

PRAIRIE CHICKEN LEK SURVEY - 2008

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KANSAS PRAIRIE CHICKEN LEK SURVEY – 2008

Federal Aid in Wildlife Restoration Project W-39-R-14

Prepared by: Randy Rodgers, Wildlife Research Biologist

Observers satisfactorily surveyed all of the 15 lesser prairie-chicken routes and 28 of the 29 greater prairie-chicken routes during the March 20 to April 25 survey period. The survey period was extended 5 days beyond the normal April 20 ending date due to windy conditions. Approximate locations of the survey routes are shown in Figure 1. Greater prairie-chicken and lesser prairie-chicken data are shown in Tables 1 and 2, respectively. Route indices are calculated by multiplying the flush count x 2 and dividing by the number of square miles surveyed. This takes into account that (1) most birds flushed from leks are males, (2) some males are not present on leks, and (3) that some hens may be present on leks.

GREATER PRAIRIE-CHICKEN: The rangewide index (3.8 birds/mi²) decreased 8% compared to 2007, but this change was not statistically significant ($P = 0.262$). Of the 28 routes run by the same observer in both years, 9 increased, 14 declined, 1 was unchanged, and 4 remained at zero. No new observers were used this year. The Ottawa County route was not assigned due to personnel turnover and unavailability of a substitute for 2008. The prairie-chicken index in the Blackjack / Eastern Cropland region (1.7 birds/mi²) decreased (-19%) from last year. This decrease was not statistically significant ($P = 0.173$). Reoccupation of the Woodson County route, after no birds were detected in 2007, countered the sharp declines on 4 of this region's survey routes. Of the 9 routes in the Flint Hills run in both years by the same observer, 3 increased, 5 decreased, and 1 remained at zero. The Flint Hills regional index (4.3 birds/mi²) decreased 16% from 2007, but this was not statistically significant ($P = 0.288$). This is the third consecutive year of decline in the Flint Hills index. Ten of the 11 routes in the Western Cropland region were run by the same observers as in 2007. Of these, 5 increased and 5 decreased with the regional index little changed (+3%) at 5.3 birds/mi². This was not statistically significant ($P = 0.480$). Periods of heavy rains that occurred in late May and again in late June of 2007 may have been responsible for the declines observed on most eastern Kansas survey routes.

LESSER PRAIRIE-CHICKEN: The rangewide index (3.9 birds/mi²) was unchanged ($P = 0.361$) from 2007. Fourteen of the 15 routes were surveyed by the same observers as in 2007, with Chris Berens taking over the Kiowa County route. Of these, 7 increased, 4 decreased, and 3 remained at zero. Indices for the Gove and Ness survey routes and the overall annual index include some greater prairie-chickens. No birds were detected on the Barber County route for the first time since this route was begun in the spring of 2000. Oil and gas activity on the survey area has steadily increased in recent years and may have been responsible for the abandonment of the one known lek on the survey area. Much increased noise interference associated with oil and gas extraction also has decreased the potential for audibly detecting leks. Although no lessers were found directly on the Pratt Sandhills survey area, a small lek was detected just off the survey area. This is the first prairie-chicken breeding activity detected on or near the Pratt Sandhills since 1999.

While it is not one of our standard lesser prairie-chicken surveys, the route set up in 2007 on the large area of center pivots purchased by Wheatland Electric in southwest Finney County was also surveyed this spring. No leks were detected on this area in 2008.

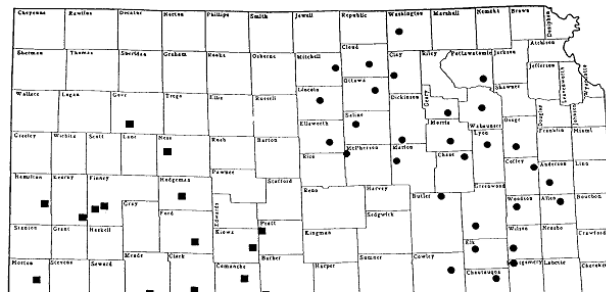


Fig. 1. Locations of greater (●) and lesser (■) prairie chicken survey routes in Kansas.

Table 1. Greater prairie chicken lek counts -- 2008.

Region	Route	No. Sq. Miles	No. Leks Found	No. Leks Flushed	Total Flush Count	Birds Per Lek	Birds Per Route	Birds Per Sq. Mi.	1-Yr % Pop. Change
B									
L J	Allen	20	1	1	6	6.0	12	0.6	-67
A A	Chautauqua	20	0	0	0		0	0.0	
C C	Montgomery	20	0	0	0		0	0.0	
K K	Wilson	20	0	0	0		0	0.0	
	Woodson	20	2	2	22	11.0	44	2.2	
E C	Anderson	20	3	3	27	9.0	54	2.7	-29
A R	Coffee	20	1	1	8	8.0	16	0.8	-62
S O	Osage	20	2	2	23	11.5	46	2.3	0
T P	Pottawatomie	20	6	6	64	10.7	128	6.4	-26
E L									
R A	2008 Mean *					10.0	33	1.7	(-19)
N N	2007 Mean *					11.6	41	2.1	
D									
	Butler	20	8	8	85	10.6	170	8.5	-46
F	Chase	20	3	3	40	13.3	80	4.0	100
L	Cowley	20	3	3	33	11.0	66	3.3	-43
I	Elk	20	0	0	0		0	0.0	
N	Geary	20	3	3	37	12.3	74	3.7	-12
T	Greenwood	20	1	1	11	11.0	22	1.1	-59
H	Lyon	20	4	4	60	15.0	120	6.0	-19
I	Morris	20	4	4	38	9.5	76	3.8	73
L	Wabaunsee	20	6	6	81	13.5	162	8.1	40
L									
S	2008 Mean *					12.0	86	4.3	(-16)
	2007 Mean *					12.7	102	5.1	
W									
E	Clay	20	3	3	27	9.0	54	2.7	-45
S	Cloud	20	4	4	60	15.0	120	6.0	-10
T	Dickinson	20	2	2	17	8.5	34	1.7	-61
E	Ellsworth	20	3	3	50	16.7	100	5.0	25
E C	Lincoln	20	3	3	97	32.3	194	9.7	76
R R	Marion	20	5	5	77	15.4	154	7.7	31
N O	McPherson	20	6	6	35	5.8	70	3.5	-15
P	Mitchell	20	3	3	49	16.3	98	4.9	-23
L	Ottawa	20							
A	Saline	20	4	4	48	12.0	96	4.8	9
N	Washington	20	4	4	73	18.3	146	7.3	33
D									
	2008 Mean *					14.4	107	5.3	(+3)
	2007 Mean *					13.8	108	5.4	
ALL									
	2008 Grand Mean *					12.7	76	3.8	(-8)
	2007 Grand Mean *					13.0	85	4.3	

