

2006 BOBWHITE WHISTLE COUNT

Performance Report

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INTRODUCTION AND METHODS

To monitor changes in northern bobwhite abundance the spring whistle count was initiated in 1998. A total of 65 established routes were surveyed annually through 2005. Prior to the 2006 survey, the distribution of routes was adjusted to provide better coverage of the entire state. This was accomplished by adding 16 new routes in areas not surveyed previously and eliminating 10 routes from areas where effort was clustered. In 2006, observers were asked to survey 71 established routes during the 1-16 June survey period, starting at sunrise (Table 1). Each route consisted of 11 stops spaced at approximately 1 mile intervals. Observers listened for 5 minutes at each stop and recorded the total number of different bobwhites heard calling.

The index to bobwhite abundance was calculated as the mean number of different bobwhites heard per listening stop. A folded F-test was used to determine if the variance differed between the 2005 and 2006 indices. If unequal variance existed ($P < 0.05$) then a Satterthwaite's adjustment was used to adjust the degrees of freedom prior to the paired two sample t-test used to compare indices. Annual comparisons were made using only data collected from routes surveyed in both 2005 and 2006. Additionally, a simple linear regression of all the historical whistle count data was used to determine if bobwhite abundance had changed significantly from 1998 to 2006. All indices and analyses were calculated for each of the 6 northern bobwhite survey regions in Kansas (Figure 1).

RESULTS

Observers surveyed 69 of 71 Kansas bobwhite routes during 2006 and of these routes 45 were surveyed during the previous year. There were apparent increases in the breeding bobwhite population in 3 of 6 survey regions. The apparent 1-year increases in bobwhite abundance in these regions ranged from 6.5% (Flint Hills) to 57.2% (Southeast) but the increases were only statistically detectable in 2 region (Southeast and Northcentral; Table 2). A significant ($P <$

0.10) 1-year decline in abundance was observed in the west region where the index was down 37.6% from 2005. Overall, the statewide index to bobwhite abundance was slightly down from 2005 (-2.7%) but the decrease was not significant ($P > 0.10$).

Bobwhite abundance in the Flint Hills and Northcentral regions has declined significantly since the whistle count survey was initiated in 1998 (Table 2, Figure 2). Over the last 9 years, abundance in the Northeast, Southcentral, and Northeast regions appears to be declining but none of these trends were statistically significant ($P > 0.10$). Bobwhite abundance has increased significantly ($P < 0.10$) in only the west region over that same time period. Overall, the statewide index has declined significantly ($P < 0.05$) over the last 9 years (Table 2, Figure 3).

DISCUSSION

The abundance of breeding bobwhites was up or relatively unchanged in the eastern 2/3 of the state. This was likely the result of good production in 2005 and a relatively mild winter. The index for the western part of the state showed a decline from 2005. It is likely that the decline was due to an early spring snow storm in the northwestern part which was followed by exceedingly dry conditions up to the time of the survey. I speculate that the decline was most pronounced in northwest Kansas and the number of birds in southwest Kansas likely didn't decline as drastically.

At the time of this report, prospects for the fall 2006 bobwhite hunting season looked good for most of the state. Rainfall during April was average or above average for the eastern 2/3 of Kansas. Rainfall at that time provides a great benefit to bobwhites and other gamebirds because it stimulates growth of grass and forbs providing birds with greater cover to conceal their nests. Additionally, when most nests were hatching (late June and early July) temperatures were relatively mild across the state and there were few major weather events (e.g. torrential rains, hail, etc.) that might have lessened chick survival. Production should be fairly high across

the eastern 2/3 of Kansas as long as moderate temperatures and near average precipitation prevail for the remainder of the summer. Bobwhite hunting prospects for the western 1/3 of the state don't look as bright due to the decrease in the breeding population coupled with an ongoing drought (particularly northwest Kansas).

Table 1. Northern bobwhite survey routes and observers in Kansas, 2006.

