

Federal Aid in Wildlife Restoration Project №: W-15-R
Title of Job: 2020 April Rural Mail Carrier Survey



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The 2020 April Rural Mail Carrier Survey was conducted 6-9 April 2020. We received 403 cards by 15 April 2020, of which 378 cards contained complete information necessary for processing. The results below (Tables 1 & 2) are based on the complete cards. Rural Carriers made observations while traveling 165,194 miles or rural roads in 85 of Nebraska’s 93 counties.

Caveats. The April survey provides a snapshot of wildlife populations entering the breeding season and might not reflect conditions experienced by hunters the subsequent fall. Interpretations of 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 from one year to the next translates into large percent changes, but result in no observable difference in abundance within a region. For example, an increase in a species index from 0.01 to 0.02 animals observed per 100 miles is a 100% increase, but would not likely be noticeable to hunters afield. Further, survey methodology does not allow for the estimation of population size or density, but only trends in relative abundance through time. At a statewide scale, these indices are correlated with harvest and are, therefore, useful for forecasting.

Interpretations. Despite a worldwide pandemic, rural mail carriers participated in the April survey. Statewide indices for pheasants and for cottontails were higher compared to the 2019 survey. Regionally, pheasant indices were higher in each region but the Northeast and Southeast. The highest regional increases were in the Central, Sandhills, and Southwest regions. This pattern was flipped for cottontails, where indices were lower in the Central and Southwest, but higher elsewhere. Statewide indices for bobwhites and wild turkeys were lower compared to the 2019 survey. Regionally, bobwhite indices increased only in the Northeast, suffering dramatic declines in many other regions (17 to 82% declines). Similarly, wild turkey indices were lower everywhere but in the Sandhills, where abundance was similar to 2019.

Take Home Message. Pheasant numbers were higher this year going into the breeding season. With good spring and summer weather, this might bode well for a productive breeding season. Although turkey abundance had declined, abundance still appears robust. Bobwhites, however, appear to be in a “bust” phase, with large declines in indices observed.

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

Region	Carriers	Miles	Pheasants	Grouse	Turkey	Cottontail	Jackrabbit
Central	51	23,092	83	186	855	100	2
Northeast	92	41,672	173	49	718	148	1
Panhandle	47	18,359	412	90	310	66	14
Sandhills	38	15,641	284	302	1,026	34	0
Southeast	108	45,528	103	8	978	233	1
Southwest	51	20,902	518	105	1,773	106	3
Statewide	387	165,194	1,573	740	5,660	687	21

FIGURE 1. Pheasant Management Regions.

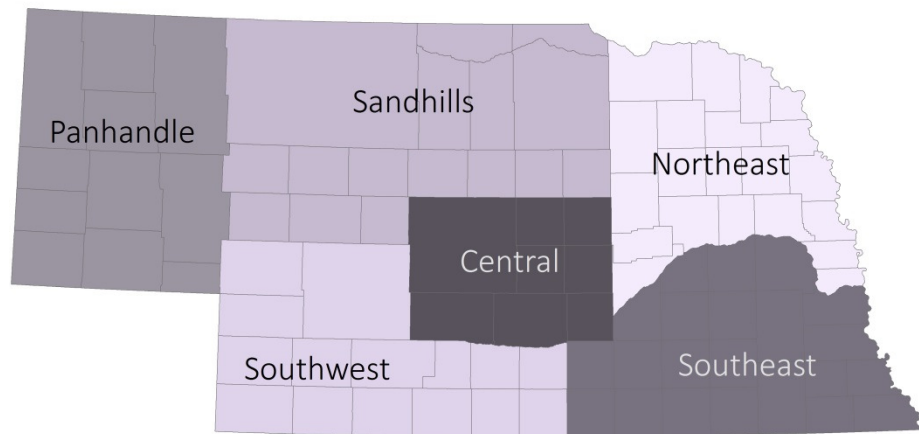
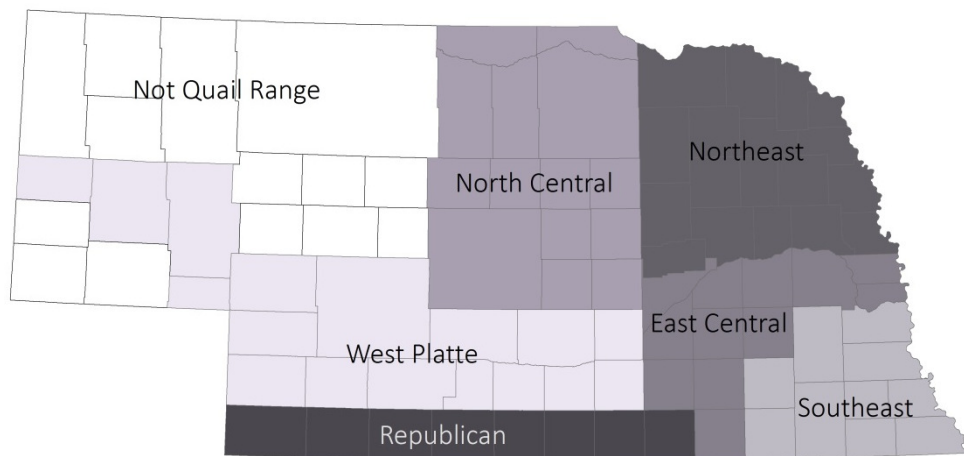


