2025 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 routes were established and surveyed annually from 1998 - 2005. Prior to the 2006 survey, the distribution of routes was adjusted to provide better coverage of the entire state, and thus a more accurate representation of bobwhite densities. This was accomplished by adding 16 new routes in areas not previously surveyed and eliminating 10 routes from areas where effort was clustered. Since then routes have occasionally been added or removed as necessary to supply the most representative data within staff availability. This year, observers were asked to survey 78 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 and total number of calls.

The index to bobwhite abundance was calculated as the mean number of different bobwhites heard per listening stop per route (M/S). To prevent observer bias impacting results, only routes that were sampled by the same observer in consecutive years were used to assess changes in regional and statewide indices. Given that samples are taken on permanently established routes, samples are not independent and thus a paired-sample t-test was used to draw inter-annual comparisons. Additionally, a linear regression of the statewide M/S estimate since the 1998 establishment of the survey to evaluate long-term trend in this index. All indices and analyses were calculated for each of the 7 small game regions (Figure 1).

Inverse Distance Weighting is a mapping technique that can be used to interpolate data between survey points, providing estimates to areas not surveyed. This technique has limitations at smaller scales (e.g., within counties and townships) because no habitat variables are included (only count data), but is useful for large-scale interpretation of statewide data for regional

comparisons. Inverse Distance Weighting was used by assigning the route-specific whistle index to the centroid of each route. All sampled routes were used to extrapolate data throughout Kansas.

RESULTS

Observers surveyed 76 of the 78 assigned routes during 2025 for a statewide index of 3.04 calling males per stop. Among the 68 comparable routes, the 2025 statewide index to the breeding bobwhite population was 2% higher than in 2024 (Table 2) which was not a statistically significant change. There was a statistically significant ($P < 0.10$) increases in the average number of calling males per stop in the Smoky Hills (27%) region from 2024 to 2025 (Table 2). There was a statistically significant ($P < 0.10$) increases in the average number of calling males per stop in the Southern High Plains (-20%).

The statewide calling males/stop index has shown an increase at a rate of 0.032 calling males/year over 27 years (Figure 2, Statewide), this is a significant rate of increase (P =0.022). The rate of change is highly impacted by large fluctuations in the indices through time associated with the boom and bust cycles of bobwhite quail. The current index is above average despite significant drought conditions last year. The Glaciated Plains and Osage Cuestas regions of eastern Kansas (Figure 2), that were historically considered strongholds for bobwhite, continue to struggle. The Glaciated plains saw slight improvements this year and have experienced several years of improved densities however both these regions have remained well below historic densities. Bobwhite populations in the central and western regions have displayed more stable to increasing long term trends.

DISCUSSION

Spring whistle counts are considered an index to the breeding population. As such, they reflect a combination of the previous breeding season's production and overwinter survival. Vegetation response coming out of the drought in 2014 created conditions that were good to

excellent for production creating a population boom that has since maintained above average densities. Drought conditions in 2022 and 2023 resulted in relatively poor habitat across much of the primary range, production appeared to be reduced across much of the state but there was enough production to maintain populations across most regions of the state despite poor conditions last year. Statewide densities have remained strong compared to long term average (Figure 2). Kansas had a few significant winter storms that may have impacted overwinter survival, particularly in the SW where production was high last fall but carryover into this spring was down. Across other regions these storms may have had localized impacts if habitat was lacking.

While the population trajectory is still increasing across much of the state, largescale population declines began well before the inception of this survey in 1998. Historically, the eastern regions (Glaciated Plains and Osage Cuestas) produced the highest densities of bobwhites in the state. Both regions remain below the other major quail regions, and the Glaciated Plains continues to indicate an overall decline in bobwhite abundance. Weather conditions and habitat recovery over the last several years have provided high quality conditions for quail across the state, but long-term landscape level changes (e.g., reduced quality and quantity of habitat) that caused populations to decline still exist and could contribute to future population declines. This will likely be exasperated by changes in the conservation programs in the Farm Bill, most notably CRP, that are not providing the quantity or quality of habitat that they did historically. Recent population increases have given us an opportunity to promote conservation practices that benefit quail and other grassland wildlife and capitalize on revitalized interest in managing for upland game birds.

