

2010-11 SQUIRREL HUNTING COOPERATOR SURVEY REPORT



KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES

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Thank you to all the hunter cooperators who sent in hunting logs for the Fall Squirrel Hunting Cooperator Survey. Your efforts are appreciated, and we encourage you to continue sending in your hunting logs. Encourage your hunting buddies to do the same! Survey participation has been decreasing over the past few years so be sure to recruit your friends. The following report will cover the results of last season's (2010-11) Fall Squirrel Hunting Cooperator Survey and the 2010 Mast Survey. Last season's harvest and hunting effort totals are included as well as the current population trends, along with an outlook for the upcoming season.

I. 2010-11 Fall 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: www.fw.ky.gov/smallgamelogs.asp, or by calling **1-800-858-1549**. Hunters simply keep the log up-to-date as the hunting season progresses, and mail it to Kentucky Department of Fish and Wildlife (KDFWR) Headquarters when they're 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 800-858-1549 ext. 4545 or e-mail ben.robinson@ky.gov.

Summary of Last Year's Hunter Logs

Participation has been decreasing over the last five years. Once again, don't forget to mail in your log and encourage other squirrel hunters to do the same. Hunting logs were received from 97 hunters who averaged 11.6 hunting trips during the season. Seven percent of hunts included the use of dogs, and hunts lasted an average of 2.6 hours. Data was provided from 1,134 hunts that occurred in 82 counties across the state. The central region had the largest number of hunts with 764, followed by the eastern region with 211, and the western region with a total of 159 recorded hunts. The number of hunts per county was well distributed (Appendix A).

Total squirrels seen by hunters averaged 5.1 per hunt or 1.9 per hour, both up slightly from the previous year. The number of squirrels seen fluctuated throughout the season with peaks around weeks 12 and 25 (Figure 1). Hunters averaged **seeing** 3.7 gray squirrels per hunt (1.4/hr.) and 1.4 fox squirrels per hunt (0.55/hr.) statewide. Total squirrel **harvest** averaged 2.4 per hunt (0.9/hr.). Gray squirrel **harvest** averaged 1.6 per hunt (0.6/hr.), and fox squirrel **harvest** averaged 0.7 per hunt (0.2/hr.). The number of fox squirrels seen nearly doubled from the previous season (Table 1). Last year's survey results yielded a 50% hunting mortality rate for an observed squirrel, while hunter effort decreased slightly (11.6 hunts/cooperator) (Table 2).

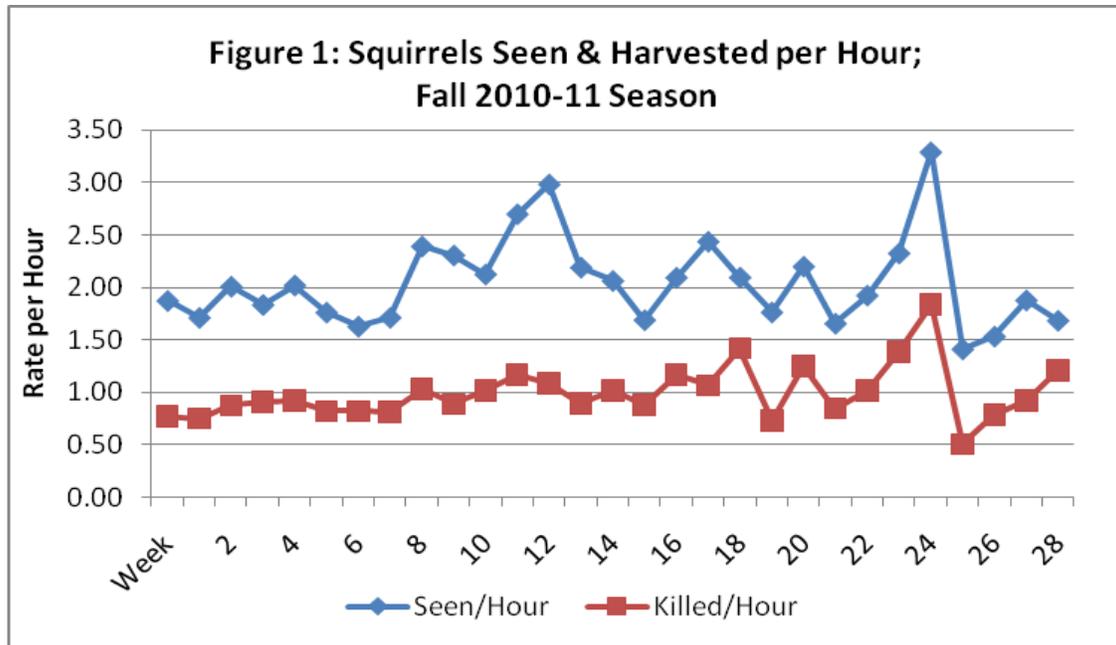


Table 1. Observation and harvest rates of fox and gray squirrels from Fall Squirrel Hunter Cooperator Surveys, 2004-2011.

