

Federal Aid in Wildlife Restoration Project №: W-15-R

Title of Job: 2023 October Rural Mail Carrier Survey



Bryan O'Connor, Upland Game Program Manager  
 Dr. Jeffrey J. Lusk, Data & Biometry Program Manager  
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The 2023 October Rural Mail Carrier Survey was conducted 2-5 October 2023. We received 359 cards by 30 October 2023, of which 326 cards contained information needed for analyses (Tables 1-3). Rural carriers made observations of wildlife while traveling 137,763 miles of rural roads in 85 of Nebraska’s 93 counties.

**Caveats.** Interpretations of the percent change from previous year’s indices and longer-term means are only meaningful in relation to the indices themselves. That is, when an index value is low, insignificant changes in the index can translate into large percent changes, but result in no observable difference in abundance within the region. For example, an increase in a species’ index from 0.01 animals observed per 100 miles to 0.02 animals per 100 miles is a 100% increase, but would not likely be noticeable to hunters afield. Further, survey methodology does not allow the estimation of population size or density, but only trends in relative abundance through time. At a statewide scale, these indices are correlated with annual harvest and are, therefore, useful for forecasting conditions hunters may encounter in the fall, particularly when combined with results from other surveys.

**Interpretations.** Most species in this survey experienced declines in their abundance indices compared to 2022. Pheasant statewide index was similar to 2022, but declined in all regions except the Central and Panhandle regions. Bobwhite indices were up statewide with higher indices in the North Central and Republican regions. Cottontail regional indices were lower, except in the Panhandle region where the index was higher than 2022, and the Northeast and Sandhills regions where they were similar to 2022. Grouse indices were lower across the board compared to 2022. Jackrabbit indices were up statewide, but mixed regionally compared to 2022. Deer indices were lower compared to 2022, except in the Southeast region. Wild turkey indices were down statewide and regionally compared to 2022, except in the Northeast and Southeast regions where increases were seen.

**Take-Home Message.** Indices were lower for most species, potentially signaling some regional population decreases compared to 2022. However, now that the prolonged drought that affected many parts of the state has abated, there is a potential for population recovery given improving habitat conditions.

**TABLE 1.** Raw counts of pheasants, prairie grouse, wild turkey, cottontail, and jackrabbits from the 2023 October Rural Mail Carrier Survey by pheasant management region (Figure 1).

Region	Carriers	Miles	Pheasant	Grouse	Turkey	Cottontail	Jackrabbit
Central	45	19,835	44	59	592	54	1
Northeast	75	33,791	125	26	502	141	3
Panhandle	35	12,586	116	19	263	43	10
Sandhills	28	12,052	18	38	332	5	0
Southeast	103	42,773	51	6	588	150	3
Southwest	40	16,727	95	16	941	53	4
Statewide	326	137,763	449	164	3,218	446	21

**TABLE 2.** Raw counts of deer (bucks, does, and fawns) by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey.

Region	Carriers	Miles	Buck	Doe	Fawn	Total
Central	45	19,835	14	61	34	109
Northeast	75	33,791	10	34	16	60
Panhandle	35	12,586	12	53	26	91
Sandhills	28	12,052	5	31	2	38
Southeast	103	42,773	20	126	35	181
Southwest	40	16,727	19	112	40	171
Statewide	326	137,763	80	417	153	650

**TABLE 3.** Raw counts of bobwhite by bobwhite-management zone (Figure 2) from the 2023 October Rural Mail Carrier Survey.

Region	Carriers	Miles	Bobwhites
East Central	57	22,380	22
North Central	45	20,047	49
Northeast	69	31,620	38
Republican	19	8,813	55
Southeast	37	16,381	23
West Platte	72	28,607	20
Not Quail Range	27	9,915	2
Statewide	326	137,763	209