It is important to understand that annual changes to the breeding population do not predict quality of the upcoming hunting season. The fall bobwhite population will predominantly depend on summer productivity. This survey is an index to the spring breeding

population and is a measure of production potential, but fall populations are ultimately determined by conditions through the summer months. Localized bobwhite populations can increase nearly 300% from spring to fall when conditions are ideal for production. Entering spring with a larger breeding population creates the potential for a larger population increase when conditions are good, but doesn't guarantee it. Under correct conditions, fall densities in areas with lower breeding populations can surpass areas that had larger spring densities. Likewise, areas with high spring densities can have low fall densities in the event of poor conditions.

The hunting outlook currently is unpredictable for fall 2025. Conditions are currently promising, wet springs after drought tend to produce high quality cover for quail. The statewide population index remained above average for this survey (Table 2, Figure 3) and good production could lead to much greater densities in the fall. However we received heavy rain across much of the state during nesting season which can limit nest success and brood survival. Conditions through the remainder of July and August will have large impacts on the realized fall densities. More accurate predictions about fall densities will be available following the completion of the summer brood survey in September.

Table 1. Northern bobwhite survey routes and observers in Kansas, 2025.

Route	County(s)	Observer	Route	County(s)	Observer
1	Allen	Jason Deal	41	Morris	Brent Konen
2	Atchinson/Doniphan	Tyler Warner	42	McPherson/Marion	Jeremy Amos
3	Barber	Jacob Christiansen*	43	Morton	Kraig Schultz
4	Barton	Jeff Prendergast*	44	Morton	Kraig Schultz
5	Bourbon	Justin Harbit	45	Nemaha	Ben Couchman
6	Butler	Jeff Rue	46	Neosho	Vacant
7	Chase	Caleb Durbin*	47	Osage	Matt Peek
8	Chautauqua	Ryan Lies	48	Osborne	Jeff Prendergast
9	Cherokee	David Shanholtzer	49	Ottawa	Pat Riese
10	Clark	Dan Haneke	50	Pawnee	Jacob Christiansen*
11	Clay	Clint Thornton	51	Pawnee	Tom Bidrowski
12	Cloud	Matt Farmer	52	Phillips	Eric Wiens
13	Coffey	Alex Lyon	53	Pottawatomie	Bryon Brown
14	Cowley	Kurt Grimm	54	Pratt	Todd Gatton
15	Crawford	Logan Martin	55	Rawlins	Kevin Klag
16	Douglas	Tim Urban	56	Reno	Keith Murrow
17	Elk	Victoria Cikanek	57	Rice	Steve Adams
18	Ellis	Andy Nelson	58	Riley	Ben Couchman*
19	Ellsworth	James Svaty	59	Rush	Jason Wagner
20	Finney	Jared King	60	Russell	Megan Rohweder
21	Ford	Aaron Baugh	61	Saline	Pat Riese
22	Greenwood	Victoria Cikanek	62	Shawnee	Kyle Abrahmson*
23	Harvey	Charlie Cope	63	Sheridan	Abby McGuire
24	Hodgeman	Aaron Baugh	64	Smith	Chris Lecuyer
25	Hodgeman	Jared King	65	Stafford	Wes Sowards
26	Jefferson/Jackson	Tyler Warner	66	Stanton	Kraig Schultz
27	Jewell	Brandon Tritch	67	Sumner	Jeff Rue
29	Kingman	Jon Beckman	68	Trego	Matt Scmidt
30	Kiowa	Jacob Christiansen*	69	Wabaunsee	Kyle Abrahmson*
31	Leavenworth	Andy Friesen	70	Washington	Clint Thornton
32	Lincoln	James Svaty	71	Woodson	John Johnson
33	Linn	Jacob Coulter	72	Grand Osage WA	Rob Riggin
34	Lyon	Lindsey Buhler*	73	Hamilton	Kurt Meier
35	Marshall	Megan Smith	74	Wilson WA	Scott Thomasson
36	McPherson	Jason Black	75	TuttleCreek WA	Justin Wren
37	Meade	Dan Haneke	76	Perry WA	Andrew Page
38	Miami	Andy Friesen	77	Clinton WA	Justin Hamilton
39	Mitchell	Brandon Tritch	79	Edwards R9	Lucas Kramer
40	Montgomery	Ryan Lies	80	El Dorado WA	Tyler Burt

*New observer

Table 2. Regional Changes in calling Bobwhite males per stop (M/S), 2025.