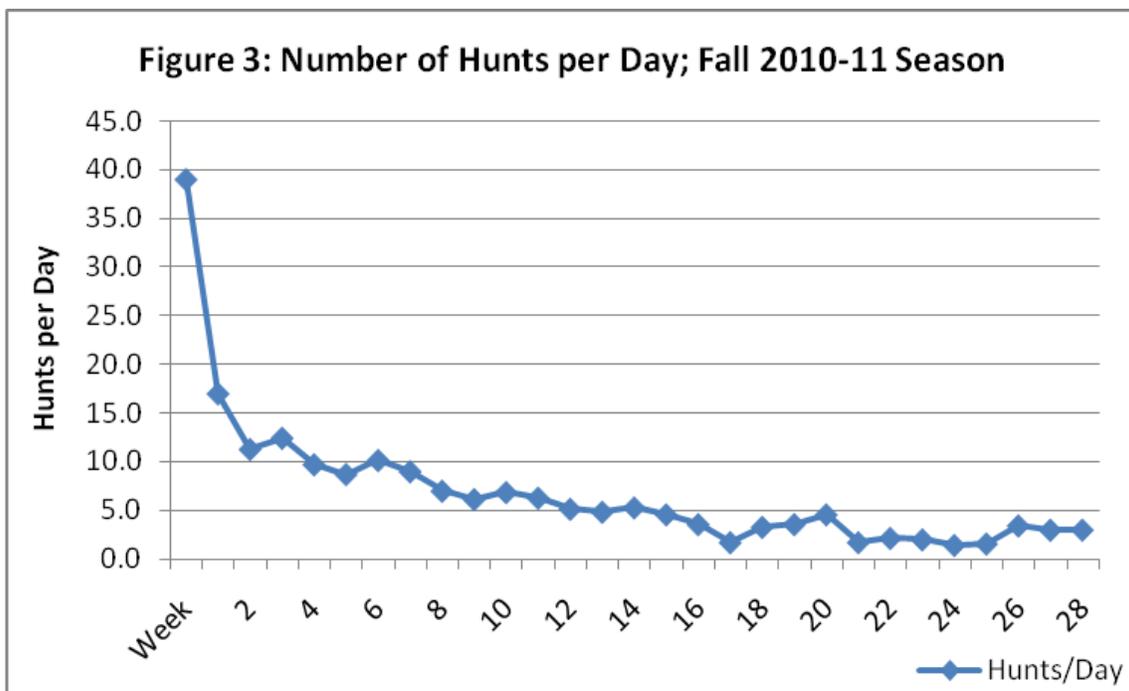
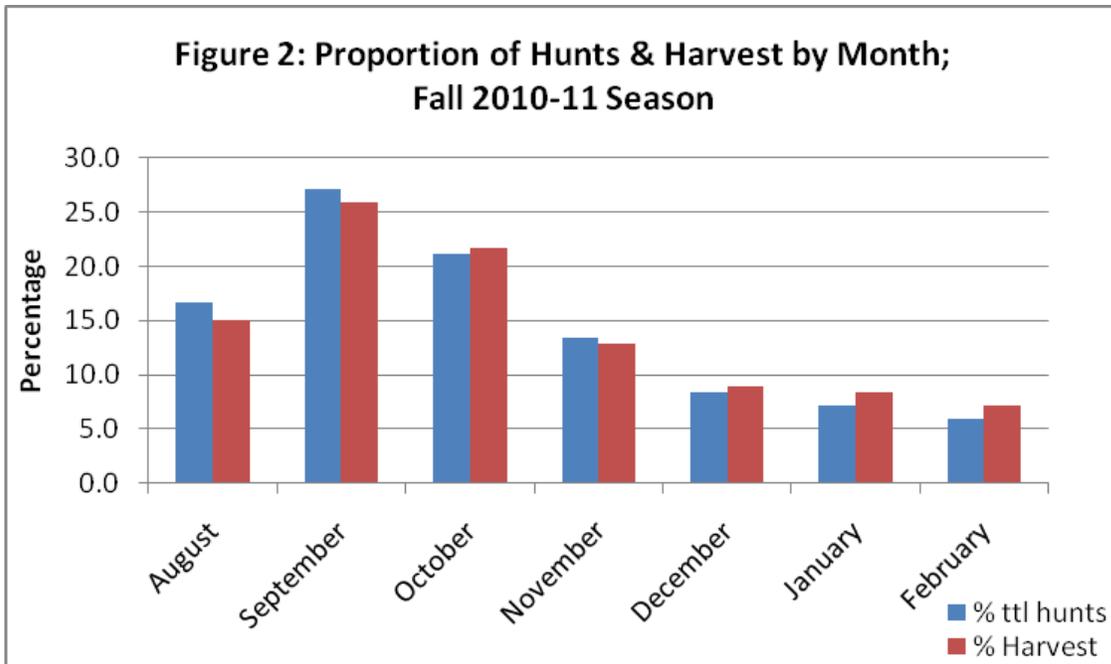
Season	Fox Squirrels				Gray Squirrels			
	Seen		Harvested		Seen		Harvested	
	Hour	Hunt	Hour	Hunt	Hour	Hunt	Hour	Hunt
2004-05	0.4	1.0	0.2	0.5	2.1	5.5	1.0	2.7
2005-06	0.3	0.7	0.2	0.4	1.3	3.2	0.7	1.7
2006-07	0.4	1.1	0.2	0.6	1.5	4.1	0.7	2.0
2007-08	0.3	1.0	0.2	0.5	1.4	3.9	0.7	1.8
2008-09	0.5	1.3	0.2	0.5	1.1	3.0	0.5	1.4
2009-10	0.3	0.9	0.2	0.5	1.5	4.0	0.7	2.0
2010-11	0.5	1.4	0.3	0.7	1.4	3.7	0.6	1.7

