

2011-12 RABBIT HUNTING COOPERATOR SURVEY REPORT



KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES

**Prepared By:
Ben Robinson
Wildlife Biologist**



METHODS

The 2011-12 Rabbit Hunting Cooperator Survey Report is a summary of two annual surveys conducted by the Kentucky Department of Fish and Wildlife Resources (KDFWR) to estimate rabbit production, hunter effort, and hunter success. First, the Rabbit Hunter Log Survey is a diary-type hunting log used to record information from hunts throughout the season. Hunters were asked to keep the log to date as the hunting season progressed, and at the season's conclusion, logs were mailed to the KDFWR for analysis.

The Mail Carrier Survey represents the second survey used to monitor rabbit populations across the state. Mail carriers recorded rabbit and quail observations as they traveled their rural delivery routes during the last full week of July (6 delivery days). Survey cards provided space for observations of rabbits for each of the survey days. Observers also recorded the number of days surveyed, the length of the route, and the total miles driven. The mail carrier data is used to forecast the upcoming hunting season, monitor the population, and estimate rabbit productivity.

All surveys are strictly voluntary and we strongly encourage all Kentucky rabbit hunters and rural mail carriers to participate in these surveys. Hunter cooperators receive this report, detailing hunting season results, and expectations for the upcoming season. Cooperators also receive a new hunting log for the upcoming season and a small gift of appreciation for their participation. Participating mail carriers receive a subscription to *Kentucky Afield* magazine for their support.

RESULTS AND DISCUSSION

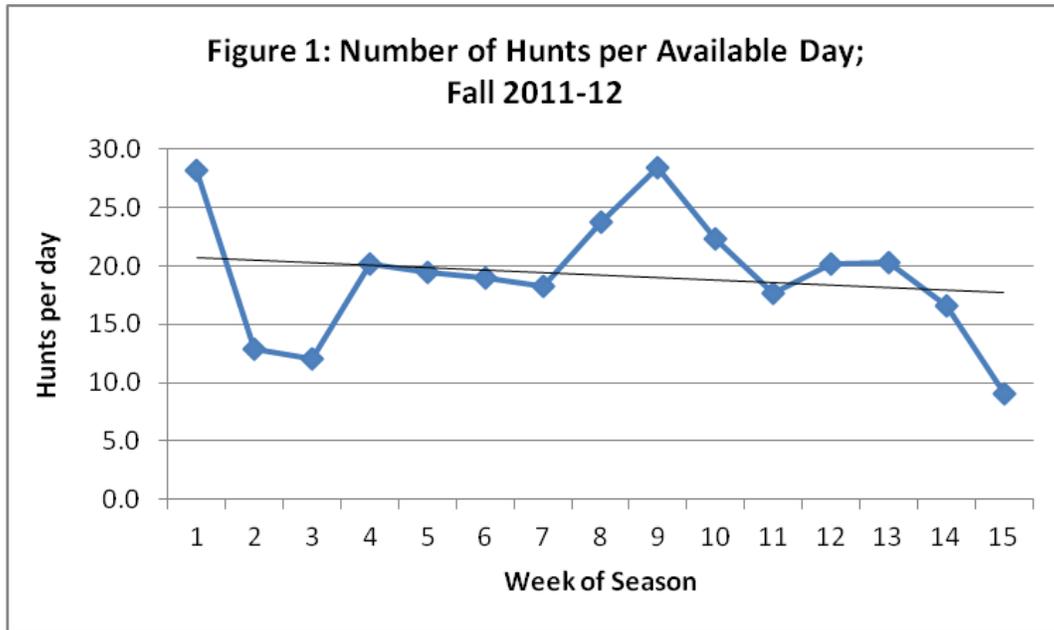
I. Rabbit Hunter Log Survey

Hunting logs were received from 114 hunters who averaged 17 hunting trips each for the season. Data was grouped into weekly and monthly subsets. Beginning in 2011, rabbit data is no longer grouped into physiographic region subsets. Instead, data will be grouped into 4 regional subsets; west, central, bluegrass, and east (Appendix A) to identify trends across the state.