TABLE 2. Raw bobwhite counts from the 2020 April Rural Mail Carrier Survey by bobwhite management zones (Figure 2).

Zone	Carriers	Miles	Bobwhites
East Central	67	26,741	22
North Central	49	22,774	29
Northeast	79	37,806	17
Republican	25	11,258	29
Southeast	37	14,681	6
West Platte	86	35,235	19
Not Quail Range	44	16,699	28
Statewide	387	165,194	150

FIGURE 2. Bobwhite Management Zones.



Results. Statewide indices were higher for pheasants and cottontails, but were lower for bobwhite and wild turkey (Tables 3-6, Figures 3-6). Regional indices were generally mixed for all species compared to 2019. A total of 47 rural carrier cards were returned with no observations on them (12.4%) which is less than in 2019. Table 7 shows how many cards contained zero observations by species.

TABLE 3. Pheasant indices from the 2020 April 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	0.36 (0.23-0.49)	24	-31	-43	-59
Northeast	0.42 (0.30-0.53)	-18	-18	-31	-60
Panhandle	2.24 (1.55-2.93)	6	-8	-1	3
Sandhills	1.82 (0.98-2.65)	22	49	28	19
Southeast	0.23 (0.16-0.30)	-4	-37	-44	-69
Southwest	2.48 (1.79-3.17)	37	24	10	6
Statewide	0.95 (0.79-1.11)	20	0	6	-25