Table 2. Summary of Fall Squirrel Hunter Cooperator Survey data, 2004-2011.

STATISTICS	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total cooperators	95	95	171	129	117	109	97
Total hunts	1432	1165	1794	1498	1320	1319	1134
Total counties	81	88	106	100	88	91	82
Average hunts/cooperator	15.1	12.3	10.5	11.6	11.3	12.1	11.6
Total hours	3786	2955	4982	4097	3566	3499	2946
Hunts using dogs (%)	19.0	22.6	31.0	14.0	13.0	11.0	7.0
Total fox squirrels seen	1373	846	2060	1508	1764	1254	1625
Total fox squirrels killed	777	482	1046	683	726	653	818
Total fox squirrels wounded	44	9	73	50	52	66	52
Total gray squirrels seen	7894	3712	7420	5901	4076	5321	4184
Total gray squirrels killed	3846	1926	3667	2712	1822	2744	1895
Total gray squirrels wounded	297	96	282	224	132	206	153
Harvest of squirrels seen (%)	49.9	52.8	49.7	45.8	43.6	50.8	46.7
Squirrels wounded (%)	3.7	2.3	3.7	3.7	3.2	4.0	3.5
Hunting mortality (%)	53.6	55.1	53.4	49.5	46.7	54.8	50.2

Hunter Effort

Hunting effort was greater towards the beginning of squirrel season. Sixty-five percent of the hunts took place in August, September, and October (Figure 2). The hunter effort index declined as the season progressed, and squirrel-hunting trips were rare in January and February (Figure 3). 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 13.5% of the total hunts occurring in this month (Figure 2). 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.



Harvest

Hunters harvested 46.7% of squirrels seen and wounded 3.5%. Assuming wounded squirrels did not survive, the hunting mortality rate was 50.2% of squirrels seen in 2010-11. Statewide, 70% of the harvest was comprised of gray squirrels (Figure 4). The rate suggests Kentucky squirrel hunters prefer hunting in more extensive forests and

woodlands, common to gray squirrels, than small woodlots and fencerow-type habitats where fox squirrels are often found. It also implies that gray squirrels are more abundant than fox squirrels.