**FIGURE 1.** Pheasant management regions.

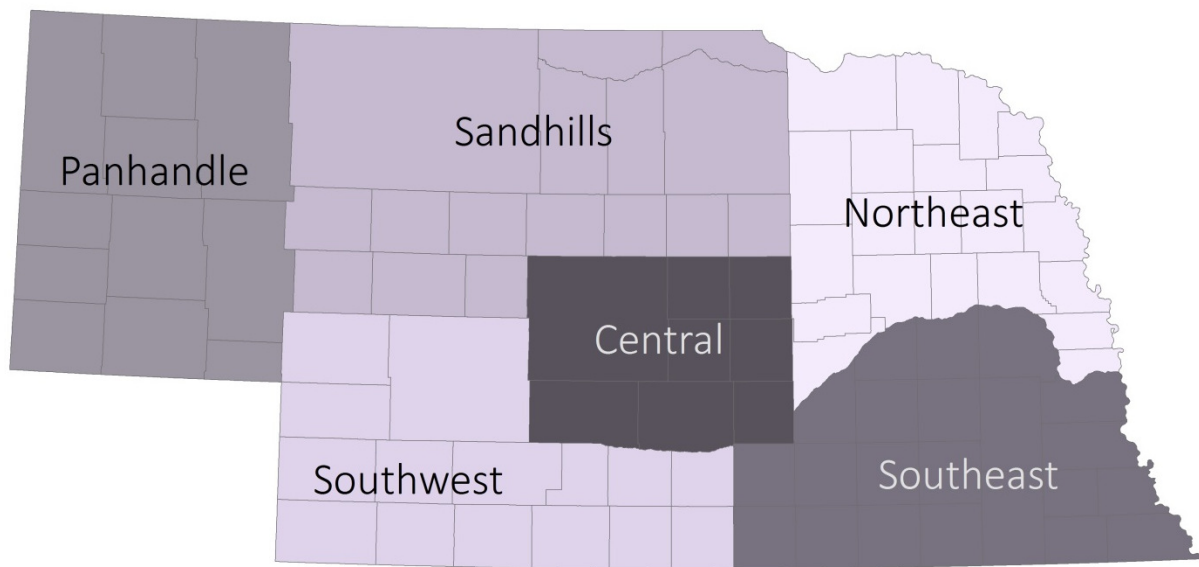
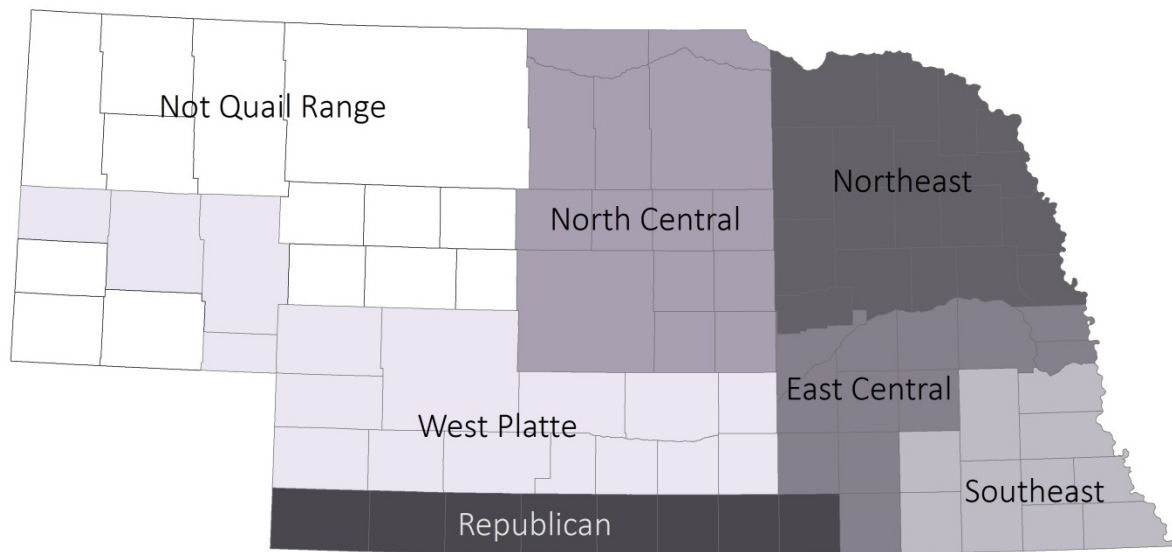


FIGURE 2. Bobwhite management zones.