Route	2024 M/S	2025 M/S	% Δ[a]	Route	2024 M/S	2025 M/S	% Δ[a]
	Flint Hills				Smoky Hills		
06 Butler	4.45	6.27	41	04 Barton[b]	NA	3.55	NA
07 Chase[b]	3.33	3.56	7	12 Cloud	NA	3.22	NA
08 Chautauqua	5.64	4.73	-16	18 Ellis	3.09	4.27	38
11 Clay	2.64	2.91	10	19 Ellsworth	2.18	2.73	25
14 Cowley	4.91	5.27	7	24 Hodgeman	1.36	1.45	7
17 Elk	3.45	5.55	61	25 Hodgeman	0.09	0.64	600
22 Greenwood	3.27	2.45	-25	27 Jewell	1.56	1.36	-12
34 Lyon[b]	1.82	2.55	40	32 Lincoln	2.33	1.60	-31
41 Morris	2.10	2.20	5	36 McPherson	3.00	NA	NA
42 McPherson_Marion	2.50	1.91	-24	39 Mitchell	1.30	2.27	75
53 Pottawatomie	7.38	5.91	-20	48 Osborne	0.55	2.36	333
58 Riley[b]	3.36	4.64	38	49 Ottawa	1.36	2.18	60
69 Wabaunsee[b]	0.64	2.64	314	52 Phillips	2.27	2.64	16
75 Tuttle Cr WA[b]	5.80	1.91	-67	57 Rice	5.00	4.64	-7
80 El Dorado WA	2.00	1.82	-9	59 Rush	3.36	3.55	5
Region	**3.83**	**3.90**	**2**	60 Russell	4.90	4.36	-11
	Glaciated Plains			61 Saline	2.18	2.36	8
02 Atchison_Doniphan	1.09	1.27	17	64 Smith	1.29	2.00	56
16 Douglas	1.27	1.64	29	68 Trego	0.60	1.50	150
26 Jefferson_Jackson	2.82	2.18	-23	70 Washington	1.09	2.55	133
31 Leavenworth	0.00	0.27	NE	74 WilsonWA	3.18	5.36	69
35 Marshall	3.70	3.36	-9	**Region**	**2.09**	**2.66**	**27***
45 Nemaha	2.20	1.18	-46		South-Central Prairies		
62 Shawnee[b]	1.91	3.67	92	03 Barber[b]	5.18	4.91	-5
76 Perry WA	2.55	3.55	39	10 Clark	5.50	4.18	-24
77 Clinton WA Wak	0.57	0.40	-30	23 Harvey	0.27	0.20	-27
Region	**1.77**	**1.73**	**-2**	29 Kingman	2.36	1.73	-27
	Osage Cuestas			30 Kiowa[b]	3.73	3.55	-5
01 Allen	1.18	2.18	85	50 Pawnee[b]	3.45	8.64	150
05 Bourbon	0.13	0.44	256	51 Pawnee	1.73	3.80	120
09 Cherokee	0.64	0.82	29	54 Pratt	3.45	3.45	0
13 Coffey	2.27	2.00	-12	56 Reno	4.80	5.27	10
15 Crawford	2.82	3.56	26	65 Stafford	1.50	2.40	60
33 Linn	0.40	0.11	-72	67 Sumner	6.00	5.09	-15
38 Miami	0.55	0.45	-17	79 Edwards	5.91	7.00	18
40 Montgomery	3.50	2.27	-35	**Region**	**3.50**	**3.68**	**5**
46 Neosho	1.91	NA	NA		Southern High Plains		
47 Osage	2.36	1.55	-35	20 Finney	5.55	5.00	-10
71 Woodson	5.18	5.71	10	21 Ford	2.50	2.00	-20
72 Grand Osage WA	2.30	1.50	-35	37 Meade	5.17	3.60	-30
Region	**1.94**	**1.87**	**-3**	43 Morton	8.91	7.55	-15
	Northern High Plains			44 Morton	9.27	6.82	-26
55 Rawlins	1.09	1.18	8	66 Stanton	1.50	0.64	-58
63 Sheridan	1.45	1.36	-6	73 Hamilton	6.10	5.56	-9
Region	**1.27**	**1.27**	**0**	**Region**	**5.57**	**4.45**	**-20***
				STATEWIDE	**2.84**	**2.89**	**2**

