

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

Title of Job: 2020 July Rural Mail Carrier Survey



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The 2020 July Rural Mail Carrier Survey was conducted 6-9 July 2020. We received 422 cards by 20 July 2020, of which 403 cards contained complete information needed for analysis (Tables 1-3). Rural carriers made observations while traveling 171,479 miles of rural roads in 88 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. Compared to 2019, statewide indices of relative abundance were mixed for the various upland game species: bobwhite, jackrabbit, and turkey indices were down relative to 2019, and cottontail, grouse, and pheasant indices were up or similar to 2019. However, none of the statewide indices were significantly different than those observed in July 2019, based on confidence intervals. Compared to the five-year mean, statewide indices were lower or similar to 2019 for all species. Regional indices were also very mixed depending on the species yet these differences were not significant compared to 2019 (more detail provided below under Results Section). Pheasant age ratios were higher in the Panhandle, Southeast, and Southwest regions, potentially indicating better production in these regions compared to 2019.

Take-Home Message. The results of the 2020 July Rural Mail Carrier Survey indicate that the relative abundance of small game species was mixed compared July 2019, but not significantly so. Fall abundance for most species will depend on this summer’s production, so the results of the October Rural Mail Carrier Survey may provide more clarity on what to expect this fall.

TABLE 1. Raw counts of prairie grouse, wild turkey, cottontail, and jackrabbits from the 2020 July Rural Mail Carrier Survey by pheasant management region (Figure 1).

Region	Carriers	Miles	Grouse	Turkey	Cottontail	Jackrabbit
Central	55	24037	34	316	216	6
Northeast	106	43331	46	406	361	7
Panhandle	36	14841	25	195	115	23
Sandhills	38	17516	39	319	55	8
Southeast	120	51018	12	367	431	5
Southwest	48	20736	22	452	187	18
Statewide	403	171479	178	2055	1365	67

TABLE 2. Raw counts from the 2020 July Rural Mail Carrier Survey for pheasants and pheasant age-ratios by pheasant management region (Figure 1).

Region	Carriers	Miles	Total Pheasants	Juveniles/Adults
Central	55	24037	51	0.02
Northeast	106	43331	255	0.19
Panhandle	36	14841	216	0.35
Sandhills	38	17516	50	0.10
Southeast	120	51018	155	0.44
Southwest	48	20736	411	0.28
Statewide	403	171479	1138	0.23

TABLE 3. Raw counts from the 2020 July Rural Mail Carrier Survey for bobwhites, by bobwhite management zone (Figure 2).

Zone	Carriers	Miles	Bobwhites
East Central	74	27857	131
North Central	48	22940	77
Northeast	91	39942	103
Republican	25	11374	97
Southeast	46	19714	64
West Platte	81	33137	67
Not Quail Range (NQR)	38	16514	9
Statewide	403	171479	548

Results

Pheasant: This year's statewide pheasant index was slightly higher than in 2019, but remains below the 5 and 10-year averages. Regionally, survey results were mixed with increases observed in the Northeast, Panhandle, and Southwest regions. Relative abundance continues to be highest in the Southwest and Panhandle regions (Table 4). Statewide, pheasant age ratios (which can be indicative of production) were similar to those observed in 2019 (Table 2). Regionally, age ratios in the Southeast, Panhandle, and Southwest regions were higher this year compared to 2019.

Quail: The bobwhite index was down 16% statewide compared to 2019, and remains well below the 5 and 10-year averages. In 2020, declines were observed in all management regions except the Northeast and Republican regions (Table 5). This year's "Spring Whistle Count Survey" will provide additional information regarding the status of Nebraska's bobwhite populations.

Wild Turkey: Statewide, this year's wild turkey index was 14% lower compared to 2019 and remains slightly below the 20-year average. Declines were observed in 4 of 6 management regions, with increases documented in the Northeast and Panhandle regions (Table 6).

Prairie Grouse: The statewide index for prairie grouse was 11% higher in 2020 compared to 2019, and is slightly above the 20-year average. Regionally, results were mixed this year with increases observed in the Northeast, Panhandle, and Southwest regions (Table 7).

Cottontail/Jackrabbit: The statewide cottontail index was similar to that observed in 2020 but increases were observed in 4 of 6 management regions (Table 8). Jackrabbit indices increased in 4 of 6 management regions but the statewide index was 20% lower than in 2019 (Table 9). Relative abundance of jackrabbits remains highest in the Panhandle and Southwest regions.

In 2020, 59 of 403 usable cards returned (14.6%) contained no observations of any wildlife species, which is slightly up from the 51 of 404 cards (14.4%) with no observations returned in 2019 (Table 10).

FIGURE 1. Pheasant management regions.