Route	County(s)	Observer	Route	County(s)	Observer
1	Allen	B. Bass	37	Meade ^a	Jon Zuercher
2	Doniphan	Randy Whiteaker	38	Miami	Andy Friesen
3	Barber	Charlie Swank	39	Mitchell	Aaron Deters
4	Barton ^a	Curran Salter (APHIS)	40	Montgomery	Ed Miller
5	Bourbon	J. Bussone	41	Morris	Brent Konen
6	Butler	Brad Odle	42	McPherson/Marion ^b	Cliff Peterson
7	Chase ^a	Jim Pitman	43	Morton	Kraig Schultz
8	Chautauqua ^a	Darrin Porter	44	Morton	Kraig Schultz
9	Cherokee	Jeremy Jirak	45	Nemaha ^a	Darren Brown
10	Clark ^a	Jon Zuercher	46	Neosho	B. Bass
11	Clay	Clint Thornton	47	Osage	Don Patton
12	Cloud	Aaron Deters	48	Osborne	Ron Ruthstrom
13	Coffey	Bob Culbertson	49	Ottawa	Shane Hesting
14	Cowley ^a	Kurt Grimm	50	Pawnee	Charlie Swank
15	Crawford	B. Bass	51	Pawnee	Randy Rodgers
16	Douglas	Mike McFadden	52	Philips	Marc Gray
17	Elk ^a	Rick Tush	53	Pottawatomie	Rick Campbell (LE)
18	Ellis	Randy Rodgers	54	Pratt ^a	Todd Gatton
19	Ellsworth	Matt Smith	55	Rawlins	Matt Bain
20	Finney/Gray	Daryl Fisher	56	Reno ^b	Steve Adams
21	Ford	Scotty Baugh	57	Rice ^a	Jeff Rue
22	Greenwood	Tick Tush	58	Riley	Corey Alderson
23	Harvey	Charlie Cope	59	Rush ^a	Jeremy Salter (Volunteer)
24	Hodgeman	Craig Curtis	60	Russell	Matt Smith
25	Hodgeman	Aaron Baugh	61	Saline	Matt Smith
26	Jefferson/Jackson	Randy Whiteaker	62	Shawnee	Scott Thomasson
27	Jewel	Ron Ruthstrom	63	Sheridan ^a	Matt Bain
28	Kearny	Daryl Fisher	64	Smith	Ron Ruthstrom
29	Kingman	Troy Smith	65	Stafford	Helen Hands
30	Kiowa	Charlie Swank	66	Stanton ^a	Kraig Schultz
31	Leavenworth ^a	Andy Friesen	67	Sumner	Clint Bowman
32	Lincoln	Shane Hesting	68	Trego ^a	Jason Hawman (LE)
33	Linn	Karl Karrow	69	Wabaunsee	Mike McFadden
34	Lyon	Don Patton	70	Washington	Clint Thornton
35	Marshall	Keith Salmans	71	Woodson ^a	Tracy Dick
36	McPherson	Brent Theede			

^a New routes surveyed for the first time in 2006.

^b Routes not surveyed during 2006.

* Routes eliminated prior to 2006 included: Cherokee, Cowley, Douglas, Jefferson, Kingman, Linn (2 routes), Linn/Anderson, Miami

Table 2. Mean number of different bobwhites heard whistling at each stop within the 6 Kansas bobwhite management regions. Analyses were conducted using only data collected along 10-mile routes surveyed in both 2005 and 2006.

Region	<i>n</i> ^a	2005	2006	Apparent 1-year Change (%)	<i>P</i> ^b	Trend (1998-2006)
Flint Hills	4	2.30	2.45	+6.5%	0.547	Decreasing**
Northcentral	12	1.05	1.39	+32.4%	0.020	Decreasing**
Northeast	4	2.75	2.14	-22.2%	0.133	Stable
Southcentral	7	2.91	2.81	-3.4%	0.752	Stable
Southeast	8	1.66	2.61	+57.2%	<0.01	Stable
West	10	3.22	2.01	-37.6%	<0.01	Increasing*
Statewide	45	2.19	2.13	-2.7%	0.545	Decreasing**

^a Number of routes surveyed in both 2005 and 2006.

^b Bobwhite abundance was considered to be significantly different than the previous year when $P < 0.10$.

