

# ***Kansas Small Game Status Report***

**March 2008**

**A Contribution of Pittman-Robertson Funds  
Federal Aid in Wildlife Restoration**

**Grant W-39-R**

## **Kansas Department of Wildlife and Parks**

**Mike Hayden  
Secretary**

**Prepared by**

**Jim Pitman  
Small Game Coordinator**

**Joe Kramer, Director  
Fisheries and Wildlife  
Division**

**Mike Mitchener, Chief  
Wildlife Section**



## **PERMISSION TO QUOTE**

**Persons wishing to quote from this report, for reproduction or reference, should first obtain permission from the Chief of the Wildlife Section, Kansas Department of Wildlife and Parks, 512 SE 25th Avenue, Pratt, KS 67124.**

## **EQUAL OPPORTUNITY STATEMENT**

**This program receives Federal financial assistance from the U.S. Fish and Wildlife Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972, the U.S. Department of the Interior and its bureaus prohibit discrimination on the basis of race, color, national origin, age, disability or sex (in educational programs). If you believe that you have been discriminated against in any program, activity or facility, or if you desire further information, please write to:**

**The U.S. Fish and Wildlife Service  
Office of Diversity and Civil Rights Programs- External Programs  
4040 North Fairfax Drive, Suite 130  
Arlington, VA 22203**

## Statewide Small Game Population Trends (1998-2007)

It is not possible to accurately estimate the total abundance of wildlife populations on a statewide scale so the Kansas Department of Wildlife and Parks (KDWP) uses standardized indices to track changes in their numbers. The KDWP develops indices for each of the state's small game species using data from numerous annual surveys. The surveys conducted by the department include the rural mail carrier survey, prairie chicken lek count, ring-necked pheasant crow count, northern bobwhite whistle count, and the August roadside survey. Generally, all of these data show similar trends in small game abundance so for this report only one statewide index is presented for each species.

Over the last 10-year period the statewide population trends for all but 2 of Kansas' small game species have been stable or increasing (Figures 1-7). Only the statewide indices to northern bobwhite and greater prairie-chicken populations have declined over that period. Long-term trends in population abundance reflect changes in the amount of suitable habitat available for each of Kansas' small game species. Short-term changes are generally the result of weather fluctuations. For example, the recent 1-year declines of all 7 of our small game species can be mostly attributed to severe winter weather that affected a large portion of the state during 2006-2007.

The declines in our bobwhite and greater prairie-chicken populations have been due primarily to large-scale habitat changes that continue to occur in the core range of those species (Flint Hills and farther eastward). Some of the major factors responsible for the declining populations include woody encroachment into native grasslands, conversion of native grasslands to tall fescue, annual burning and intensive early stocking of cattle, and urbanization.

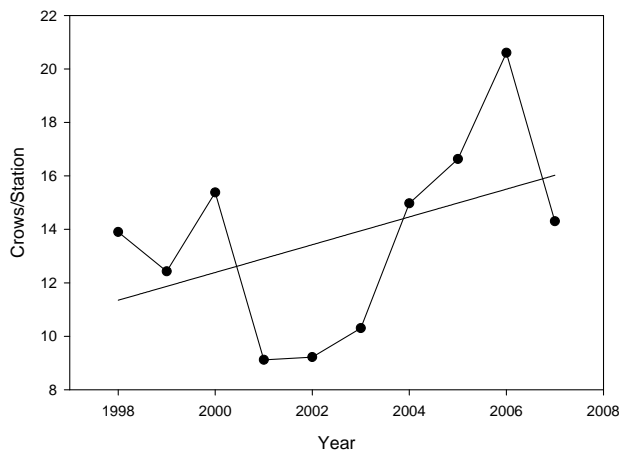


Figure 1. Statewide changes in ring-necked pheasant abundance as estimated from the annual spring crowing survey, 1998-2007.