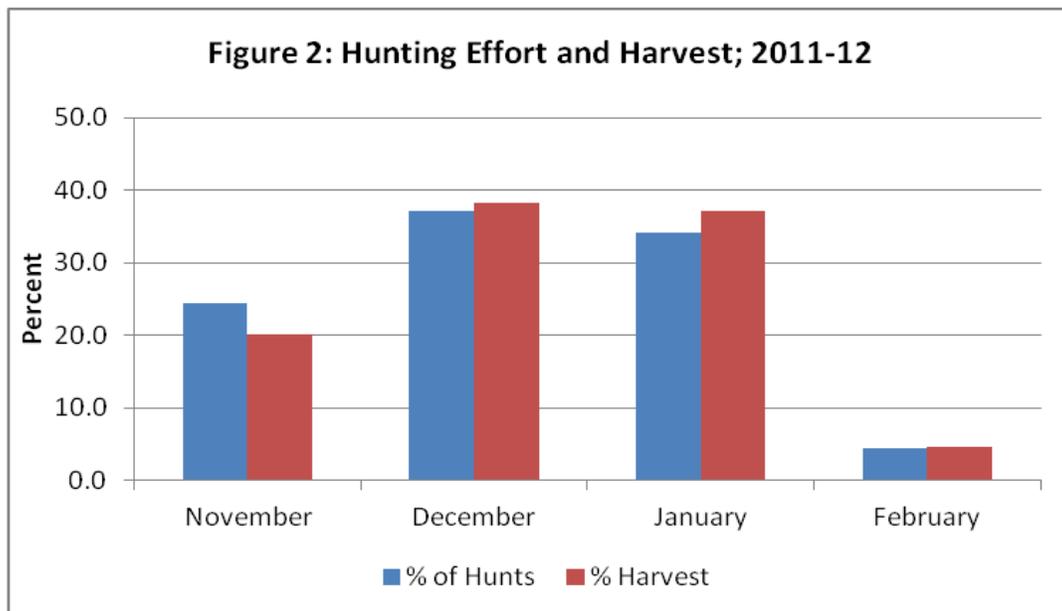
"Tidbits" from hunting logs:

- Hunter cooperators logged 1,959 hunts in 2011-12
- Average size of hunting party = 2 hunters
- Average length of hunt = 3.7 hours
- Average number of dogs used per hunt = 4
- Total number of counties that cooperators hunt in = 105

Hunting pressure declined as the season progressed (Figure 1).



Hunting peaked during the month of December. Monthly subsets revealed the proportion of hunts and the proportion of harvest were quite similar. December and January hunts were slightly more productive than November and February as indicated by the 'red' bars (Figure 2).



Cooperator numbers have shown a slight decline over the last 5 years. (Table 1).

Table 1. Summary Statistics from the Rabbit Hunter Log Survey in Kentucky, 2007-2012.

Statistics	2007-08	2008-09	2009-10	2010-11	2011-12
Cooperators	154	147	139	128	114
Hunts	2,114	2,006	1,827	1,667	1,959
Counties	100	104	98	106	105
Hunts/Hunter	14	14	13	13	17
Hours Hunted	7887.9	7460.1	6588.9	6114.4	7393.02
Dogs Used	8,243	7,632	7,003	6,769	8,586
Total Rabbits Jumped	11,974	10,910	10,316	11,163	12,875
Total Rabbits Harvested	5,236	4,526	4,703	4,892	5,702
Total Rabbits Wounded	332	364	286	305	334
Hunting Mortality (%)	46	45	48	46	47

Over the past five hunting seasons, hunting mortality (harvested and wounded individuals) remained less than 50% of the rabbits jumped (Table 1).

- Total rabbits jumped = 6.6/hunt
- Number of rabbits jumped per hour = 1.7/hour
- Number of rabbits killed per hunt = 2.9/hunt

Sample sizes for Appalachian cottontails are far too low to indicate any change in the population or in hunter effort and success. Harvest and jump rates by species were calculated by the following assumptions: 1) if Appalachian cottontail or swamp rabbits were jumped, it was assumed Appalachian or swamp rabbits were being hunted, 2) if eastern cottontails were jumped and an Appalachian cottontail or swamp rabbit was jumped, it was assumed the Appalachian cottontail or swamp rabbit was being hunted, and 3) if no rabbits were jumped, it was assumed the eastern cottontail rabbit was being hunted (because cottontails comprise 98% of the harvest and are the most common).