* $P < 0.10$

** $P < 0.05$

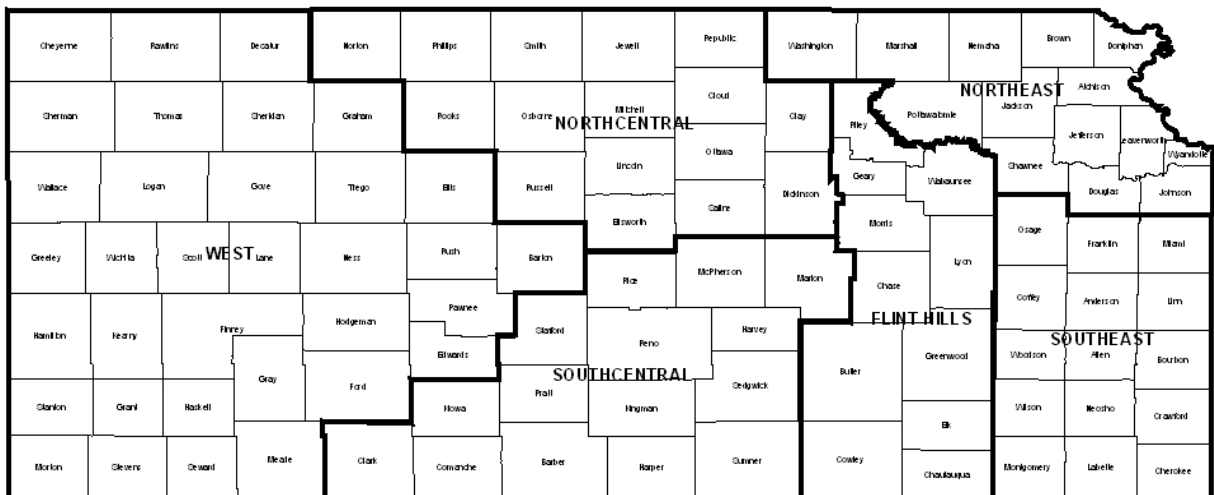


Figure 1. Northern bobwhite survey regions in Kansas.

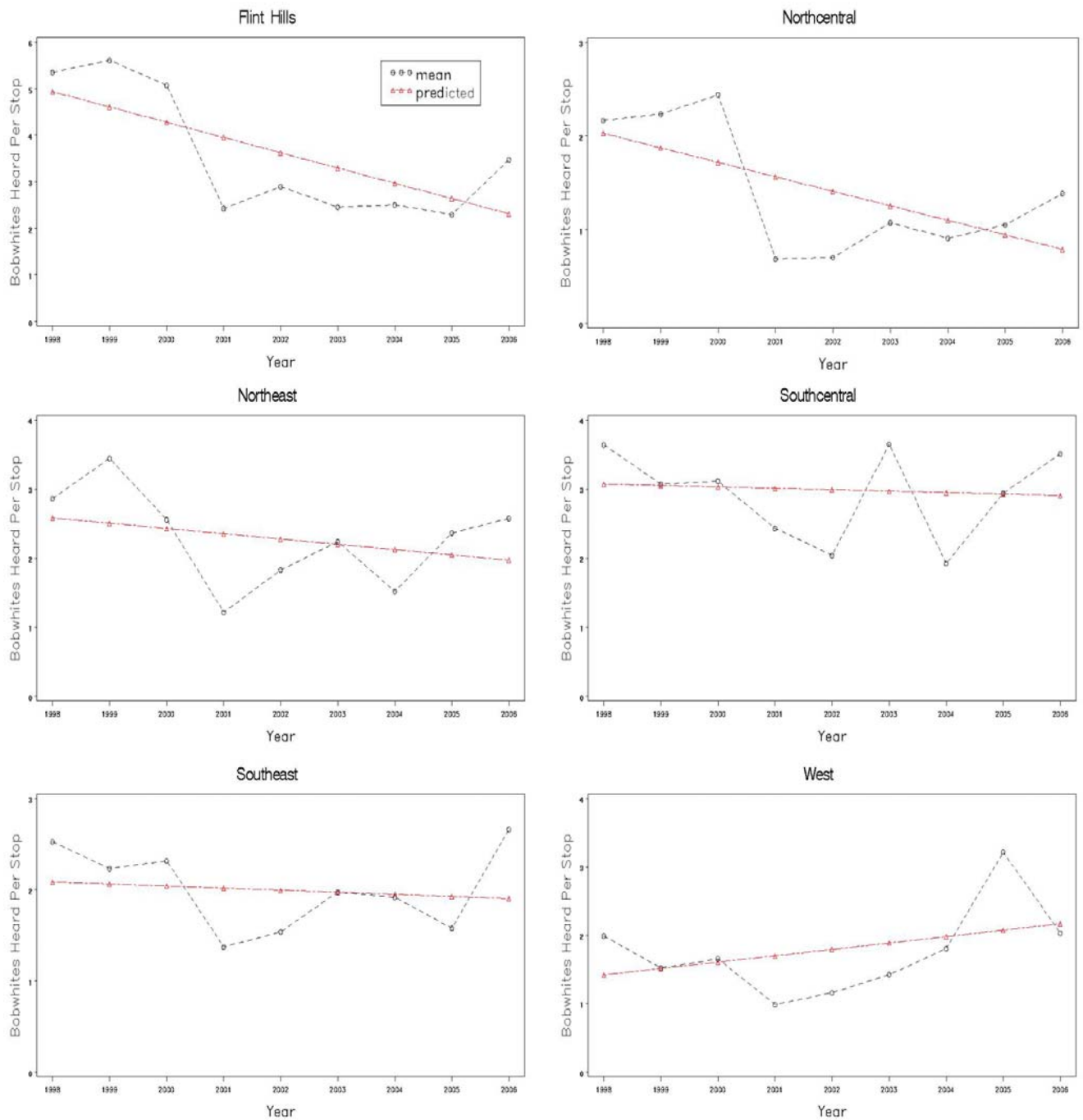


Figure 2. Observed and predicted number of bobwhites heard per survey stop within each of the 6 bobwhite management regions of Kansas, 1998-2006. Annual changes can not be interpreted from these figures because all of the same routes were not surveyed in consecutive years. These data can only be used to interpret the long-term trends in regional bobwhite abundance. Note that the scales are not the same on each graph.

