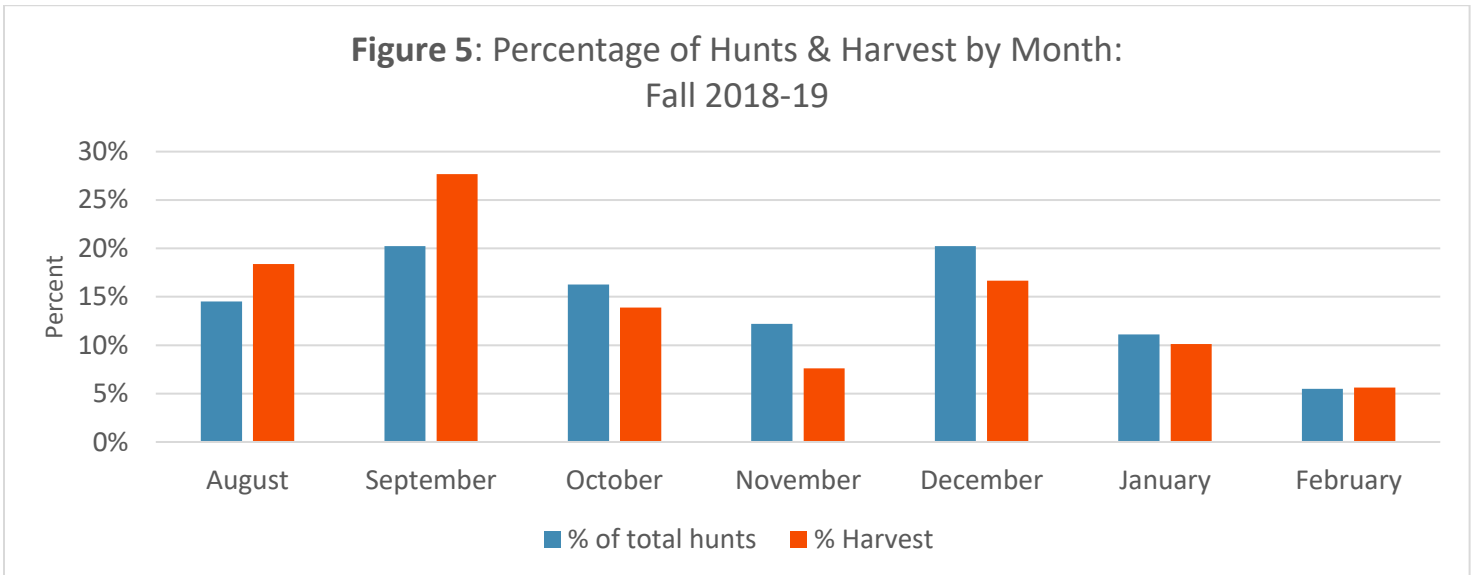
Hunters harvested 42% of squirrels seen and wounded 3%. Assuming wounded squirrels did not survive, the hunting mortality rate was 45% of squirrels seen in 2018-19. Statewide, 73% of the harvest was composed of gray squirrels (Figure 4). This rate suggests Kentucky squirrel hunters prefer hunting in 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.



Hunter Effort

Hunting effort was greater towards the beginning of squirrel season. Fifty-one 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 to December. This was possibly due to mild temperatures in the later months.