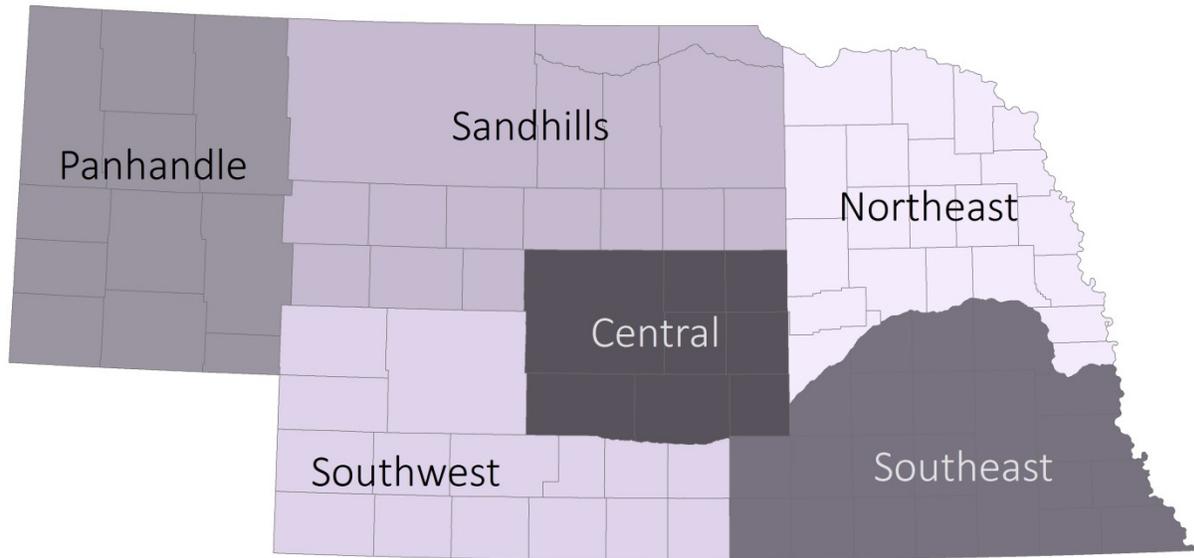


FIGURE 2. Bobwhite management zones.

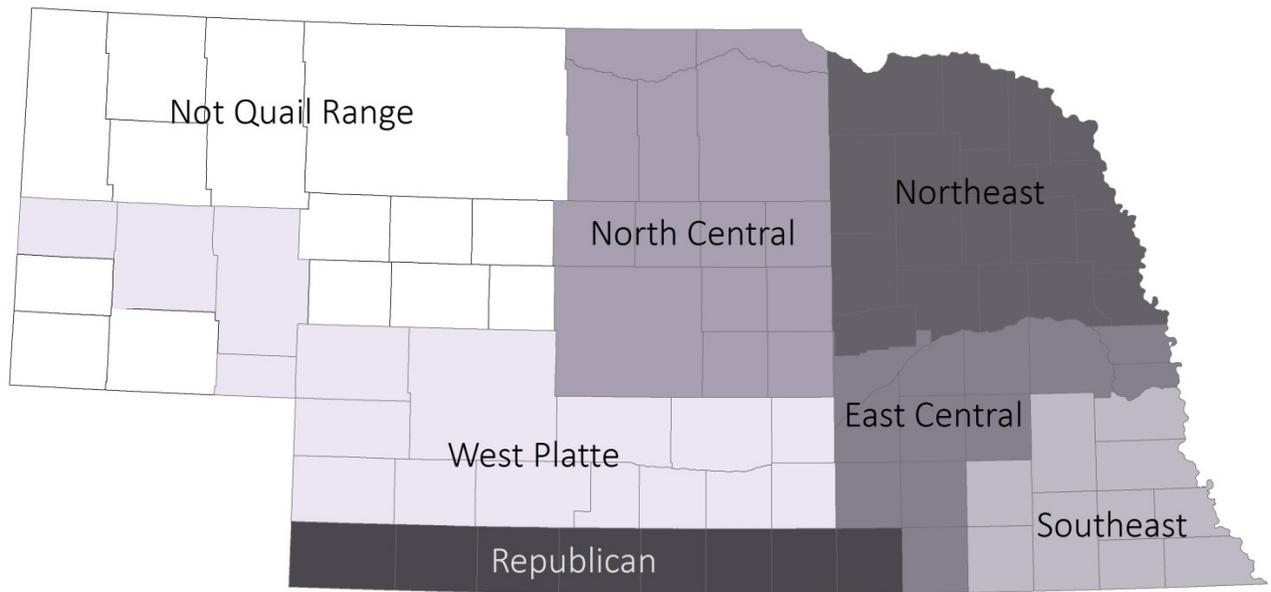


TABLE 4. Pheasant indices from the 2020 July Rural Mail Carrier Survey by pheasant management region (Figure 1). Carrier means are weighted by miles traveled per carrier.