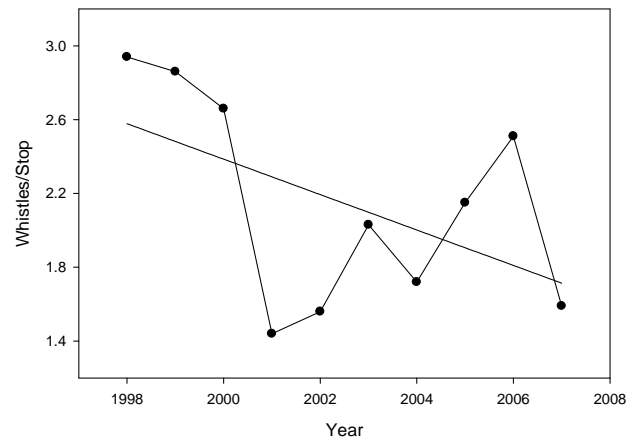


Figure 2. Statewide changes in northern bobwhite abundance as estimated from the annual spring whistle count, 1998-2007.

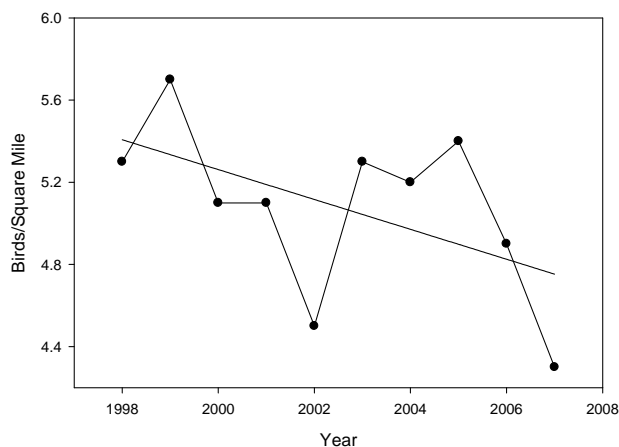


Figure 3. Statewide changes in greater prairie-chicken abundance as estimated from the annual spring lek count, 1998-2007.

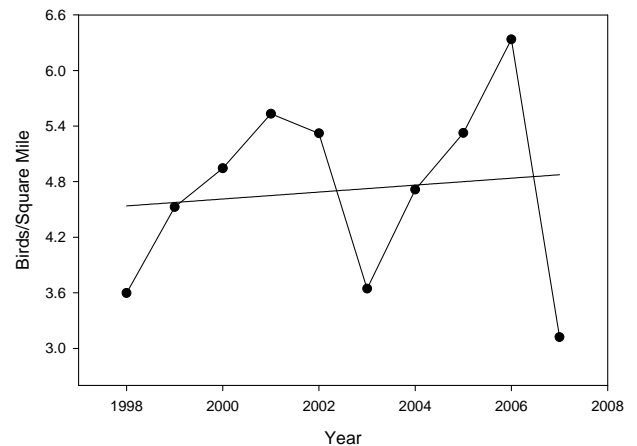


Figure 4. Statewide changes in lesser prairie-chicken abundance as estimated from the annual spring lek count, 1998-2007.

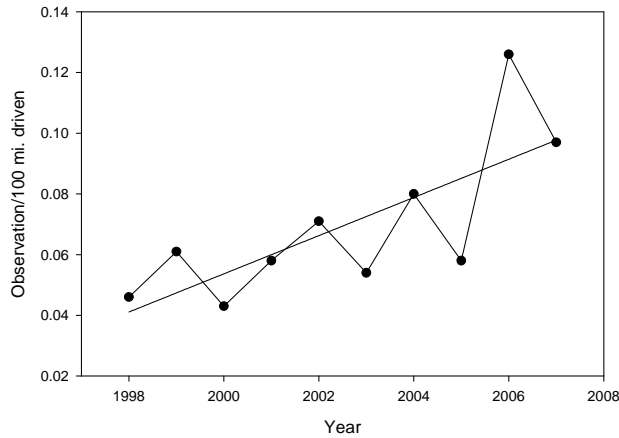


Figure 5. Statewide changes in jackrabbit abundance as estimated from the annual spring rural mail carrier survey, 1998-2007.