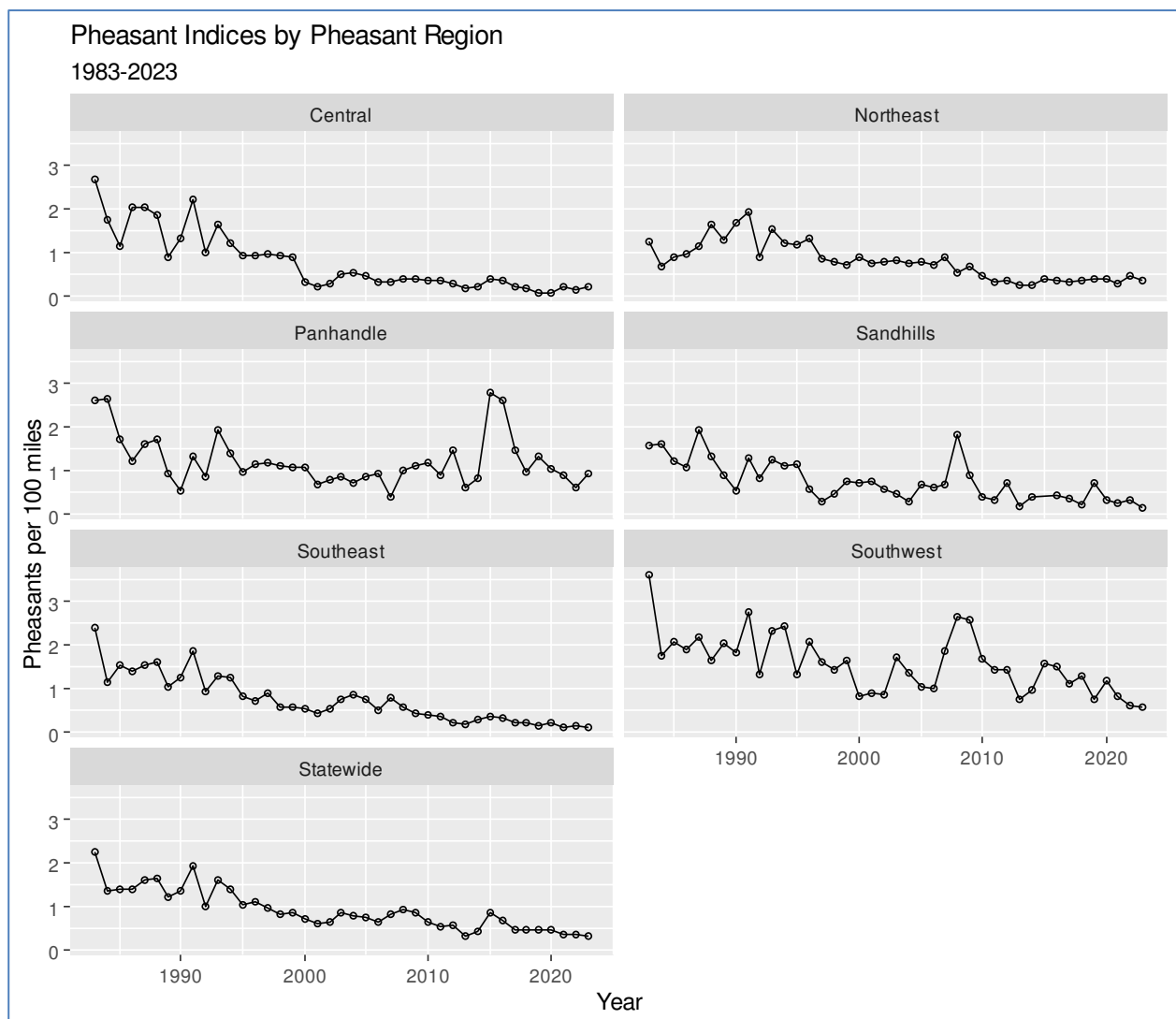


**Results.** Relative abundance for most species was generally lower both regionally and statewide compared to 2022 (Tables 4-10, Figures 3-9). Regional indices for pheasants were lower in all regions except the Central and Panhandle (Table 4, Figure 3), but was similar to 2022 in the Southwest. Regional indices for prairie grouse were lower across all regions (Table 5, Figure 4) compared to 2022. For bobwhites, regional indices were mixed compared to 2022, with indices higher in the Republican, West Platte, and North Central zones; and lower elsewhere, except the Southeast, which was similar to 2022 (Table 6, Figure 5). Wild turkey indices were mixed compared to 2022, with higher indices in the Northeast and Southeast regions (Table 7, Figure 6). Turkey indices were lower elsewhere, except for the Southwest where the index was similar to 2022 (Table 7). For Cottontails, indices were lower in all regions in 2023, except in the panhandle region, which was higher, and Northeast and Sandhills regions, where the indices were unchanged from 2022 (Table 8, Figure 7). Regional indices of abundance for jackrabbits were mixed in 2023 compared to 2022, with lower indices in the Central, Sandhills, and Southwest regions (Table 9, Figure 8). Finally, indices of deer abundance were generally lower compared to 2022, with lower indices observed in all regions except the Southeast (Table 10, Figure 9). Of the 326 usable cards returned, 67 (20.6%) had no observations of any wildlife. The number and percentage of the total usable cards received for each species is provided in Table 11.

**TABLE 4.** Pheasant indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean pheasants per 100 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	0.22 (0.00-0.44)	38	59	7	-27
Northeast	0.37 (0.24-0.50)	-20	-3	6	-25
Panhandle	0.92 (0.16-1.68)	48	-5	-30	-18
Sandhills	0.15 (0.00-0.35)	-53	-59	-63	-72
Southeast	0.12 (0.08-0.16)	-14	-27	-45	-69
Southwest	0.57 (0.23-0.91)	-8	-39	-46	-58
Statewide	0.33 (0.23-0.43)	-6	-21	-32	-46