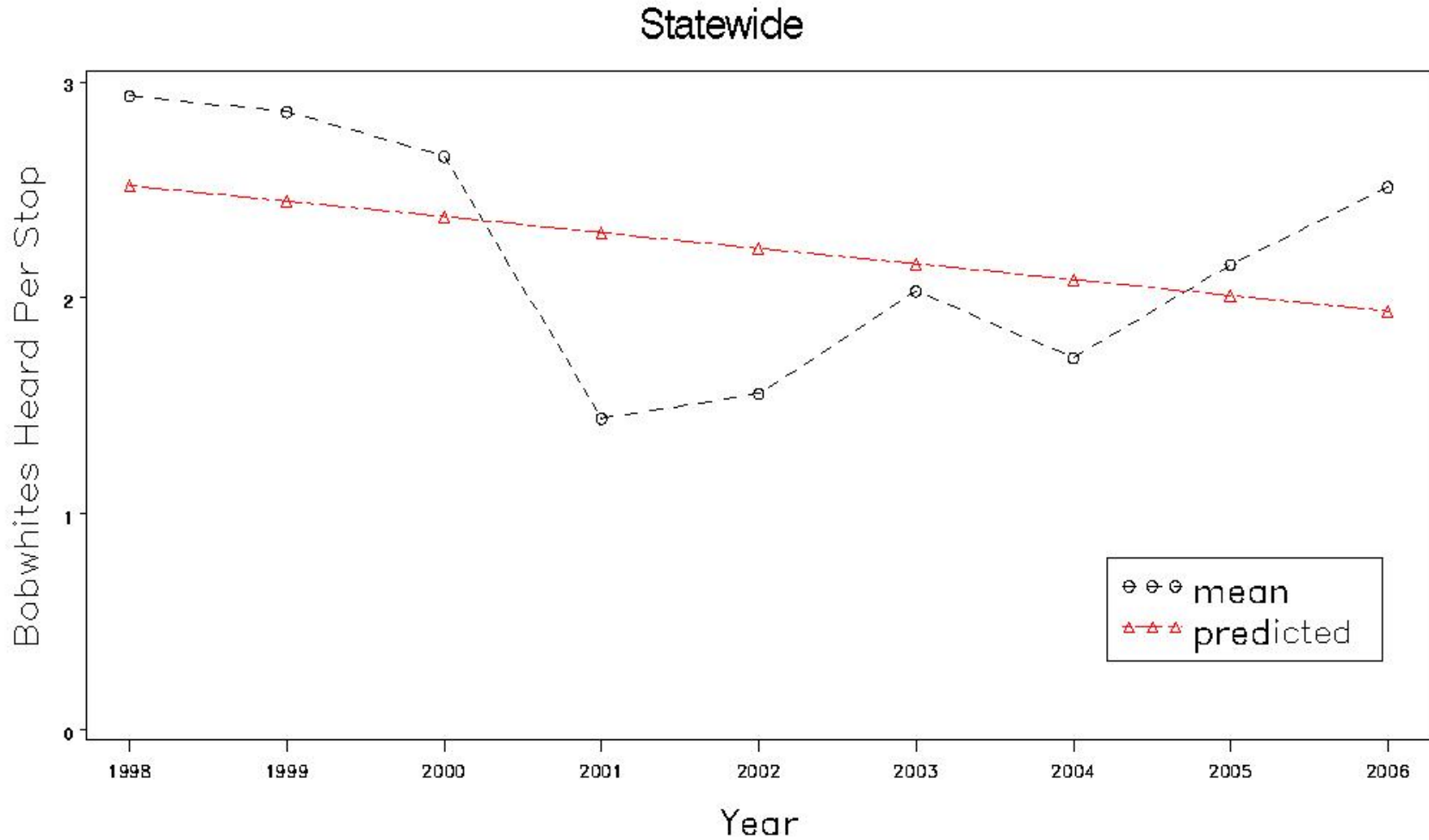


Figure 3. Observed and predicted number of bobwhites heard per stop calculated from all routes surveyed in Kansas, 1998-2006. Annual changes can not be interpreted from this figure because all of the same routes were not surveyed in consecutive years. These data can only be used to interpret the long-term trend in bobwhite abundance.