* Means are derived from all completed survey routes in the respective year. Annual change and statistical significance are computed only from surveys completed in both years by the same observer.

** Denotes a significant change ($P < 0.10$) from previous year (1-tailed P , Wilcoxon Signed Rank Sums Test).

Table 2. Lesser prairie chicken lek counts -- 2008.

Region	Route	No. Sq. Miles	No. Leks Found	No. Leks Flushed	Total Flush Count	Birds Per Lek	Birds Per Route	Birds Per Sq. Mi.	1-Yr % Pop. Change
	Barber	20	0	0	0		0	0.0	-100
	Clark	20	3	3	45	15.0	90	4.5	-48
S	Comanche	20	3	3	40	13.3	80	4.0	43
O	Finney	20	2	2	29	14.5	58	2.9	164
U	Ford	20	2	2	24	12.0	48	2.4	-35
T	Gove ***	20	7	7	98	14.0	196	9.8	17
H	Hamilton	20	3	3	41	13.7	82	4.1	24
W	Hodgeman	20	8	8	80	10.0	160	8.0	-18
E	Kearny	20	0	0	0		0	0.0	
S	Kiowa	20	2	2	18	9.0	36	1.8	
T	Meade	20	6	6	72	12.0	144	7.2	20
	Morton	20	2	2	34	17.0	68	3.4	36
	Ness ***	20	5	5	67	13.4	134	6.7	16
	Sandsage BR	5	0	0	0		0	0.0	
	Pratt Sandhills	14	0	0	0		0	0.0	
	2008 Mean *					12.7	73	3.9	0
	2007 Mean *					11.1	72	3.9	

* **Means** are derived from **all completed** survey routes in the respective year. **Annual change** and **statistical significance** are computed **only** from surveys **completed in both years** by the **same observer**.

** Denotes a significant change ($P < 0.10$) from previous year (1-tailed P , Wilcoxon Rank Sums Test).

*** Both PC species are found on these survey areas. Counts (2008) were as follows: Gove -- 72 LPC, 23 GPC, 3 LPC/GPC hybrids; Ness -- 62 LPC, 5 GPC.

Table 3. Personnel assigned prairie chicken survey routes – 2008.

Greater Prairie Chicken Routes		Greater Prairie Chicken Routes	
Allen	Jason Deal	Saline	Greg Salisbury
Anderson	Lance Hedges	Wabaunsee	Rick Campbell
Butler	Charlie Cope	Washington	Ben Jedlicka
Chase	Randy Benteman	Wilson	Robert Funke
Chautauqua	Darin Porter	Woodson	Scott Barlow
Clay	Clint Thornton		
Cloud	Brian Marks	Lesser Prairie Chicken Routes	
Coffee	Bob Culbertson	Barber	Helen Hands
Cowley	Kurt Grimm	Clark	Jeff Sutton
Dickinson	Lance Hockett	Comanche	Charlie Swank
Elk	Dan Melson	Finney	Daryl Fisher
Ellsworth	Matt Smith	Finney (Wheatland)	Mark Sexson
Geary	Jesse Gehrt	Ford	Lowell Aberson
Greenwood	Rick Tush	Gove	Matt Bain
Lincoln	Shane Hesting	Hamilton	Randy Rodgers
Lyon	Jim Pitman	Hodgeman	Craig Curtis
Marion	Marvin Peterson	Kearny	Todd Robinson
McPherson	Jeff Rue	Kiowa	Chris Berens
Mitchell	Aaron Deters	Meade	Jon Zuercher
Montgomery	Dennis Knuth	Morton	Kraig Schultz
Morris	Lloyd Fox	Ness	Aaron Baugh
Osage	Matt Peek	Finney Refuge	Tom Norman
Ottawa *		Pratt Sandhills	Todd Gatton
Pottawatomie	Corey Alderson		

~ Indicates a new observer for this route.

* Route not assigned in 2008 due to personnel turnover.

Kansas Prairie-Chicken Survey Data

(Note: Scales Differ)

Because fewer routes were run, often inconsistently, in the 1960's and 1970's than subsequently, the long-term data may depict only general population tendencies. Most Western Cropland-Other routes were established in the late 70's or early 80's. Recent data are trends from the same set of consistently-run routes. A missing point indicates insufficient data to calculate a reliable mean (>2 routes not run or incompletely run). The lesser prairie-chicken trend depicted does not include routes in Barber, Kiowa, Hodgeman, Gove, or Ness counties. These routes were established in 2000 or later.