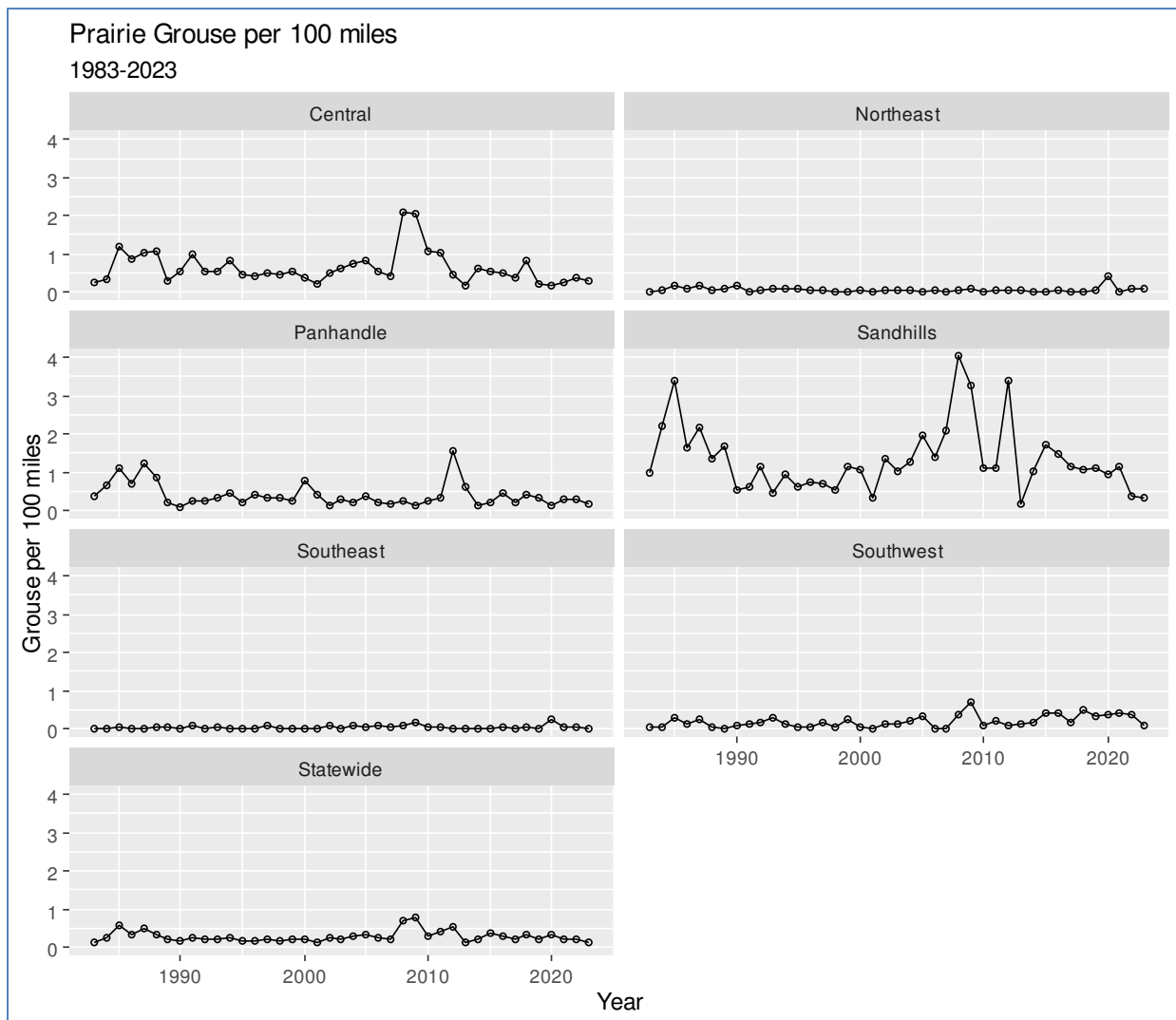
**FIGURE 3.** Regional and statewide time series (1983-2023) of pheasant population indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.



**TABLE 5.** Prairie grouse indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled/carrier.

Region	Mean Grouse per 100 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	0.30 (0.05-0.54)	-19	-18	-26	-57
Northeast	0.08 (0.00-0.24)	-11	-26	18	45
Panhandle	0.15 (0.00-0.34)	-52	-50	-52	-56
Sandhills	0.32 (0.00-0.81)	-11	-65	-68	-79
Southeast	0.01 (0.00-0.04)	-80	-86	-79	-82
Southwest	0.10 (0.00-0.22)	-72	-75	-70	-63
Statewide	0.12 (0.05-0.19)	-37	-53	-52	-61

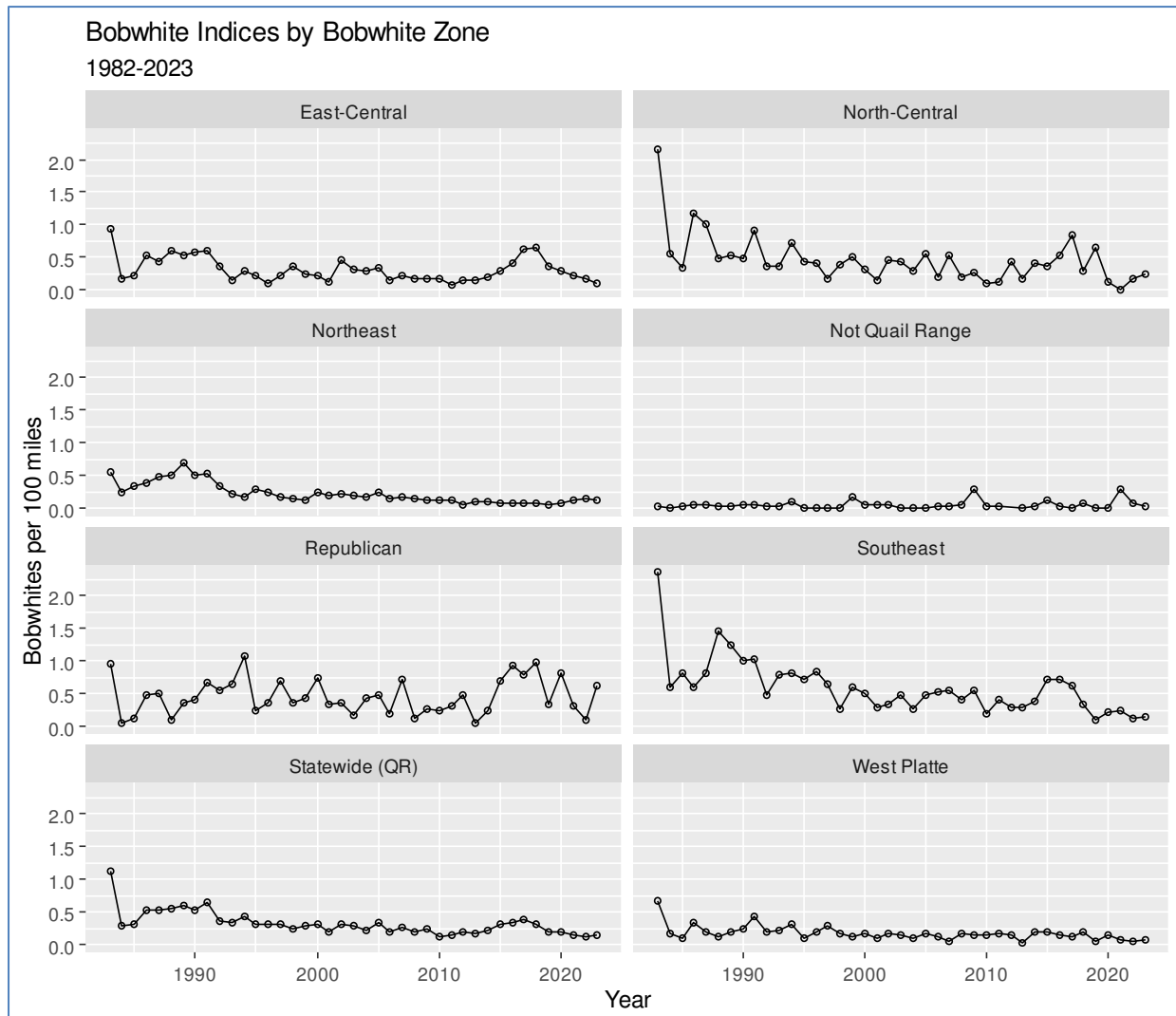
**FIGURE 4.** Regional and statewide time series (1983-2023) of prairie grouse indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.