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

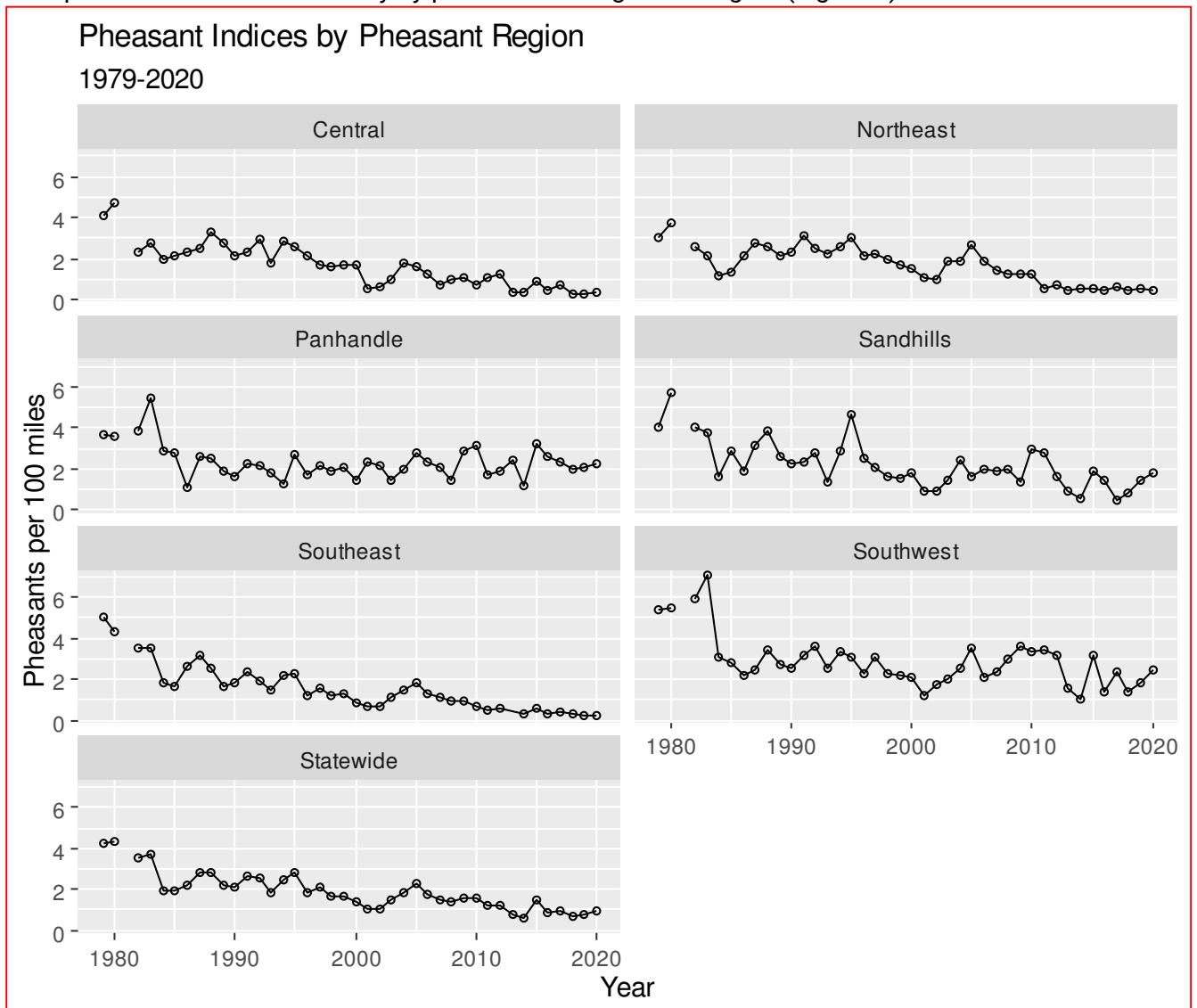


TABLE 4. Northern bobwhite indices from the 2020 April Rural Mail Carrier Survey by bobwhite management zone (Figure 2). Carrier means are weighted by miles traveled per carrier.

Zone	Mean Bobwhites per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
East Central	0.08 (0.04-0.12)	-67	-49	-22	-27
North Central	0.13 (0.00-0.27)	-35	-58	-46	-39
Northeast	0.04 (0.01-0.08)	33	9	-9	-46
Republican	0.26 (0.01-0.50)	0	8	58	37
Southeast	0.04 (0.01-0.07)	-82	-80	-75	-76
West Platte	0.05 (0.00-0.16)	-17	-47	-42	-40
Not in Range	0.17 (0.00-0.34)	NA	132	243	332
Statewide	0.09 (0.05-0.13)	-31	-25	-15	-23

FIGURE 4. Regional and statewide time series (1979-2020) of bobwhite population indices from the April Rural Mail Carrier Survey by bobwhite management zone (Figure 2).