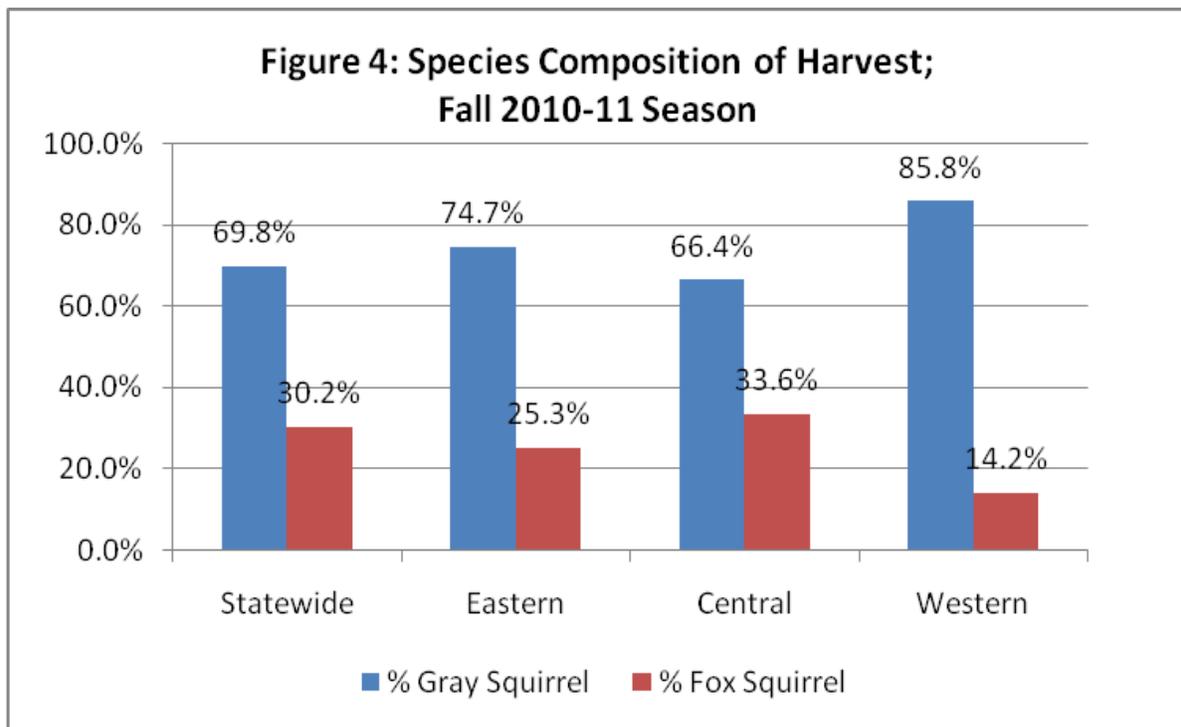


Figure 5: Squirrels Seen & Killed per Hour by Month of Season

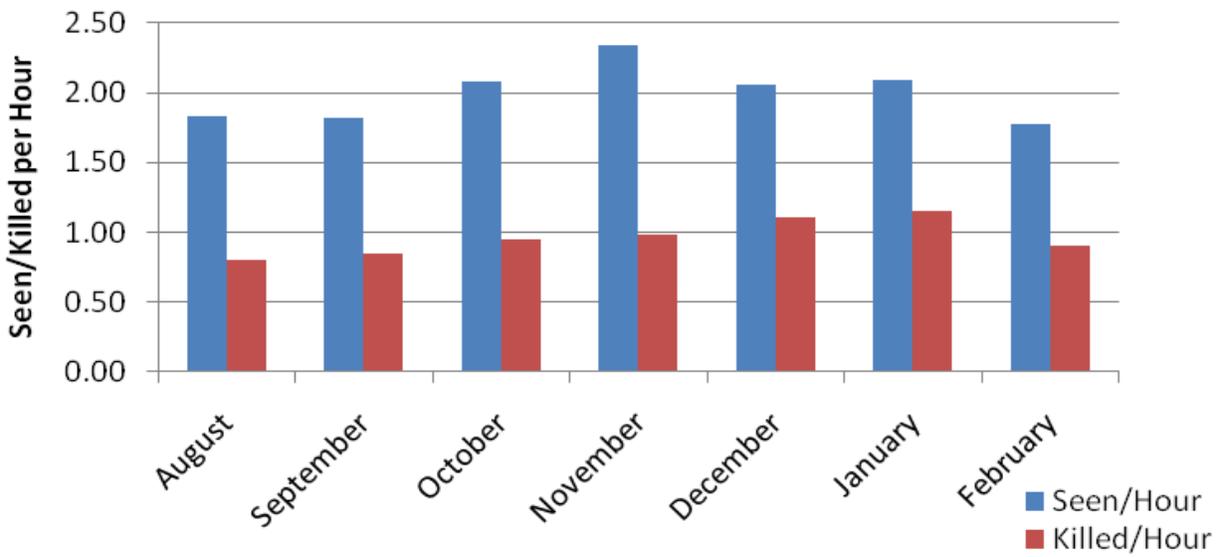
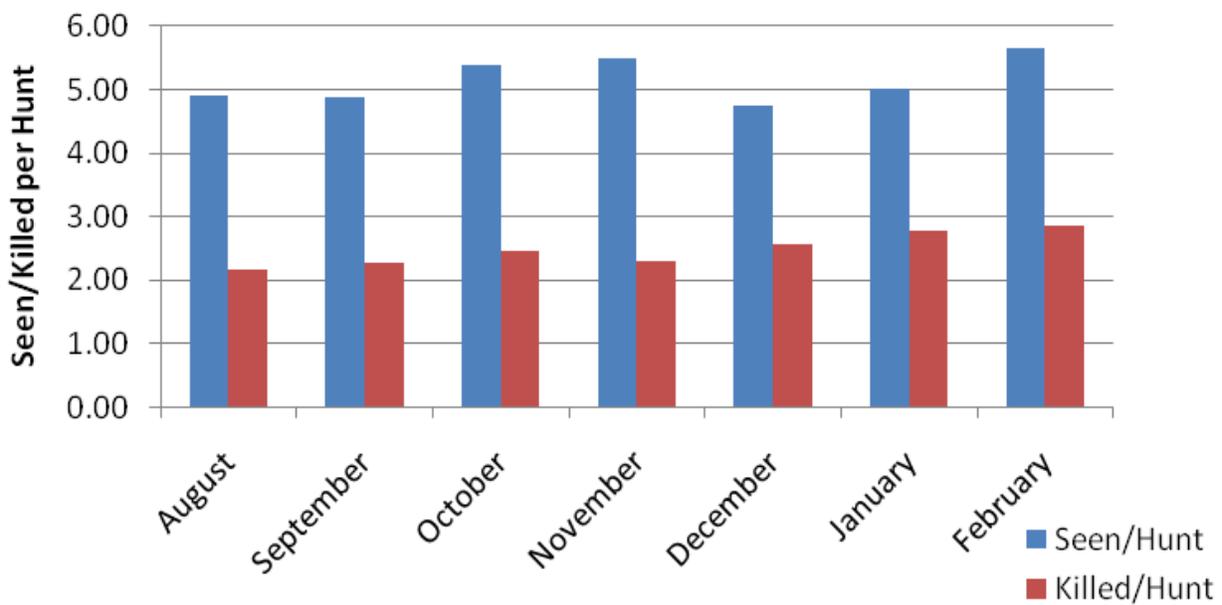


Figure 6: Squirrels Seen & Killed per Hunt by Month of Season



II. 2010 Mast Survey Results

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. In 2007, a new mast survey protocol was implemented by KDFWR. The new protocol has been utilized by several eastern and northeastern states for many years. The previous KY mast survey lacked a standardized protocol and data could not be shared with other states/regions. The new survey continues to monitor the 3 primary mast producing tree groups (hickories, red oaks, and white oaks) with American beech being the only individual species surveyed.

Summary of the Survey

The chart below shows the proportion of trees bearing acorns (PBA) or other mast across Kentucky. As an example, 68.0% listed in the white oak row means that for every white oak tree surveyed in Kentucky in 2010, an average of 68% of those trees contained acorns. Categorically, this was considered a "good" white oak mast crop. Statewide, mast production in 2010 was very good. According to our survey, acorns from red oaks were the most abundant hard mast food source followed closely by white oaks.

Statewide

	Failure 0-19%	Poor 20-39%	Average 40-59%	Good 60-79%	Bumper 80-100%
White Oak				68.0	
Red Oak				75.0	
Hickory			58.0		
Beech		28.0			

III. 2011-12 Fall Squirrel Hunt Forecast

The 2010 mast crop was rated “good” (approaching “bumper”) for white and red oak groups and “average-good” for hickories. Obviously, this meant that Kentucky’s forests had plenty of food to go around. Last year hunters saw an average of 1.9 squirrels per hour. Hunters should expect to see an average of >2.0 squirrels per hour this 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 May 31, 2012. In return we'll 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!