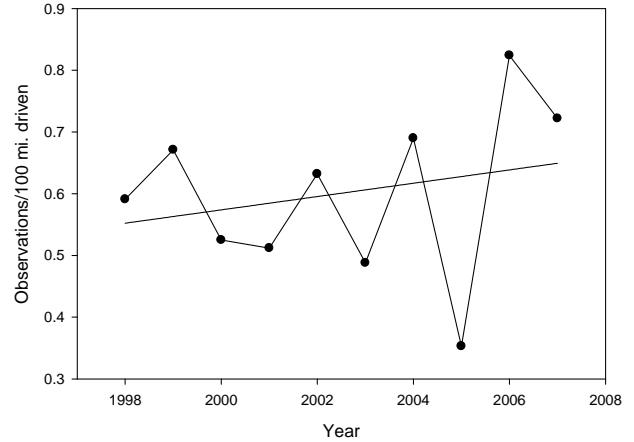


Figure 6. Statewide changes in eastern cottontail abundance as estimated from the spring rural mail carrier survey, 1998-2007.

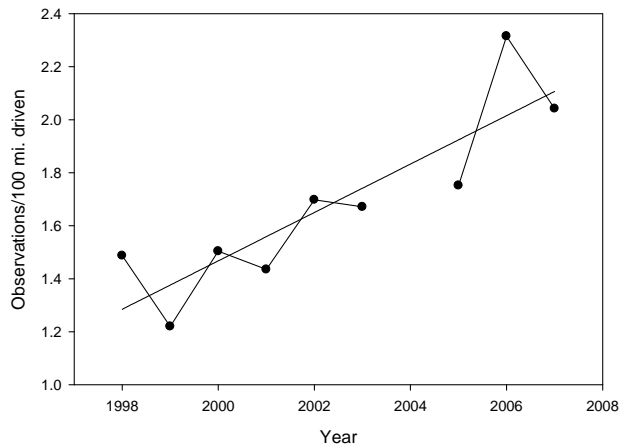


Figure 7. Statewide changes in squirrel (fox and gray) abundance as estimated from the fall rural mail carrier survey, 1998-2007.

### **Small Game Season Dates and Bag Limits (1998-2007)**

There have been several changes to the structure of Kansas' small game seasons over the last decade (Table 1). The most recent changes occurred prior to the fall of 2006. The traditional opening day of pheasant season was moved forward one week and opened on the 1<sup>st</sup> Saturday in November. The opening dates for bobwhite and regular prairie-chicken season were changed to the 2<sup>nd</sup> and 3<sup>rd</sup> Saturdays in November, respectively. The east and west bobwhite hunting units were removed and regulations applied statewide. The traditional bobwhite closing date of January 31 was moved forward and the season began closing on the 3<sup>rd</sup> Sunday in January. The final day of pheasant and regular prairie-chicken season (for east and northwest units) remained January 31.

Table1. Hunting season dates and daily bag limits (in parentheses) for each of Kansas' small game species, 1998-2007.