*Values are significant at a $P \leq 0.10$ level

[a] % Δ = percent change

[b] New observer; not included in regional or state averages

NA = Not available, route not completed; NE = % change Not Estimable, Denominator = zero;

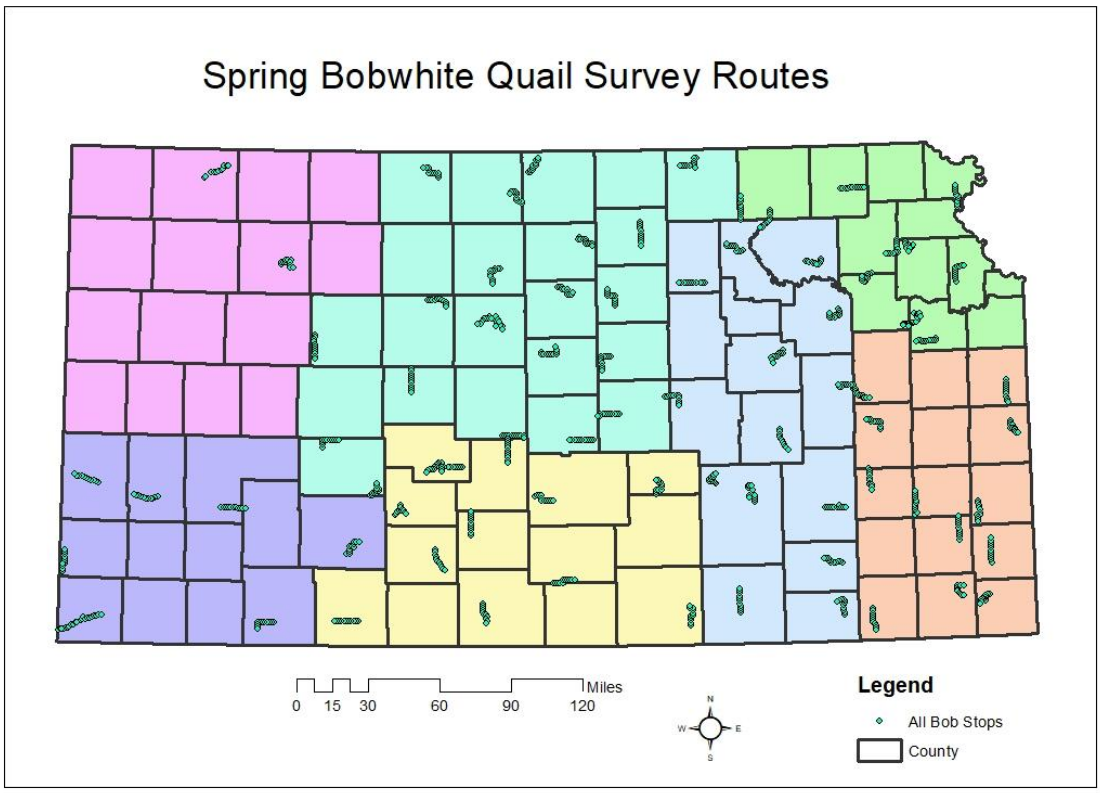

Figure 1. Locations of Bobwhite Survey listening stops within the 7 Kansas Small Game regions.