Region	Mean pheasants per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	0.21 (0.10-0.33)	-60	-60	-67	-75
Northeast	0.59 (0.45-0.73)	11	-5	-13	-49
Panhandle	1.46 (0.84-2.07)	36	-26	-4	9
Sandhills	0.29 (0.09-0.48)	-36	-52	-58	-66
Southeast	0.30 (0.20-0.40)	-3	-31	-35	-64
Southwest	1.98 (0.93-3.03)	47	18	5	0
Statewide	0.66 (0.51-0.81)	5	-16	-20	-40

FIGURE 3. Regional and statewide time series (1979-2020) of pheasant abundance indices from the July Rural Mail Carrier Survey by pheasant management region (Figure 1).

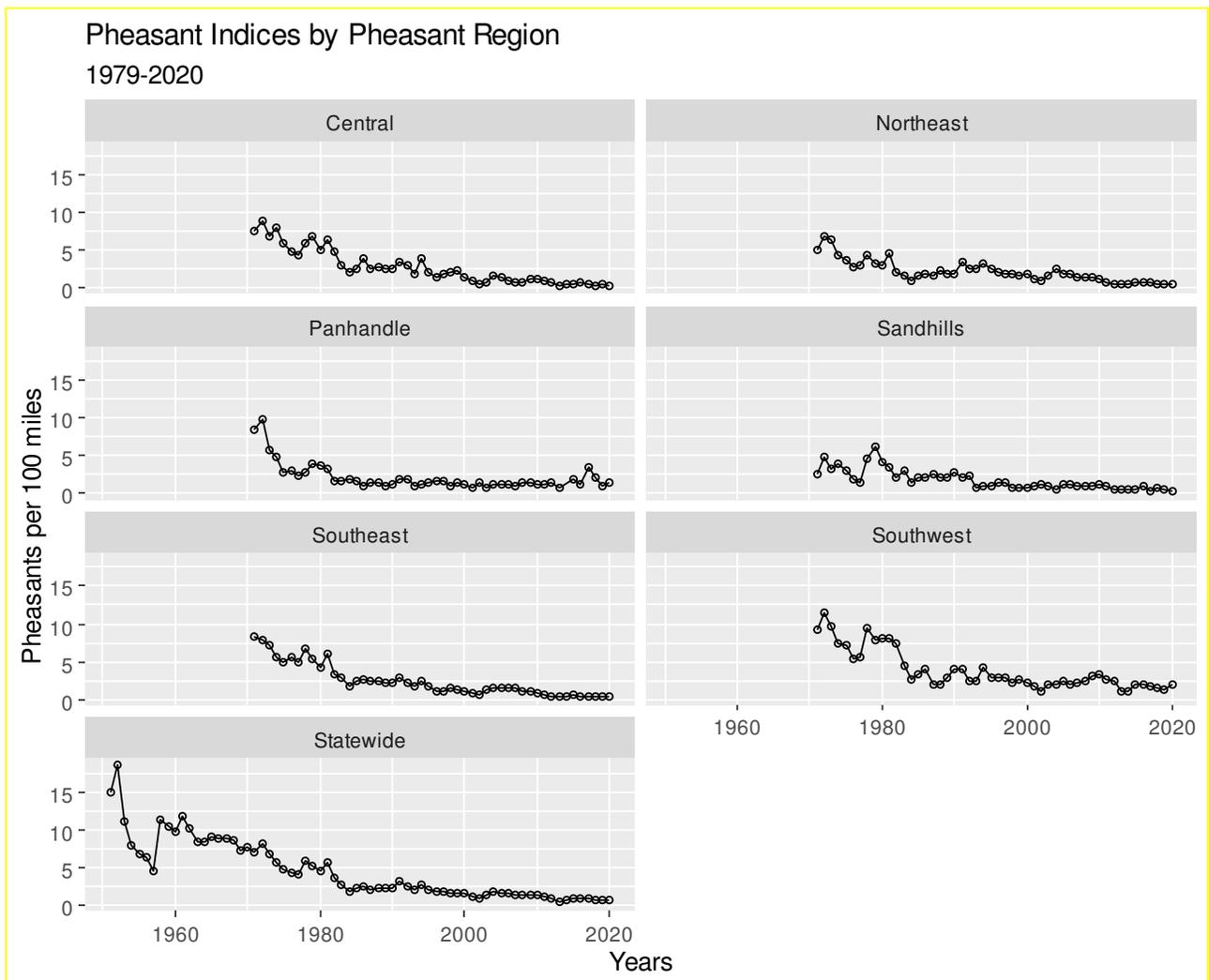


TABLE 5. Northern bobwhite indices by bobwhite management zone from the 2020 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Zone	Mean bobwhites per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
East Central	0.47 (0.25-0.69)	-39	-41	-6	-18
North Central	0.34 (0.08-0.59)	-29	-57	-48	-52
Northeast	0.26 (0.16-0.36)	100	81	91	16
Republican	0.85 (0.54-1.17)	8	-24	4	9
Southeast	0.32 (0.20-0.45)	-26	-70	-62	-60
West Platte	0.20 (0.11-0.29)	-33	-30	-22	-28
NQR	0.05 (0.00-0.13)	67	-7	45	34
Statewide (QR)	0.32 (0.26-0.38)	-16	-39	-21	-30