**Table 6.** Bobwhite indices and percent change by bobwhite management zone (Figure 2) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Zone	Mean Bobwhites per 100 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
East Central	0.10 (0.05-0.14)	-44	-71	-70	-63
North Central	0.24 (0.00-0.56)	41	-2	-32	-28
Northeast	0.12 (0.03-0.21)	-20	30	35	2
Republican	0.62 (0.00-1.31)	589	22	17	43
Southeast	0.14 (0.02-0.26)	8	-31	-63	-65
West Platte	0.07 (0.02-0.12)	17	-33	-41	-44
NQR	0.02 (0.00-0.05)	-75	-77	-68	-65
Statewide	0.15 (0.09-0.21)	15	-23	-38	-35

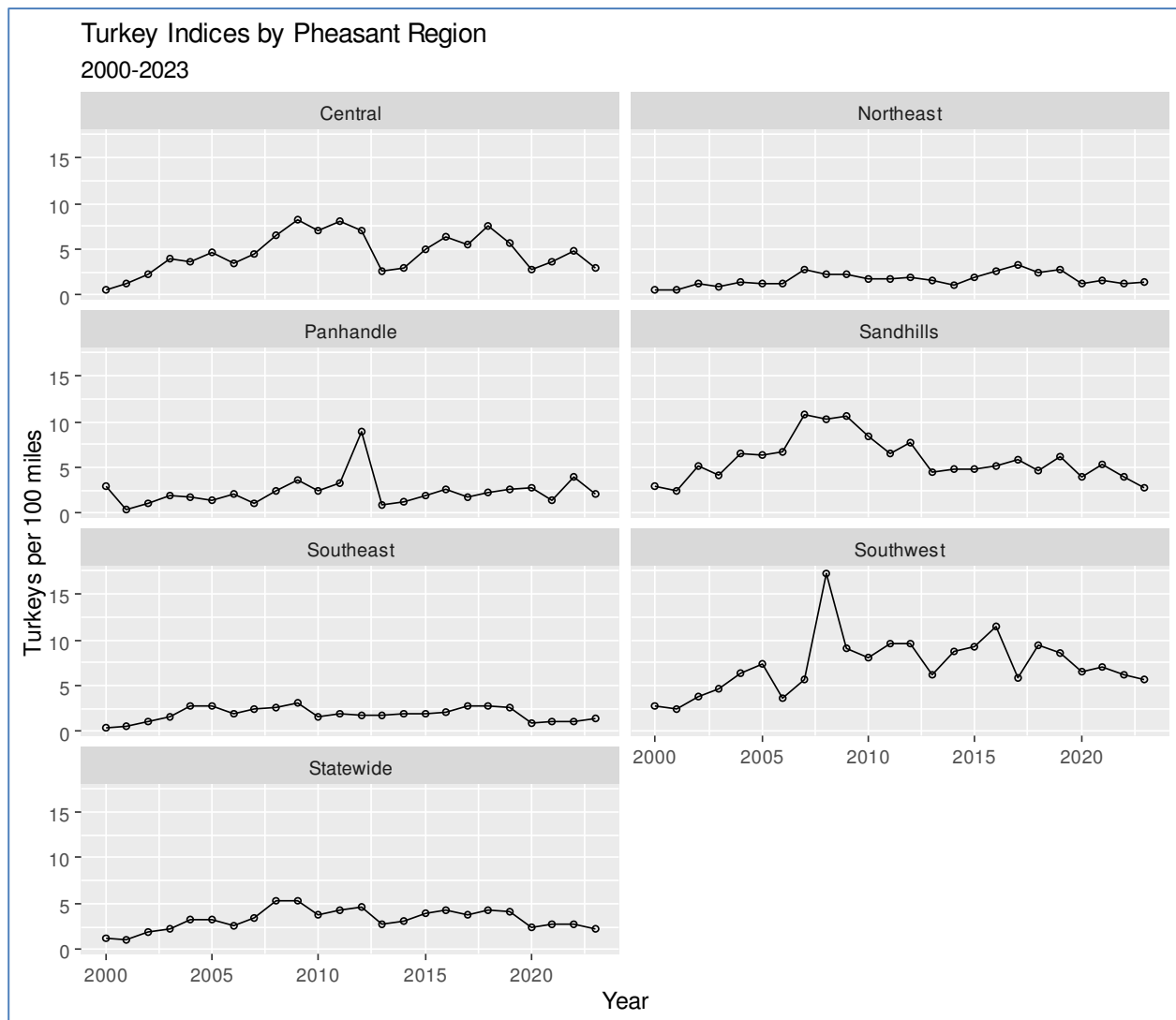
**Figure 5.** Regional and statewide time series (1983-2023) of bobwhite indices by bobwhite management zone (Figure 2) from the October Rural Mail Carrier Survey.