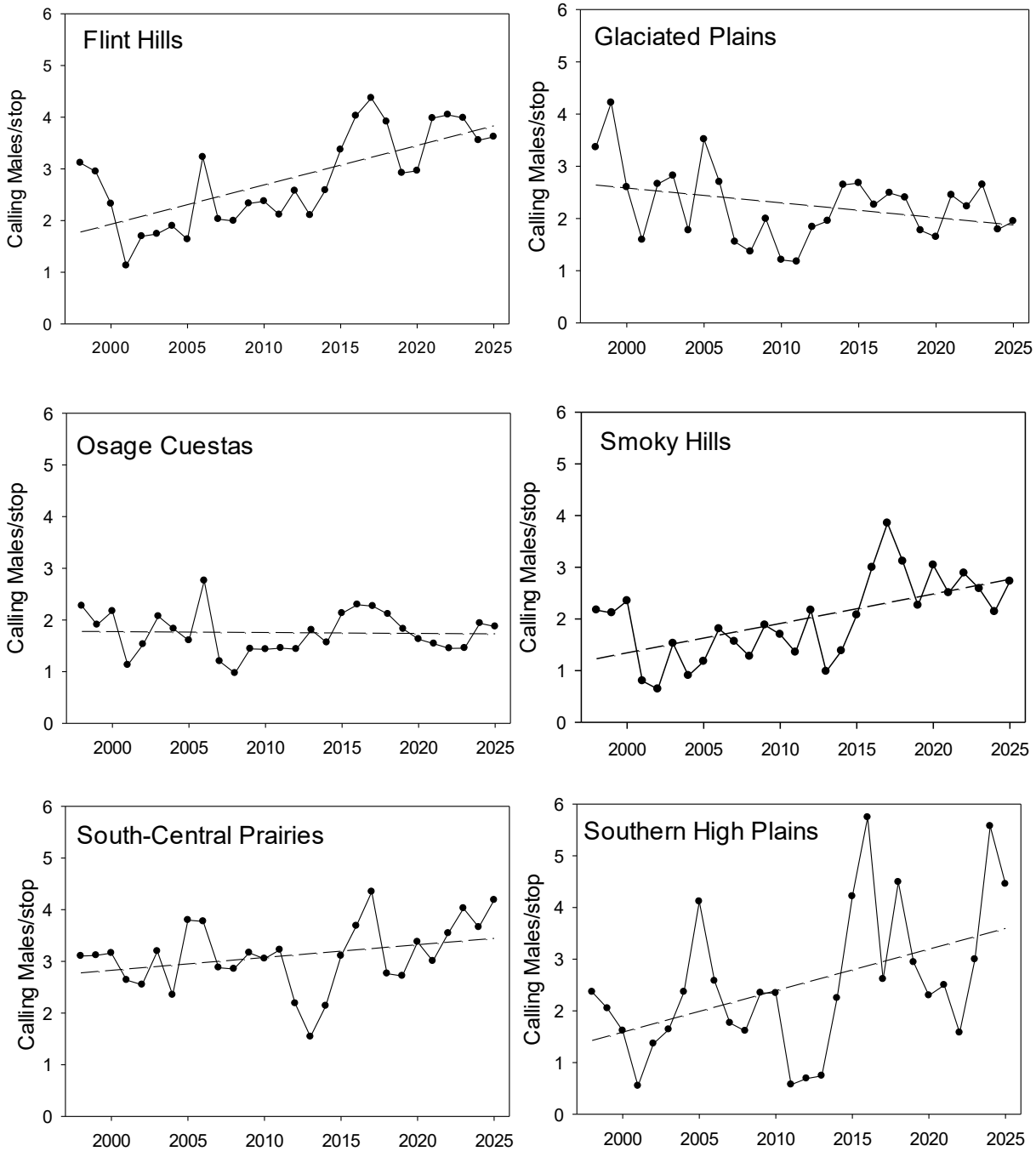

Figure 2. Mean number of northern bobwhites heard per survey stop within Kansas' 7 management regions and statewide, 1998-present. These data can only be used to approximate long-term trends because the same set of routes was not surveyed in every year.