Year	Pheasant		Quail		Prairie Chicken	Rabbit <sup>a</sup>	Squirrel
1998	14 Nov. – 31 Jan. (4)	East: West:	14 Nov. – 31 Jan. (8) 21 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 7 Nov. – 31 Jan. (2) 7 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
1999	13 Nov. – 31 Jan. (4)	East: West:	13 Nov. – 31 Jan. (8) 20 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 6 Nov. – 31 Jan. (2) 6 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 29 Feb. (5)
2000	11 Nov. – 31 Jan. (4)	East: West:	11 Nov. – 31 Jan. (8) 18 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 4 Nov. – 31 Jan. (2) 4 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2001	10 Nov. – 31 Jan. (4)	East: West:	10 Nov. – 31 Jan. (8) 17 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 3 Nov. – 31 Jan. (2) 3 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2002	9 Nov. – 31 Jan. (4)	East: West:	9 Nov. – 31 Jan. (8) 16 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 2 Nov. – 31 Jan. (2) 2 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2003	8 Nov. – 31 Jan. (4)	East: West:	8 Nov. – 31 Jan. (8) 15 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 1 Nov. – 31 Jan. (2) 1 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2004	13 Nov. – 31 Jan. (4)	East: West:	13 Nov. – 31 Jan. (8) 20 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 6 Nov. – 31 Jan. (2) 6 Nov. – 31 Jan. (2) 1 Dec. – 31 Jan. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2005	12 Nov. – 31 Jan. (4)	East: West:	12 Nov. – 31 Jan. (8) 19 Nov. – 31 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 19 Nov. – 31 Jan. (2) 19 Nov. – 31 Jan. (2) 19 Nov. – 31 Dec. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2006	4 Nov. – 31 Jan. (4)	Statewide	11 Nov. – 21 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 18 Nov. – 31 Jan. (2) 18 Nov. – 31 Jan. (2) 18 Nov. – 31 Dec. (1)	All year (10)	1 Jun. – 28 Feb. (5)
2007	3 Nov. – 31 Jan. (4)	Statewide	10 Nov. – 20 Jan. (8)	East: Northwest: Southwest::	15 Sep. – 15 Oct. (2) 17 Nov. – 31 Jan. (2) 17 Nov. – 31 Jan. (2) 17 Nov. – 31 Dec. (1)	All Year (10)	1 Jun. – 29 Feb. (5)

<sup>a</sup> Applies to both cottontails and jackrabbits.

### General Hunting License Sales and Revenue (1998-2007)

The total number of general hunting licenses sold annually has declined by >14,000 over the last 10-year period (Figure 8). However, the percentage of licenses purchased by non-residents has increased sharply and >35% of all small game licenses are now bought by hunters residing in other states (Figure 9). The increase in non-resident license sales and changes in fee structures have lead to increased revenue over the last 10-year period despite a decline in the total number of licensed hunters. From the perspective of revenue, the increasing sale of higher-priced non-resident licenses (\$70) has more than offset the revenue lost by the declining sale of resident hunting licenses (\$18). However, the loss of resident hunters is of major concern to the department because those individuals are major supporters of conservation and the hunting tradition in Kansas.

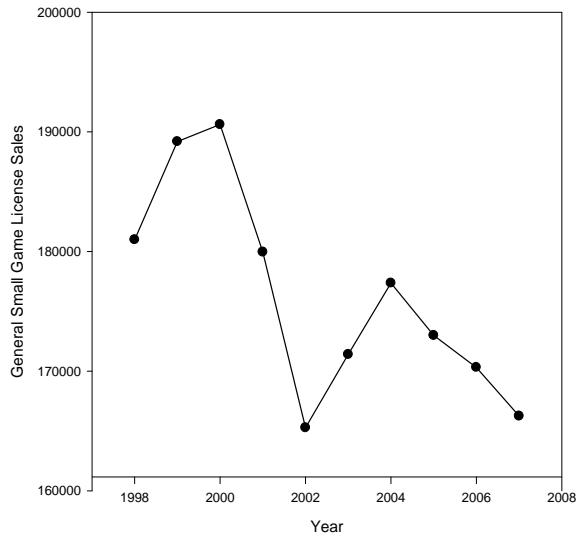


Figure 8. Number of general small game licenses sold in Kansas. The totals include the follow license types: resident hunt, resident hunt & fish combination, non-resident hunt, non-resident hunt & fish combination, and non-resident junion hunt.