**Table 7.** Wild Turkey indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles travelled/carrier.

Region	Mean Turkeys per 100 Miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	2.98 (1.94-4.03)	-38	-39	-37	-41
Northeast	1.49 (0.64-2.33)	22	-21	-26	-20
Panhandle	2.09 (0.29-3.89)	-47	-20	-3	-15
Sandhills	2.75 (1.78-3.73)	-30	-43	-44	-56
Southeast	1.37 (0.93-1.82)	29	-18	-28	-32
Southwest	5.63 (3.62-7.63)	-8	-25	-29	-28
Statewide	2.34 (1.91-2.77)	-16	-29	-32	-33

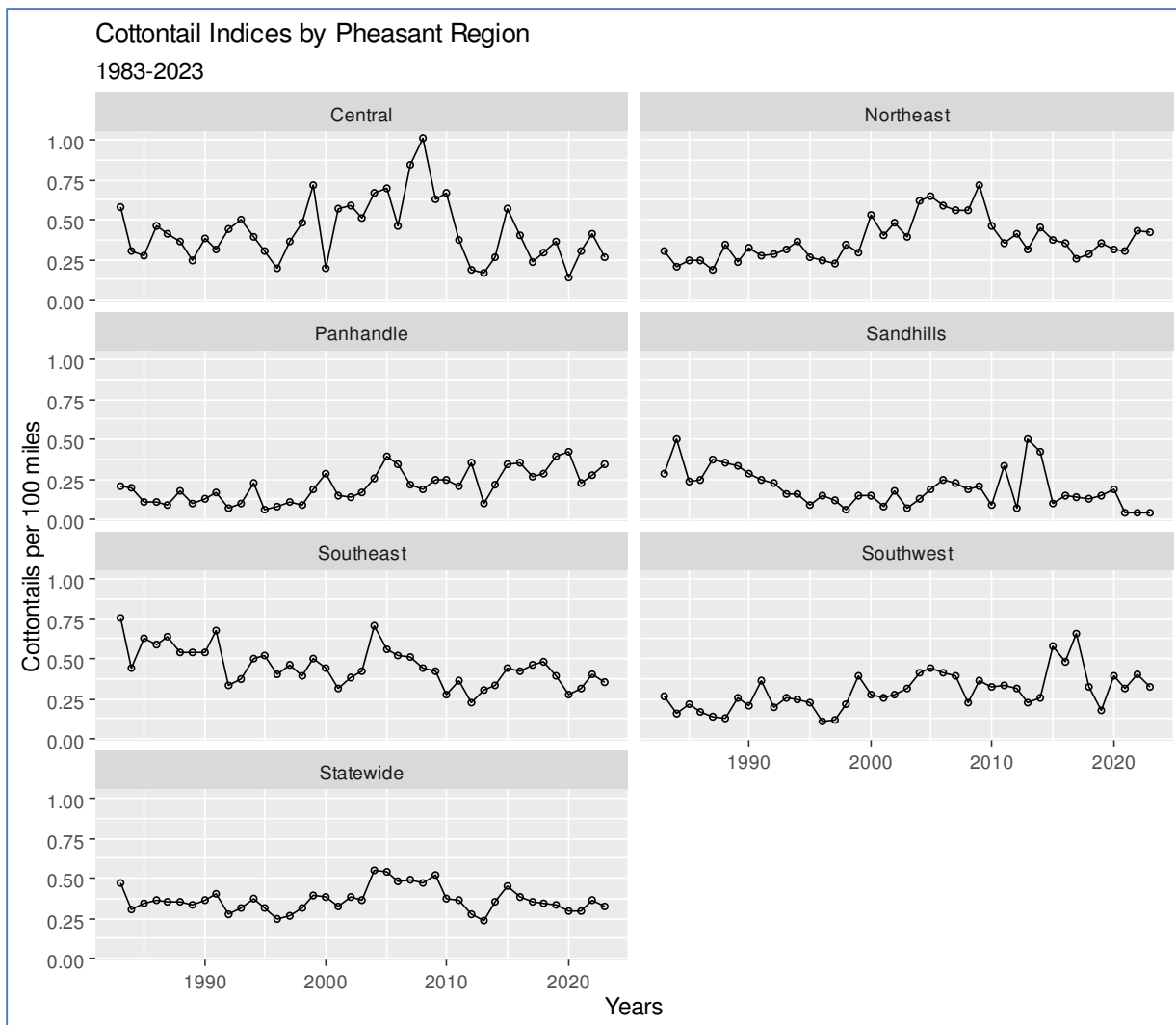
**Figure 6.** Regional and statewide time series (2000-2023) of wild turkey indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.