Table 2. Rabbit jump and harvest rates by species in Kentucky, 2009-2012.

Year	Eastern Cottontail			Swamp			Appalachian		
	09-10	10-11	11-12	09-10	10-11	11-12	09-10	10-11	11-12
Total Hunts	1,702	1,557	1,873	42	67	80	17	4	7
Jumped/Hunt	5.96	7.02	6.73	3.33	3.45	3.36	1.41	1.50	1.29
Jumped/Hour	1.62	1.88	1.77	0.76	1.12	0.70	0.37	0.29	0.24
Harvested/Hunt	2.72	3.05	2.98	1.31	1.96	1.39	0.47	0.25	0.71
Harvested/Hour	1.15	0.82	0.79	0.43	0.63	0.29	0.30	0.05	0.13
Wounded/Hunt	0.16	0.20	0.18	0.02	0.01	0.05	0.12	0.00	0.00
Wounded/Hour	0.04	0.05	0.05	0.00	0.00	0.01	0.04	0.00	0.00

II. Mail Carrier Survey Results

The Mail Carrier Survey provides a glimpse of what we can expect for the upcoming hunting season. The survey is the oldest in the program being completed for 52 years. Although no population estimates can be derived from this data, it does provide valuable trend information showing whether the population is up, down, or stable.

2012 Survey Statistics

- Mail Carriers returned 779 survey cards (52% response rate)
- Total miles driven = 270,865
- Total rabbits seen = 4,205
- Statewide observation rate = 1.55 rabbits/100 miles traveled

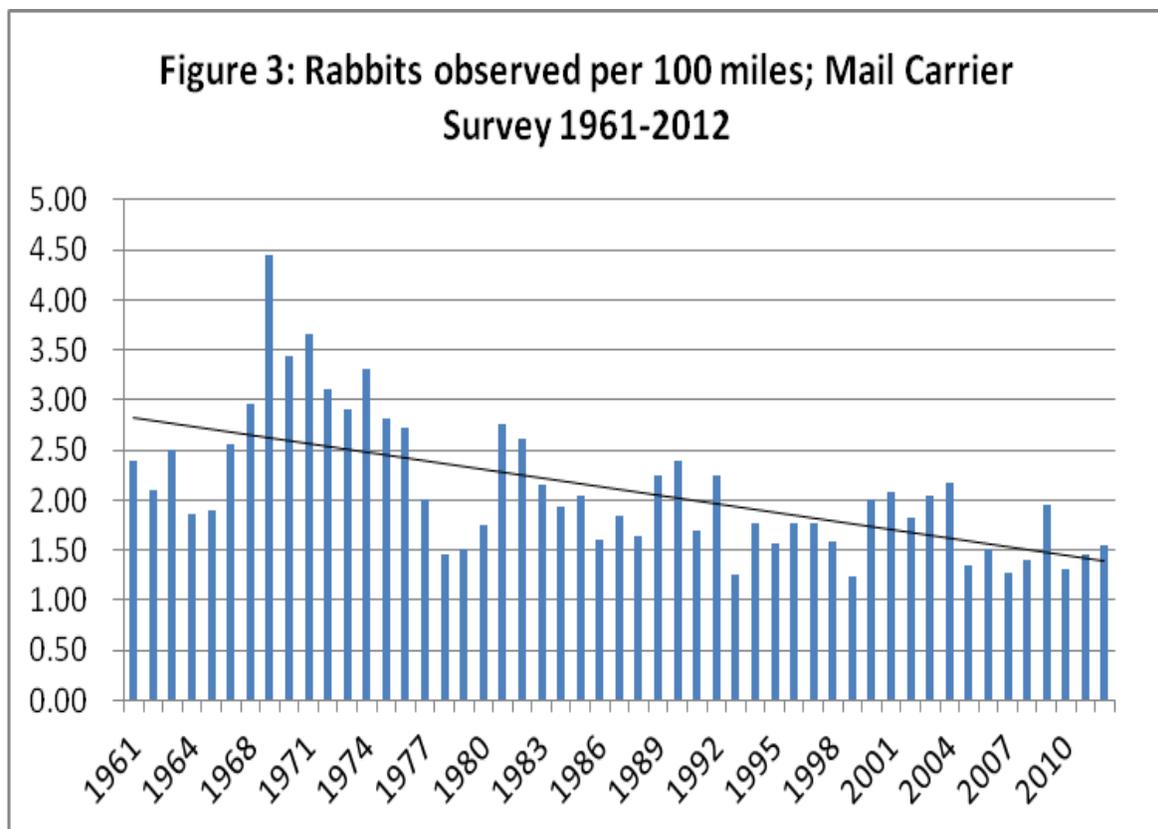
Beginning last year, mail carrier data was no longer analyzed across eight different physiographic regions. Analyzing data across eight regions resulted in small sample sizes which can be far less accurate. Data is now grouped into 4 regions; west, central, bluegrass and east (appendix A).