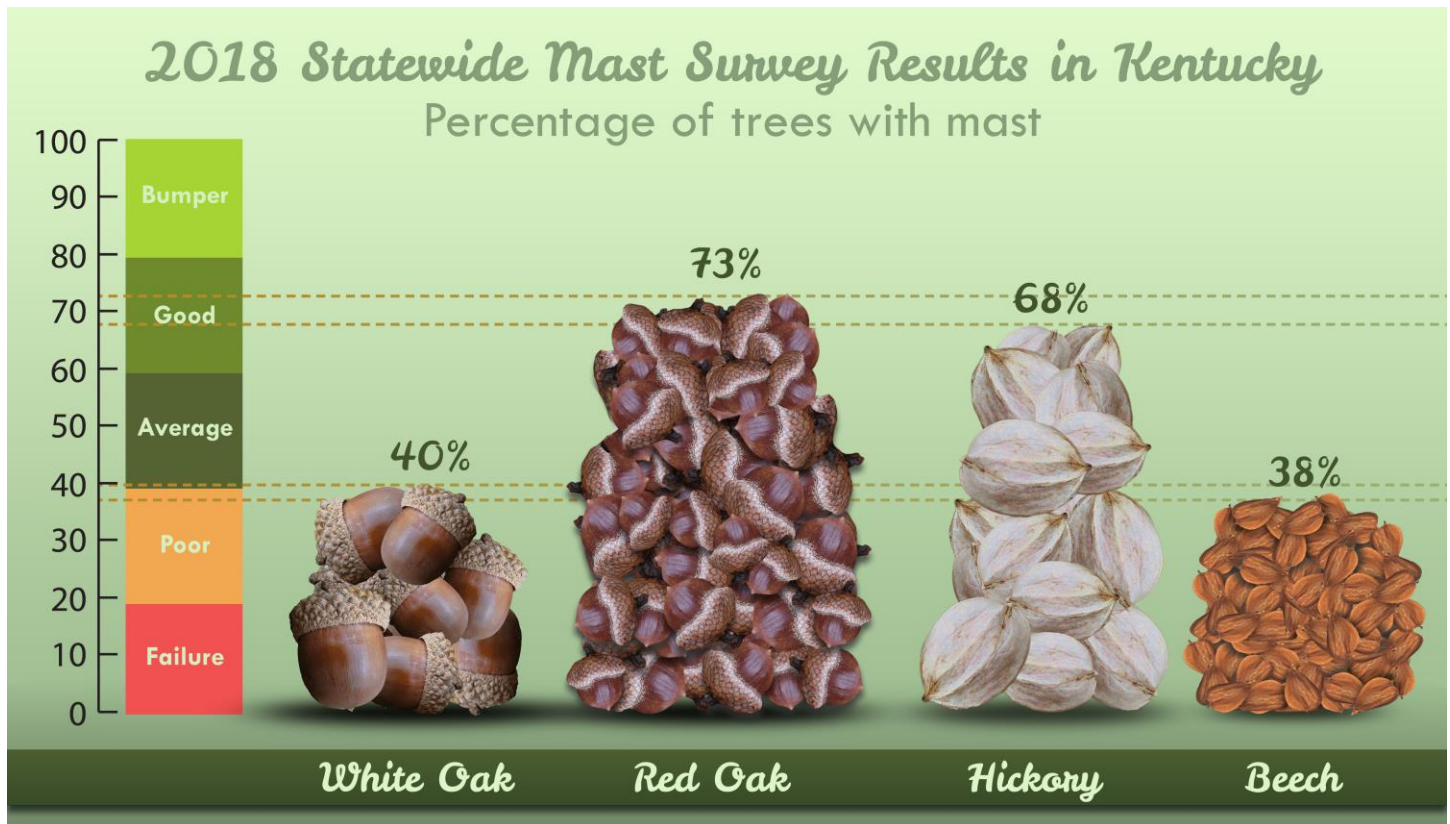


Mast Survey

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 (2018 Statewide Mast Survey Results in Kentucky) shows the proportion of trees bearing acorns (PBA) or other mast across Kentucky. As an example, 40% listed in the white oak column means that for every white oak tree surveyed in Kentucky in 2018, an average of 40% of those trees contained acorns. Statewide, mast production in 2018 was poor for beech. White oak, red oak, and hickory trees were average to good.

The relatively high amounts of quality mast in the woods in 2018 likely resulted in the slight downturn of squirrels observed per hour last season in Kentucky. As more mast is locally available, fewer squirrels will be moving around to find food resulting in less of a chance for hunters to encounter them. The Mast Survey for 2019 will be conducted in August 2019 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 2018 season.

Tularemia outbreaks in squirrel populations are relatively rare. Tularemia is caused by the bacterium *Francisella tularensis* and was first discovered in the United States in Tulare County, California (hence the name **tularemia**). Rabbits are especially susceptible to tularemia, however many other animals can carry the disease such as squirrels, ticks, and deer flies. Humans are also susceptible to this disease. Tularemia can cause rapid, large die offs of squirrels in a small area. Squirrels that are sick with tularemia may lose their fear of humans or dogs and act strangely.

Kentucky hunters can come into contact with tularemia through direct contact with an infected squirrel, tick and deer fly bites, or less commonly, inhalation of contaminated aerosols or dust. The symptoms of tularemia are similar to the flu, and can be fatal if left untreated. The best way to reduce your risk of contracting this disease is to use insect repellent, wear long pants and sleeves while afield, wear gloves while cleaning/skinning game, and cooking game meat thoroughly before eating.