**Table 8.** Cottontail indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier Means are weighted by miles traveled per carrier.

Region	Mean Cottontails per 100 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	0.27 (0.10-0.45)	-34	-11	-15	-41
Northeast	0.42 (0.20-0.64)	-2	24	22	-4
Panhandle	0.34 (0.00-0.71)	21	6	18	23
Sandhills	0.04 (0.00-0.08)	0	-64	-72	-75
Southeast	0.35 (0.06-0.65)	-13	-6	-8	-15
Southwest	0.32 (0.07-0.56)	-20	0	-16	-13
Statewide	0.32 (0.22-0.44)	-11	-1	-5	-18

**Figure 7.** Regional and statewide time series (1983-2023) of cottontail indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

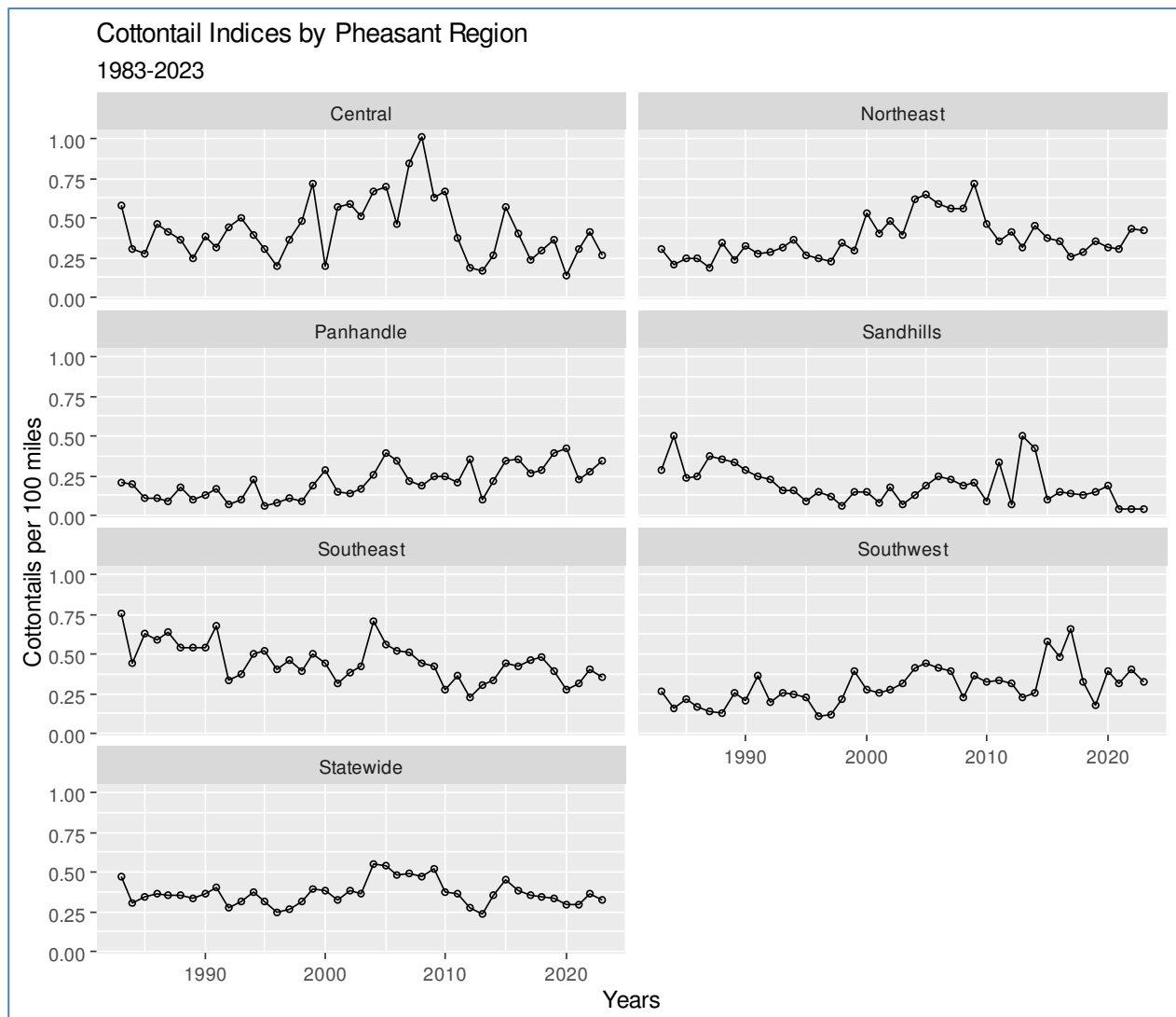




**Table 9.** Jackrabbit indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean Jackrabbits per 1000 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	0.05 (0.00-0.14)	-69	-66	-63	-64
Northeast	0.09 (0.00-0.22)	80	36	1	-39
Panhandle	0.79 (0.10-1.49)	243	38	-1	2
Sandhills	0.00 (NA)	-100	-100	-100	-100
Southeast	0.07 (0.00-0.14)	75	-34	-11	-45
Southwest	0.24 (0.00-0.66)	-31	17	-29	-46
Statewide	0.15 (0.05-0.25)	15	-14	-31	-43