Table 3. Mail Carrier indices and rates of change in Kentucky, 1961-2012.

	TOTAL RABBITS/100 MILES			PERCENT CHANGE	
REGION	MEAN (average)			MEAN (average)	
	1961-2012*	2011	2012	1961-2012	2011 to 2012
West	N/A	0.92	0.72	N/A	N/A
Central	N/A	1.54	1.81	N/A	N/A
Bluegrass	N/A	1.38	1.78	N/A	N/A
East	N/A	2.10	1.95	N/A	N/A
Statewide	2.11	1.46	1.55	-36.1%	6.1%

*N/A = data was not analyzed by west, central, bluegrass, east until 2011

Over the last 52 years of this survey, the decline in the rabbit population is evident (Figure 3). The severe drop in population levels following the winters of 1977 and 1978 was dramatic and populations have been slow to recover. The overall drop in rabbit numbers since the late 1960's can be generally attributed to habitat loss because of land use changes and cleaner agricultural practices. However we have seen an increase over the past two years. Hopefully that trend will continue to climb.



SUMMARY

The Mail Carrier Survey and the Rabbit Hunter Log Survey appear to be tracking each other well. Therefore, we can make predictions based on the Mail Carrier Survey results. Breaking down data by physiographic regions generally makes predictions more difficult as sample sizes become smaller compromising reliability. Because of this, we now group mail carrier data into 4 regions of the state; west, central, bluegrass, and east. Because this is the second year that we have grouped data this way we are unable to make long-range comparisons. However, the eastern region of the state continues to lead all regions in the number of rabbits observed, followed by the central region.

Overall the 2011-12 rabbit season was good. Over the last 20 years, the population has remained fairly stable with bumps up and down. Last year, harvest rates and jump rates increased when compared to the previous season. The Mail Carrier Survey shows a 6% increase in the number of observed rabbits statewide between 2011 and 2012 meaning there should be plenty of rabbits available for harvest this fall.

ACKNOWLEDGMENTS

We would like to say a special thanks to all those who have participated in the various small game surveys over the years. Your cooperation provides us with valuable data necessary to make wise management decisions regarding rabbit populations and hunting seasons. With that in mind, we ask that you recruit your friends and neighbors who also rabbit hunt to join you in being a hunting cooperator. We need many more cooperators to accurately track rabbit populations across the state.

Hunting logs can be found on the internet (<http://fw.ky.gov/sghelp.asp>), or by contacting the Kentucky Department of Fish and Wildlife Resources at #1 Sportsman's Lane, Frankfort, KY 40601 (1-800-858-1549). Thank you to all who participated this year, and we hope to hear from you and all of your hunting partners in next season's surveys. We will have a new style of hunting cap available next year, so be sure to send in your log!

Cover image provided by Wes Siegrist (www.artofwildlife.com/miniaturepaintings23.html)