FIGURE 4. Regional and statewide time series (1979-2020) of indices of northern bobwhite abundance from the July Rural Mail Carrier Survey.

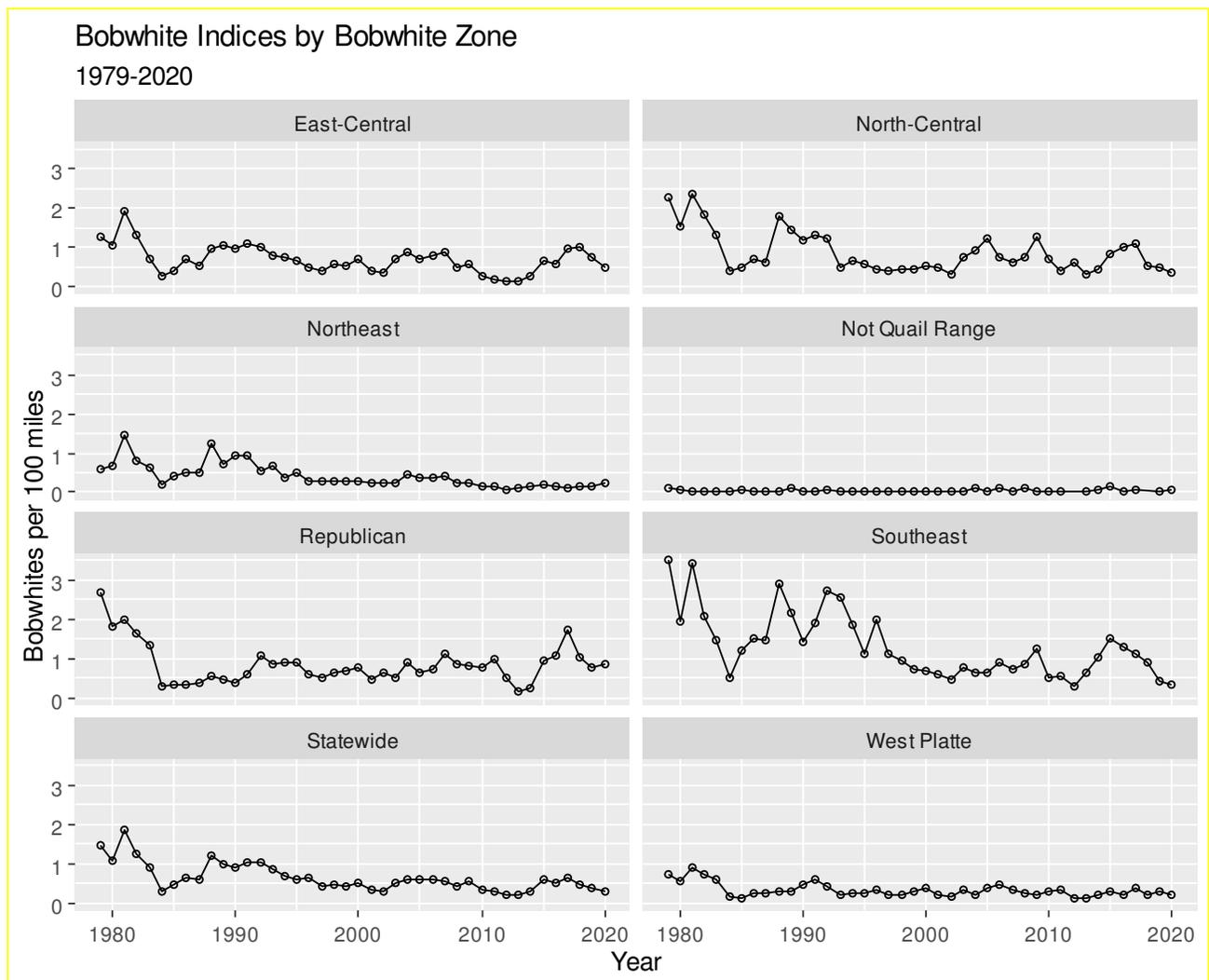


TABLE 6. Wild turkey indices by pheasant management region from the 2020 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean turkeys per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	1.31 (0.72-1.91)	-19	-5	-27	-7
Northeast	0.94 (0.63-1.24)	25	12	4	27
Panhandle	1.31 (0.08-2.55)	126	96	92	158
Sandhills	1.82 (0.92-2.73)	-22	5	-32	-28
Southeast	0.72 (0.36-1.08)	-13	-22	-32	-27
Southwest	2.18 (1.38-2.98)	-43	-28	-32	-12
Statewide	1.20 (0.97-1.43)	-14	-9	-21	-5

FIGURE 5. Regional and statewide time series (2000-2020) of wild turkey abundance indices from the July Rural Mail Carrier Survey.