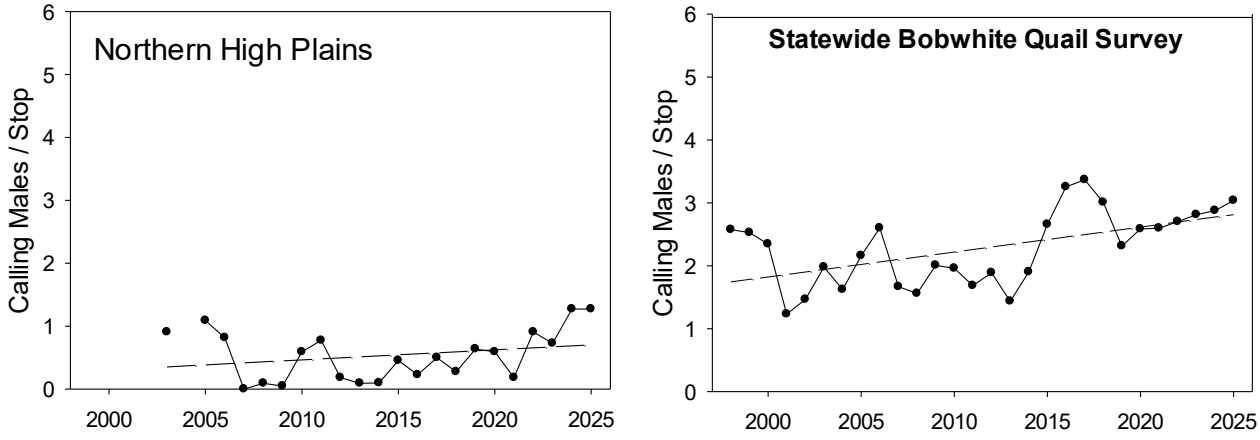

Figure 2. continued

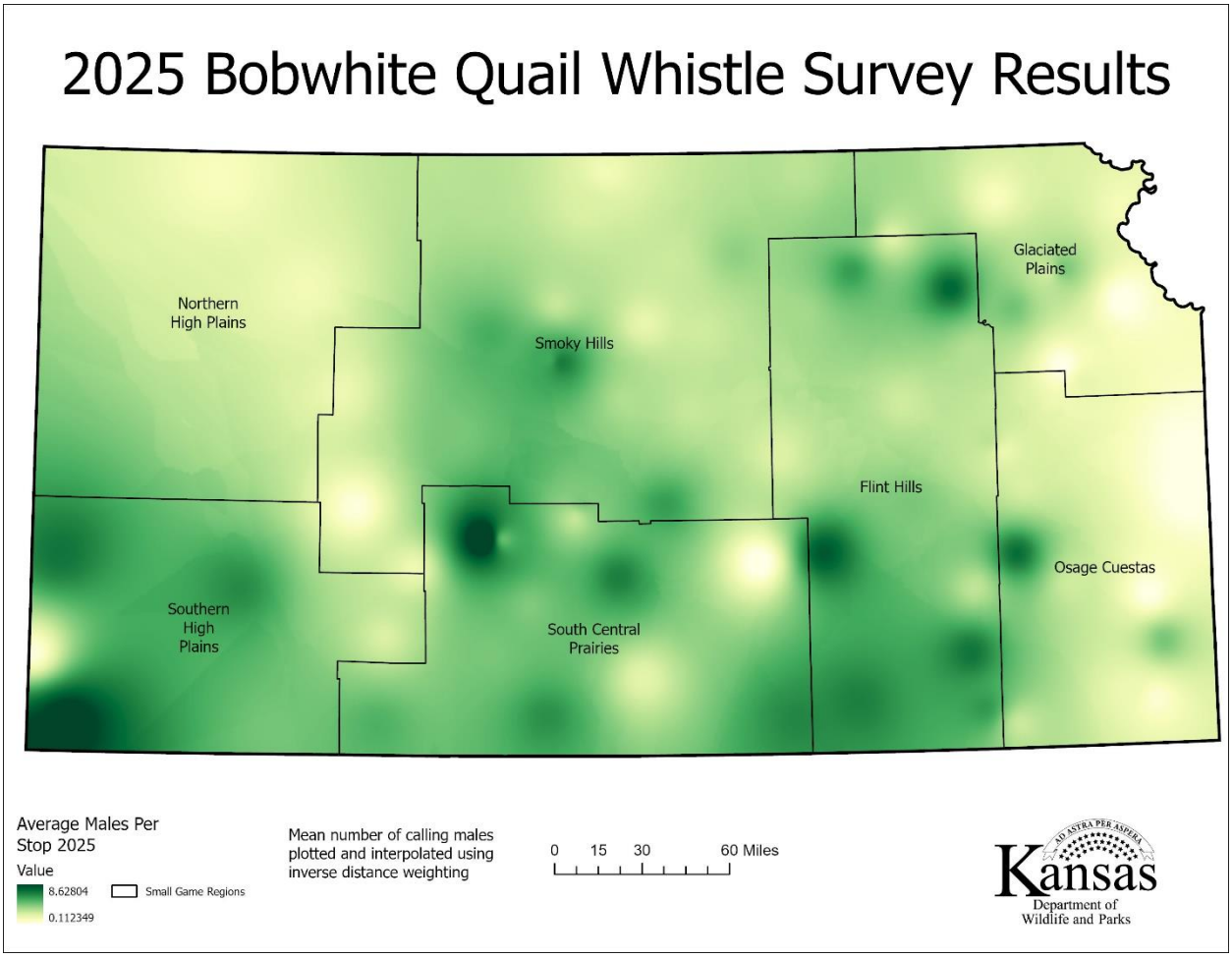

Figure 3. Bobwhite breeding population index interpolated from route-specific indices across Kansas, 2025.