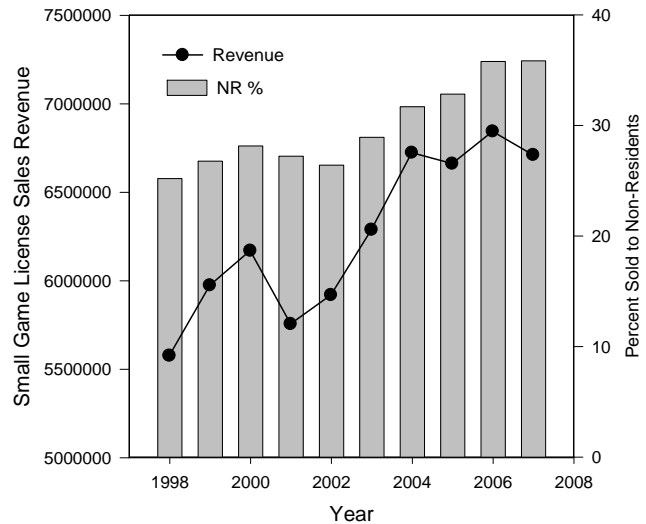


Figure 9. Revenue from Kansas' general small game licenses sales and the percentage of those licenses purchased by non-resident hunters, 1998-2008.

### Estimates of Hunter Harvest and Activity (1998-2006)

The most recent hunter and harvest estimates associated with each of Kansas' small game species are from the 2006 season. At the time of this report the fall 2007 estimates were not yet available. Those estimates should be available by at least mid-summer of 2008. Looking at the most recent 9-year period it is apparent that the number of pheasant hunters and their harvest have both remained fairly constant (Table 2). The same has been true for rabbit hunters and their harvest. The numbers of hunters pursuing quail, prairie chicken, and squirrels have all declined and harvest of those species has followed the same trend. The average daily and seasonal harvest estimates for individual hunters are much less than the legal daily bag limits and possession limits for each of Kansas' small game species (Table 3).

Some of the declines in hunter and harvest numbers can be partly explained by declining game populations but not all of them. The Kansas squirrel population has increased substantially over the last decade (Figure 7) but the number of squirrel hunters and their harvest have declined somewhat over that period. The increasing difficulty in acquiring access to private property could also be partly responsible for some of the hunter declines that are occurring. That increasing challenge is likely reflected by the increasing percentage of upland hunting days that occurred on publicly owned properties (KDWP wildlife areas, national grasslands, national wildlife refuges, etc.). During the fall 2006 hunting season an estimated 23.1% of all upland hunting days occurred on public property. That percentage is up from

15.9% only 10 years ago. The percentage of all Kansas hunters (residents and non-residents) that use the department's walk-in-hunting area (WIHA) program has also been high and has consistently been between 30-40% over the last 10-years. Thus, the KDWP is providing hunting opportunities for a substantial percentage of Kansas hunters thought lands owned or leased by the department.

Table 2. Estimated number of hunters and harvest associated with each of Kansas' small game species as estimated from the annual small game harvest survey, 1998-2007.

Year	Pheasant		Quail		Chicken <sup>a</sup>		Rabbit <sup>b</sup>		Squirrel <sup>c</sup>	
	Hunters	Harvest	Hunters	Harvest	Hunters	Harvest	Hunters	Harvest	Hunters	Harvest
1998	125,800	681,000	115,500	1,432,000	11,300	13,200	24,300	150,000	17,000	121,000
1999	133,700	824,000	117,600	1,378,000	10,300	17,000	27,800	187,000	19,800	146,000
2000	133,400	692,000	114,100	1,129,000	11,700	19,400	36,100	282,000	21,700	155,000
2001	116,600	426,000	91,300	408,000	8,430	9,470	21,200	106,000	17,800	135,000
2002	106,800	497,000	84,900	621,000	8,900	11,920	20,900	124,000	20,700	138,000
2003	117,000	646,000	91,000	647,000	8,270	15,190	25,200	174,000	17,000	149,000
2004	123,800	685,000	90,000	674,000	9,780	9,860	23,300	149,000	16,600	115,000
2005	124,700	764,000	90,900	616,000	6,730	11,330	21,700	142,000	19,300	151,000
2006	120,900	774,000	80,900	600,000	7,340	6,640	21,400	169,000	13,600	105,000

<sup>a</sup> Numbers are the sum of hunter and harvest estimates for greater and lesser prairie-chickens. Greater than 95% of the hunters and harvest were associated with greater prairie-chickens during each of the 9 years presented.