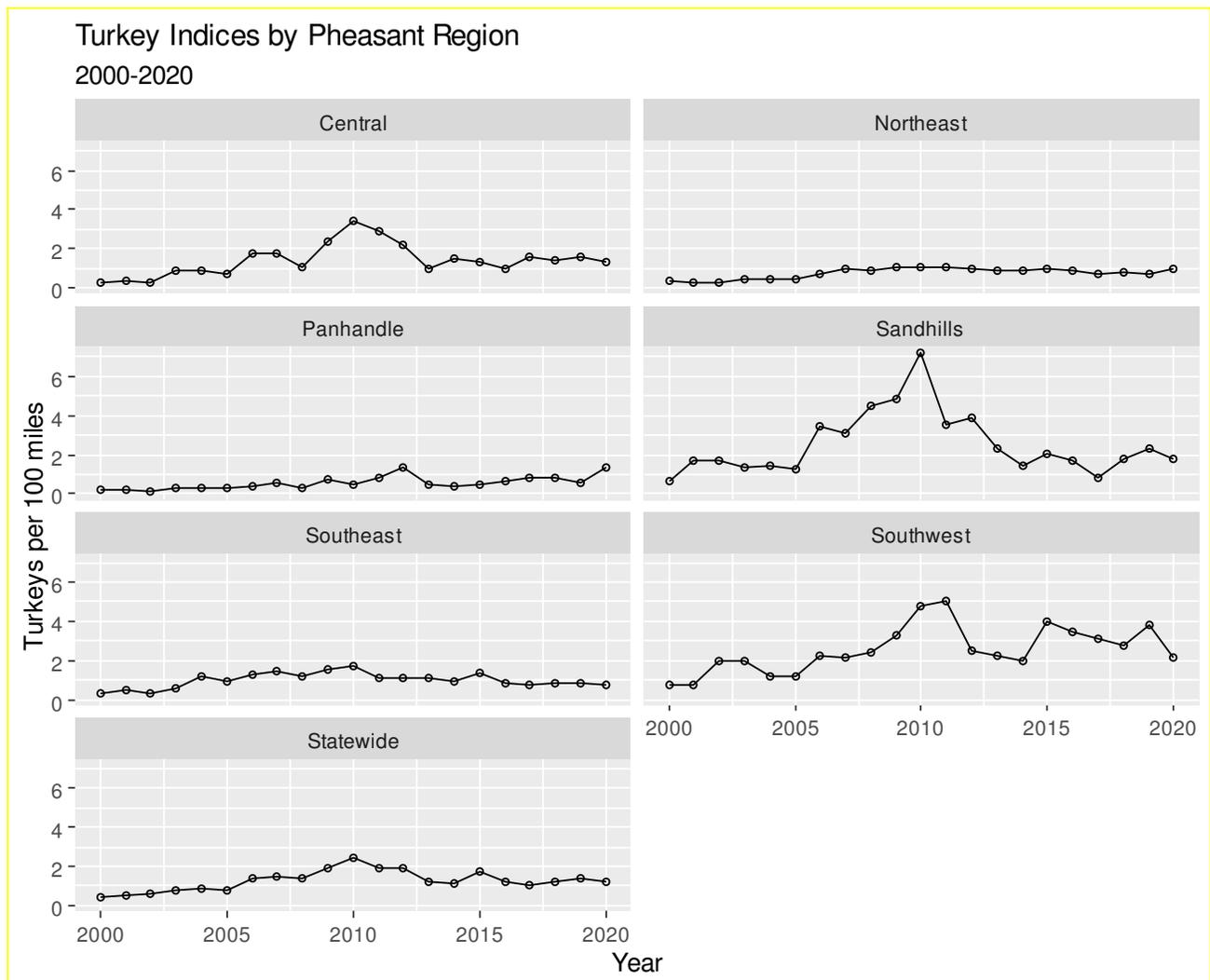


TABLE 7. Prairie grouse indices by pheasant management region (Figure 1) from the 2020 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean grouse per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	0.14 (0.01-0.28)	-42	-55	-57	-44
Northeast	0.11 (0.03-0.18)	175	244	299	241
Panhandle	0.17 (0.00-0.41)	325	57	85	85
Sandhills	0.22 (0.00-0.48)	-19	-60	-46	-41
Southeast	0.02 (0.00-0.05)	-33	-29	-31	-32
Southwest	0.11 (0.00-0.21)	38	34	62	159
Statewide	0.10 (0.06-0.14)	11	-15	-9	8

FIGURE 6. Prairie grouse regional and statewide time series (1979-2020) of indices of abundance from the July Rural Mail Carrier Survey.