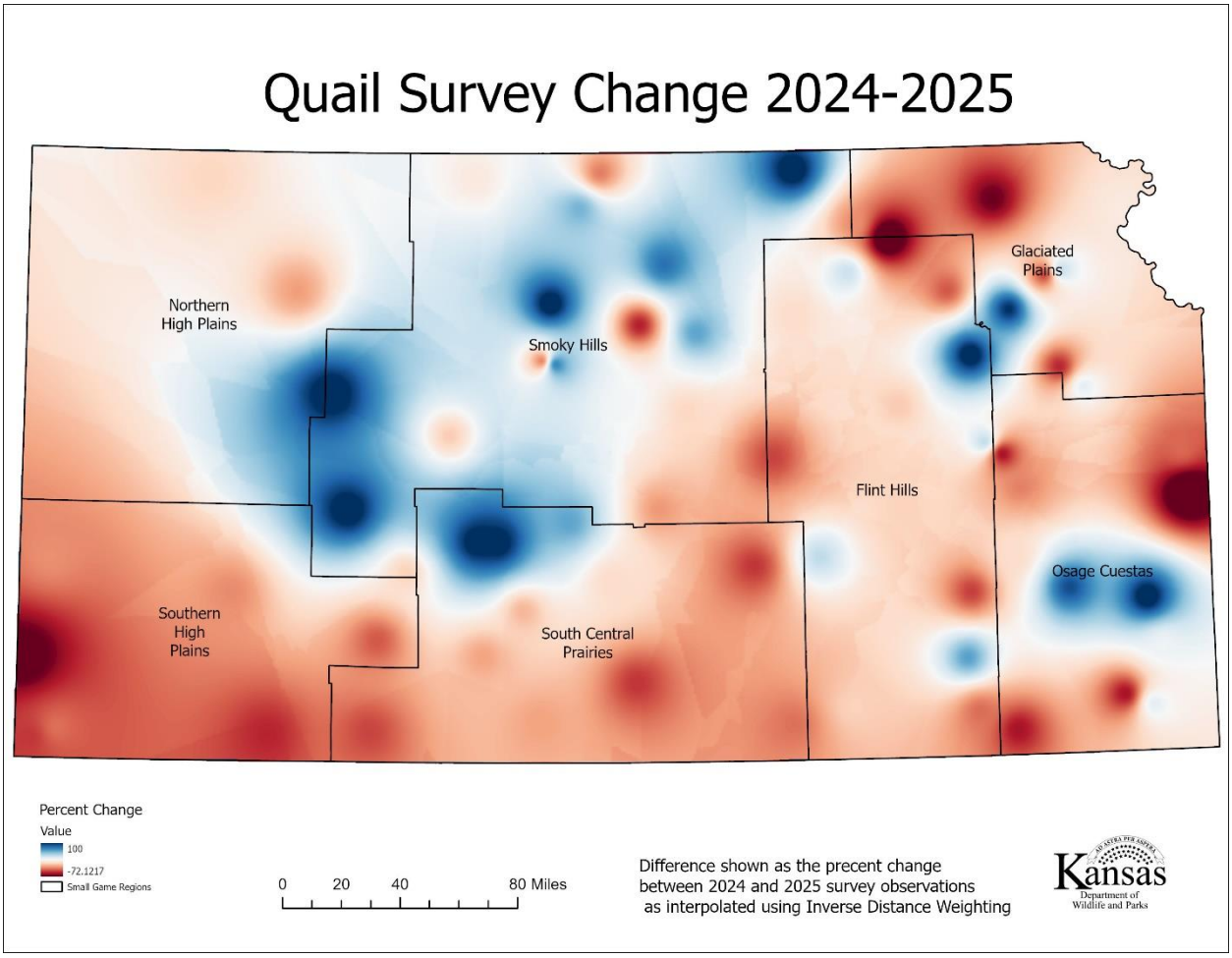

Figure 4. Relative change in Bobwhite breeding population index from 2024 to 2025 interpolated from route-specific indices across Kansas.