<sup>b</sup> Only includes estimates associated with eastern cottontails. During the last decade the estimated number of hunters and harvest associated with jackrabbits have been approximately 3,000 and 30,000, respectively.

<sup>c</sup> Includes both fox and gray squirrel hunters and harvest.

Table 3. Average daily and season bag for active hunters pursuing each of Kansas' small game species. Estimates were derived from the annual small game harvest survey, 1998-2006.

Year	Pheasant		Quail		Chicken <sup>a</sup>		Rabbit <sup>b</sup>		Squirrel <sup>c</sup>	
	Daily	Season	Daily	Season	Daily	Season	Daily	Season	Daily	Season
1998	1.01	5.41	1.96	12.40	0.46	1.21	1.67	6.17	1.45	7.12
1999	1.18	6.16	1.83	11.72	0.48	1.67	1.61	6.75	1.61	7.39
2000	1.00	5.19	1.64	9.89	0.43	1.36	1.95	7.81	1.47	7.13
2001	0.82	3.66	0.92	4.47	0.37	1.15	1.21	4.98	1.54	7.58
2002	0.93	4.65	1.36	7.32	0.42	1.31	1.49	5.95	1.53	6.67
2003	1.13	5.52	1.46	7.11	0.54	1.91	1.55	6.90	1.60	8.72
2004	1.11	5.53	1.50	7.49	0.45	1.02	1.68	6.40	1.41	6.92
2005	1.20	6.12	1.39	6.78	0.40	1.79	1.57	6.56	1.46	7.82
2006	1.26	6.39	1.39	7.41	0.34	0.94	1.56	7.87	1.45	7.72

<sup>a</sup> Estimates are only for greater prairie-chickens which comprise >95% of the Kansas chicken harvest. Daily and seasonal harvest estimates for lesser prairie-chicken are much less than those reported for greater prairie-chickens.

<sup>b</sup> Only for cottontails which comprise ~85% of the rabbit harvest. Estimates for daily and seasonal jackrabbit harvest are similar.

<sup>c</sup> Includes both fox and gray squirrel information.

### **Other Related Sources of Information**

More detailed information about survey methodology, small game population trends, hunter activity, and small game harvest is contained in the below listed KDWP reports. All of them can be downloaded at [http://www.kdwp.state.ks.us/news/other\\_services/research\\_publications/wildlife\\_research\\_surveys](http://www.kdwp.state.ks.us/news/other_services/research_publications/wildlife_research_surveys).

- *Pitman, J.C. Rural mail carrier survey, 2007. Kansas Department of Wildlife and Parks. Federal aid report W39-14.*
- *Pitman, J.C. Northern bobwhite whistle count, 2007. Kansas Department of Wildlife and Parks. Federal aid report W39-13.*
- *Rodgers, R.D. Prairie chicken lek survey, 2007. Kansas Department of Wildlife and Parks. Federal aid report W39-13.*
- *Rodgers, R.D. Ring-necked pheasant crow count, 2007. Kansas Department of Wildlife and Parks. Federal aid report W39-13.*
- *Rodgers, R.D. August roadside survey, 2007. Kansas Department of Wildlife and Parks. Federal aid report W39-14.*
- *Rodgers, R.D. Small game harvest survey, 2006. Kansas Department of Wildlife and Parks. Federal aid report W39-13.*