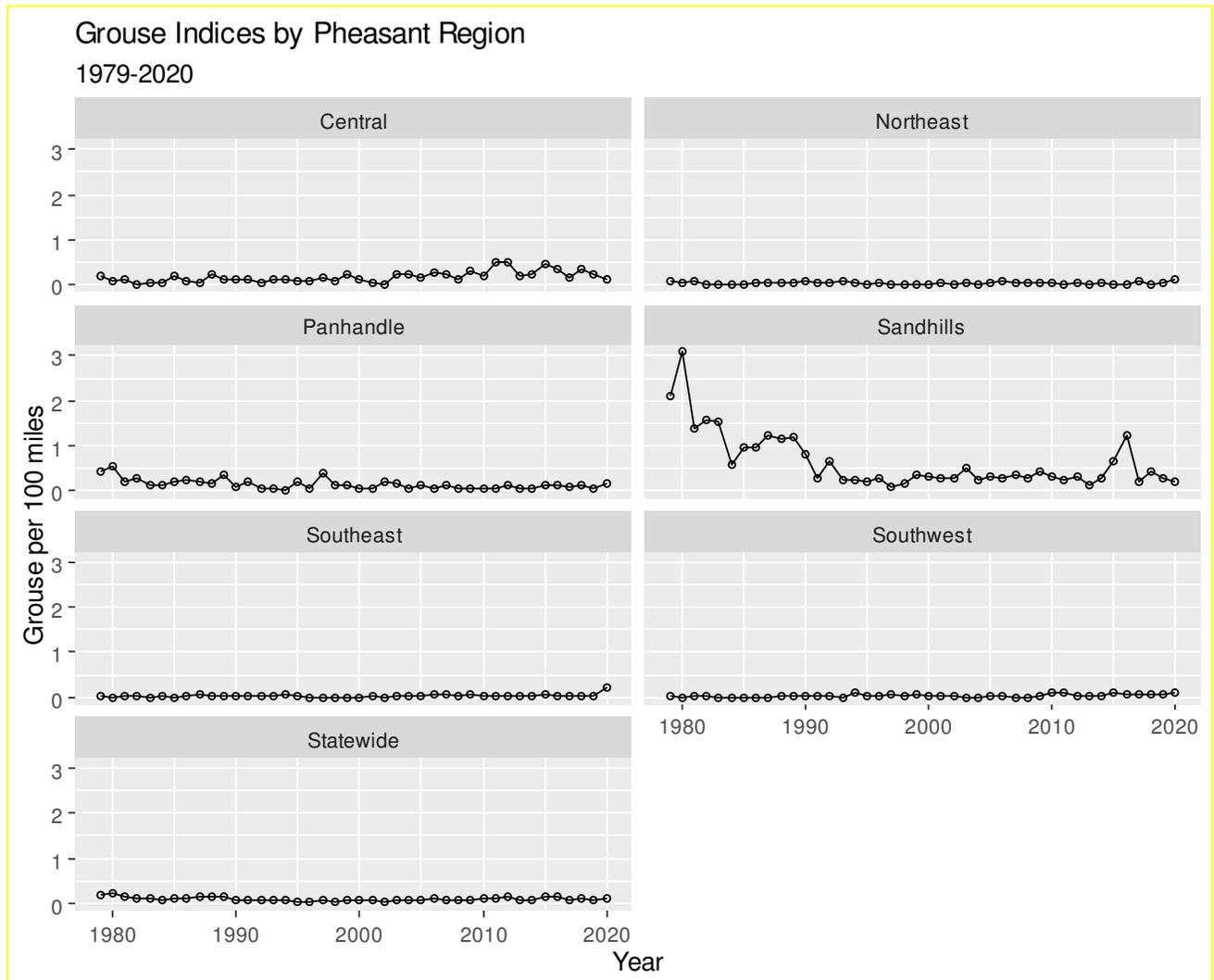


TABLE 8. Cottontail indices by pheasant management region (Figure 1) from the 2020 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean cottontails per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	0.90 (0.56-1.24)	-29	-42	-52	-60
Northeast	0.83 (0.62-1.05)	46	6	-2	-30
Panhandle	0.77 (0.43-1.12)	22	-21	7	23
Sandhills	0.31 (0.04-0.59)	24	-51	-51	-60
Southeast	0.84 (0.67-1.01)	-11	-30	-22	-37
Southwest	0.90 (0.58-1.23)	5	-26	-13	-23
Statewide	0.80 (0.70-0.90)	1	-27	-26	-39

FIGURE 7. Regional and statewide time series (1958-2020) of cottontail abundance indices from the July Rural Mail Carrier Survey.