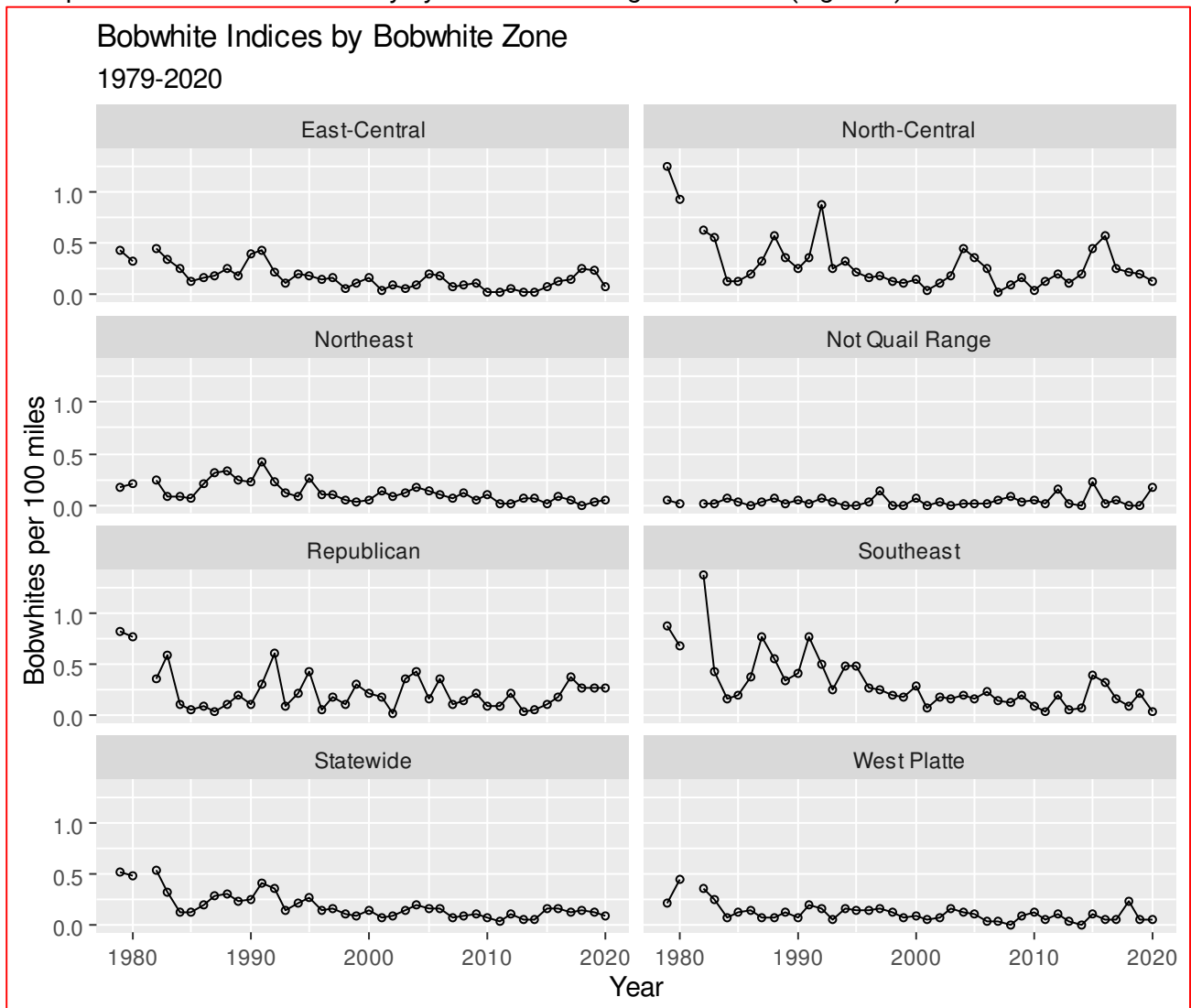


TABLE 5. Cottontail indices from the 2020 April Rural Mail Carrier Survey by pheasant management region (Figure 1). Carrier means are weighted by miles traveled per carrier.

Region	Mean Cottontails per 100 miles & 90% Confidence Limits	Percent Difference from:			
		Mean 2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	0.43 (0.17-0.69)	-20	-23	-15	-32
Northeast	0.36 (0.22-0.49)	29	-4	-22	-37
Panhandle	0.36 (0.22-0.50)	44	-3	3	3
Sandhills	0.22 (0.06-0.37)	38	-38	-16	-18
Southeast	0.51 (0.33-0.69)	31	13	24	-9
Southwest	0.51 (0.33-0.69)	-2	-27	-14	-13
Statewide	0.42 (0.34-0.50)	14	-11	-7	-21

FIGURE 5. Regional and statewide time series (1958-2020) of cottontail population indices from the April Rural Mail Carrier Survey by pheasant management region (Figure 1).