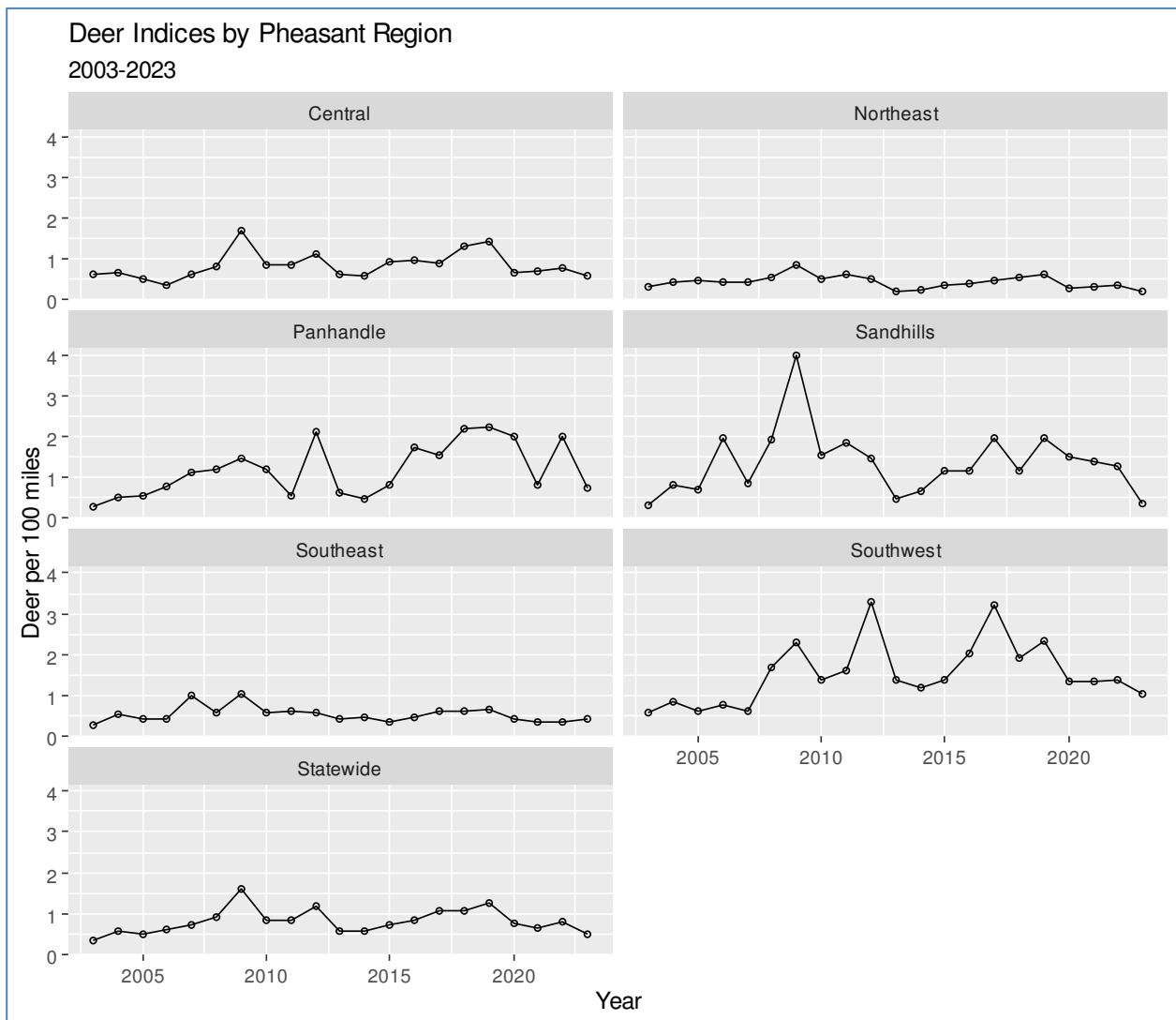
**Figure 8.** Regional and statewide time series (1983-2023) of jackrabbit indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.



**Table 10.** Deer indices and percent change by pheasant management region (Figure 1) from the 2023 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean Deer per 100 miles & 95% Confidence Limits	Percent Difference from:			
		2022	Mean 2018-2022	Mean 2013-2022	Mean 2003-2022
Central	0.55 (0.25-0.85)	-28	-36	-33	-32
Northeast	0.18 (0.09-0.26)	-49	-57	-51	-58
Panhandle	0.72 (0.08-1.37)	-64	-61	-50	-40
Sandhills	0.32 (0.03-0.60)	-75	-78	-74	-77
Southeast	0.42 (0.30-0.55)	20	-11	-9	-21
Southwest	1.02 (0.50-1.55)	-27	-38	-42	-35
Statewide	0.47 (0.36-0.58)	-41	-48	-43	-42

**Figure 9.** Regional and statewide time series (2003-2023) of deer indices by pheasant management region from the October Rural Mail Carrier Survey.



**Table 11.** Number of cards and the percent of total cards ( $n = 326$ ) that contained zero observations of each wildlife species. Overall, 20.6% of October 2023 cards contained zero observations of all species (67 cards).

	Pheasant	Deer	Quail	Grouse	Turkey	Cottontail	Jackrabbit
Zero Counts	211	182	280	305	144	220	310
Percent Zero	65	56	86	94	44	67.5	95

For more information, contact Bryan O'Connor, Upland Game Program  
 Manager, [bryan.oconnor@nebraska.gov](mailto:bryan.oconnor@nebraska.gov)