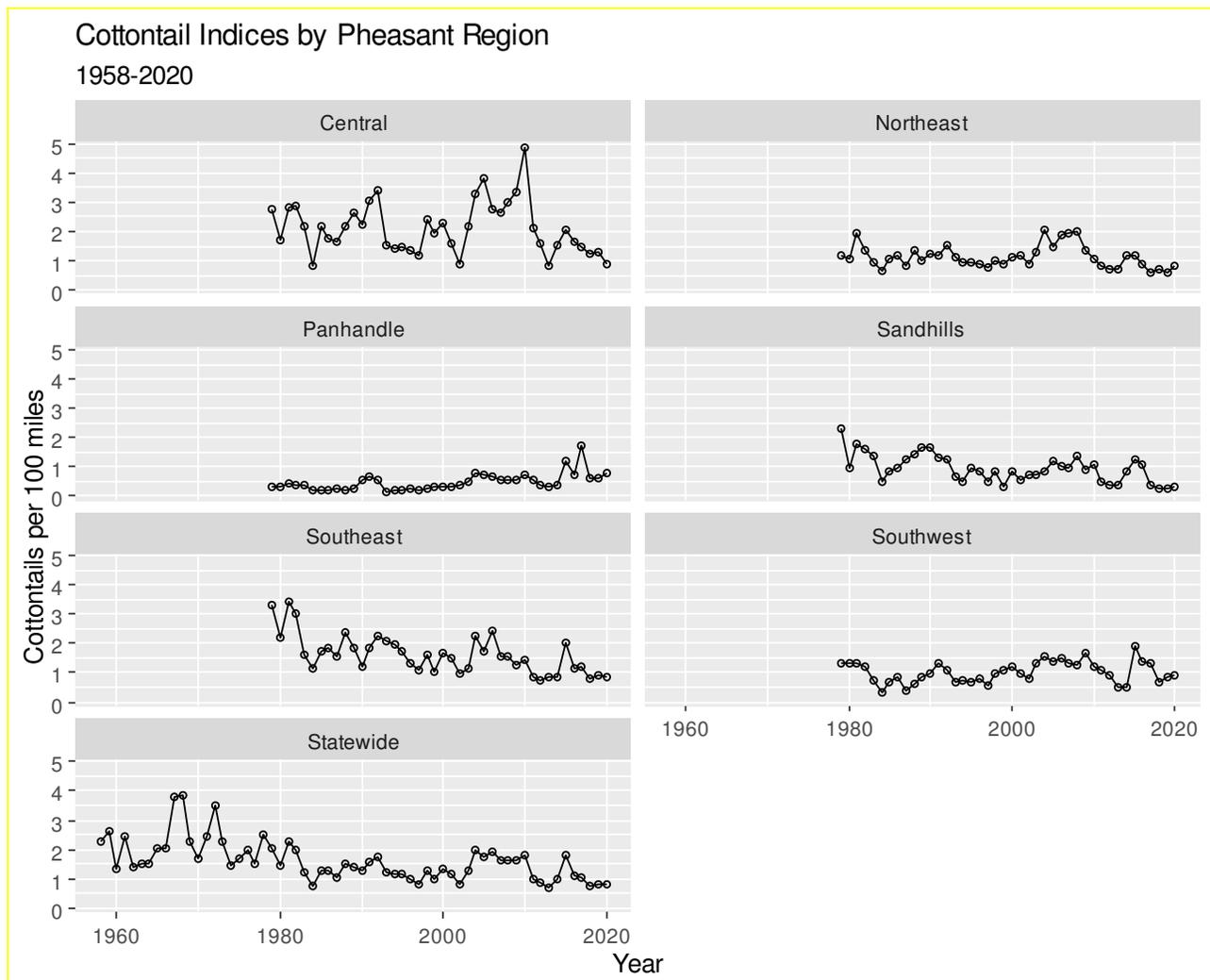


TABLE 9. Jackrabbit indices by pheasant management region (Figure 1) from the 2020 July Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean Jackrabbit per 1000 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	0.25 (0.01-0.49)	-60	-80	-71	-72
Northeast	0.16 (0.00-0.36)	521	451	303	194
Panhandle	1.55 (0.38-2.72)	10	-66	-52	-43
Sandhills	0.46 (0.00-0.91)	188	-67	-70	-73
Southeast	0.10 (0.00-0.23)	67	16	-42	-70
Southwest	0.87 (0.00-2.43)	-36	-67	-54	-53
Statewide	0.39 (0.16-0.62)	-20	-64	-56	-58

FIGURE 8. Regional and statewide time series (1963-2020) of jackrabbit abundance indices from the July Rural Mail Carrier Survey.