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 2019-20 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 17 – November 8 and November 11, 2019 – February 29, 2020	6
Spring Season	May 16 – June 19, 2020	6
Trapping Season	November 11, 2019 – February 29, 2020	6

Outlook for the 2019-2020 Squirrel Season

The 2018 mast crop was rated “poor” for beech. Oak and hickory trees produced more this year compared to last year. Taking into account hickory, white 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 1.8 squirrels per hour. This was down from the previous season of 2 squirrels seen per hour. This was likely due to the fact that there were more oak acorns and hickory nuts available locally for squirrels to eat and cache. Squirrels likely had to move a little less last season to find food which means they were less 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 2019-20 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, 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 squirrel season and thanks again for your support! And don’t forget to take someone new to hunting out with you this year.

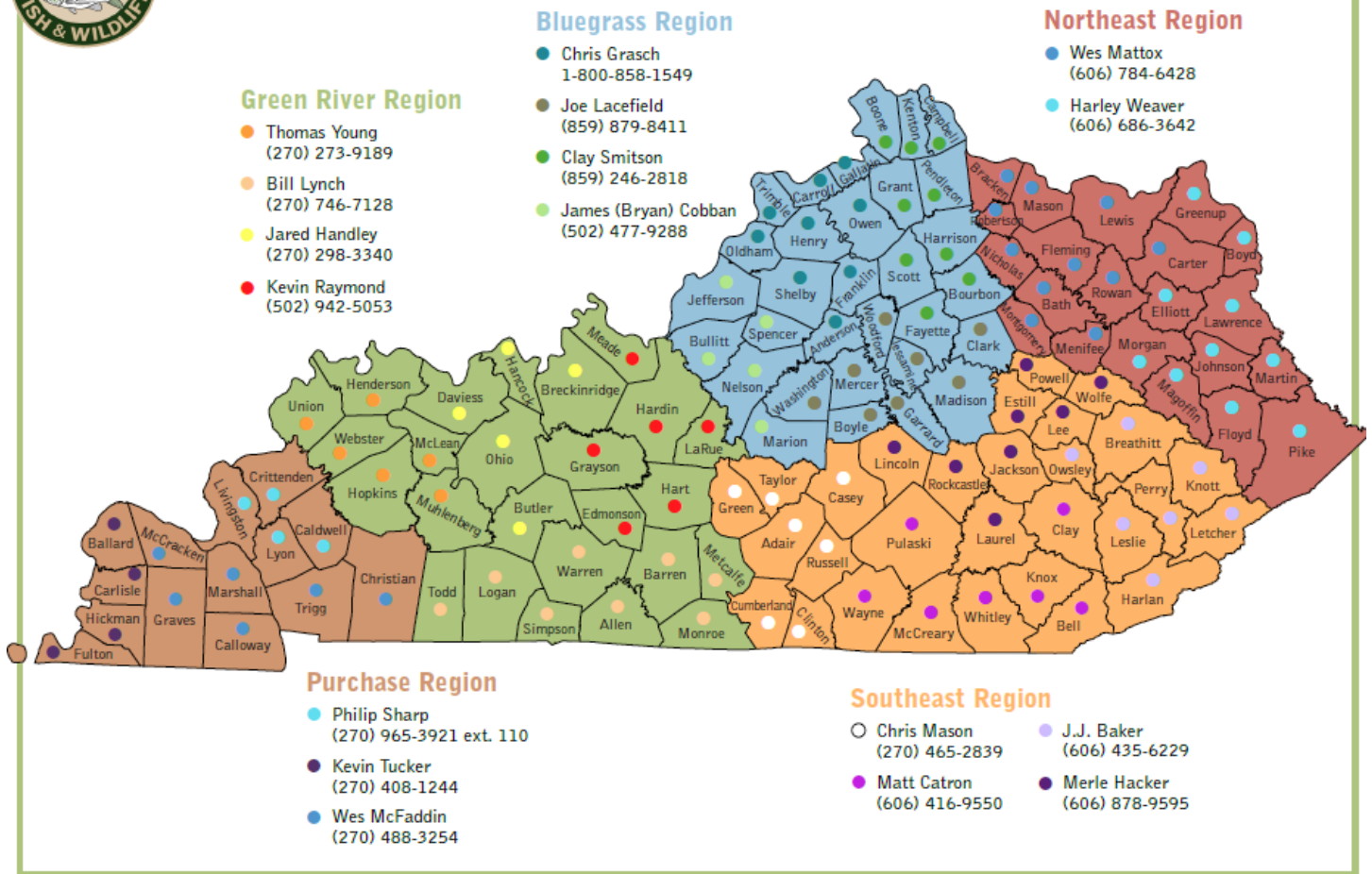
Contacts

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.



WILDLIFE REGIONS & PRIVATE LANDS BIOLOGISTS



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The Department of Fish and Wildlife Resources is funded through the sale of hunting and fishing licenses. It receives no general fund tax dollars.