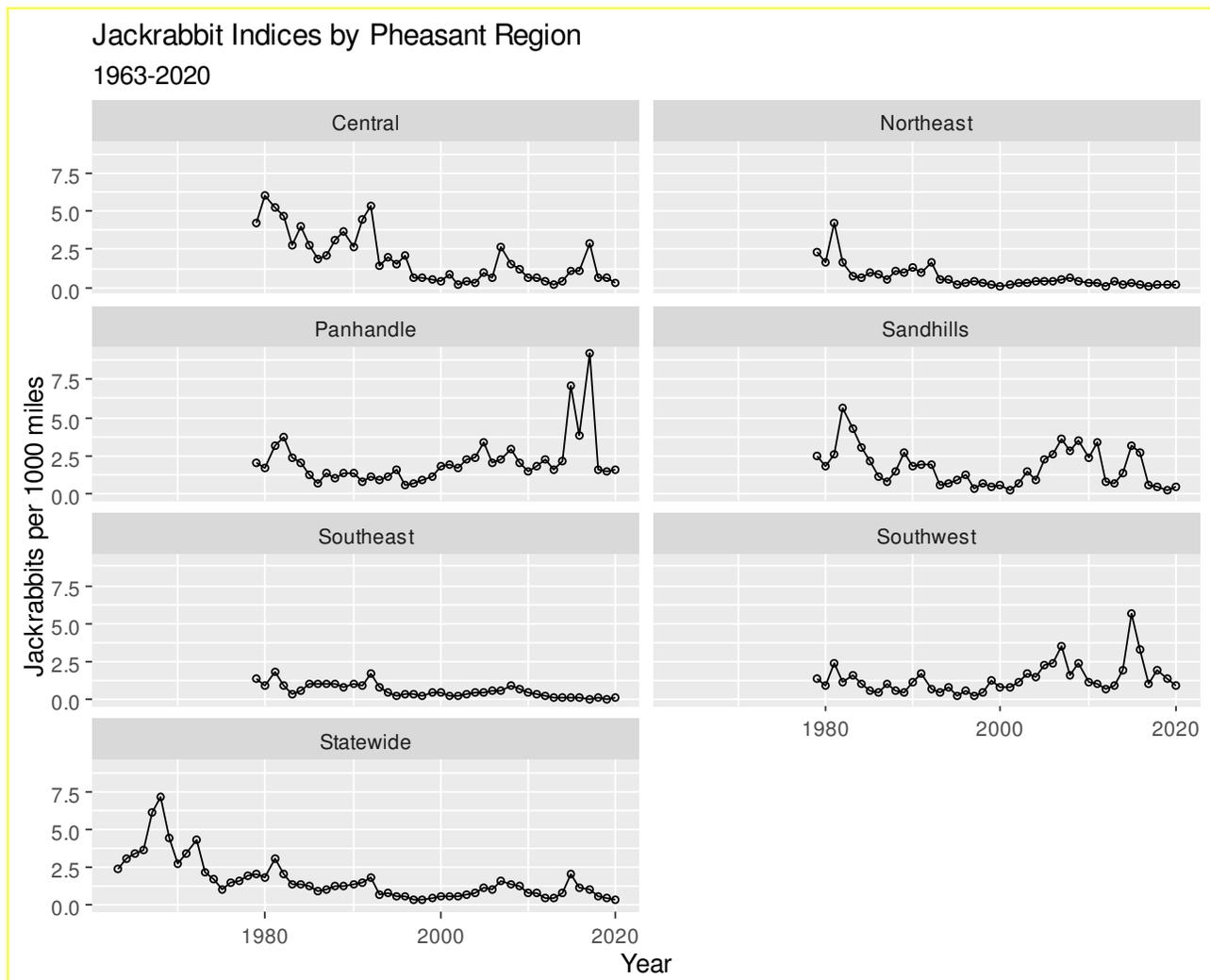


TABLE 10. Number of cards and percent of total cards ($n = 403$) that contained zero observations of each species of wildlife. Overall, 14.6% of cards contained zero observations of all species (59 cards).

	Pheasant	Bobwhite	Grouse	Turkey	Cottontail	Jackrabbit
N ^o of Cards	212	291	369	198	141	363
Percent	52.6	72.2	91.6	49.1	35.0	90.1

For more information, contact John Laux, Upland Habitat & Access Program Manager at john.laux@nebrasks.gov