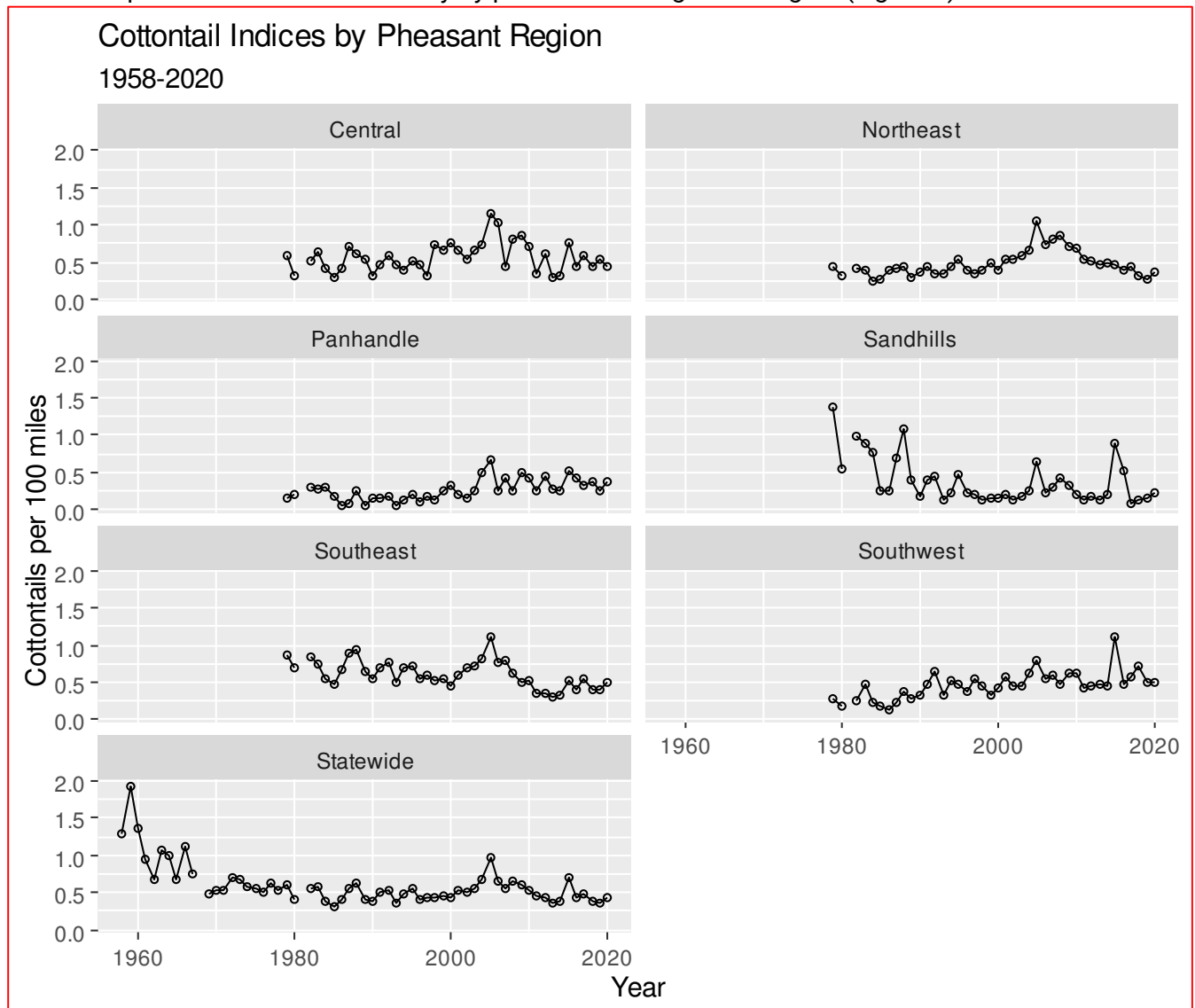


TABLE 6. Wild turkey indices from the 2020 April Rural Mail Carrier Survey by pheasant management region (Figure 1). Carrier means are weighted by miles traveled per carrier.

Region	Mean Wild Turkeys per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2019	Mean 2015-2019	Mean 2010-2019	Mean 2000-2019
Central	3.70 (2.39-5.02)	-23	-22	-45	-35
Northeast	1.72 (1.11-2.33)	-32	-39	-38	-24
Panhandle	1.69 (0.48-2.89)	-13	-15	-15	14
Sandhills	6.56 (2.88-10.2)	3	-26	-26	-16
Southeast	2.15 (1.51-2.78)	-30	-28	-28	-19
Southwest	8.48 (4.71-12.3)	-27	-29	-29	-6
Statewide	3.43 (2.73-4.13)	-25	-32	-32	-16

FIGURE 6. Regional and statewide time series (2000-2020) of wild turkey population indices from the April Rural Mail Carrier Survey by pheasant management region (Figure 1).

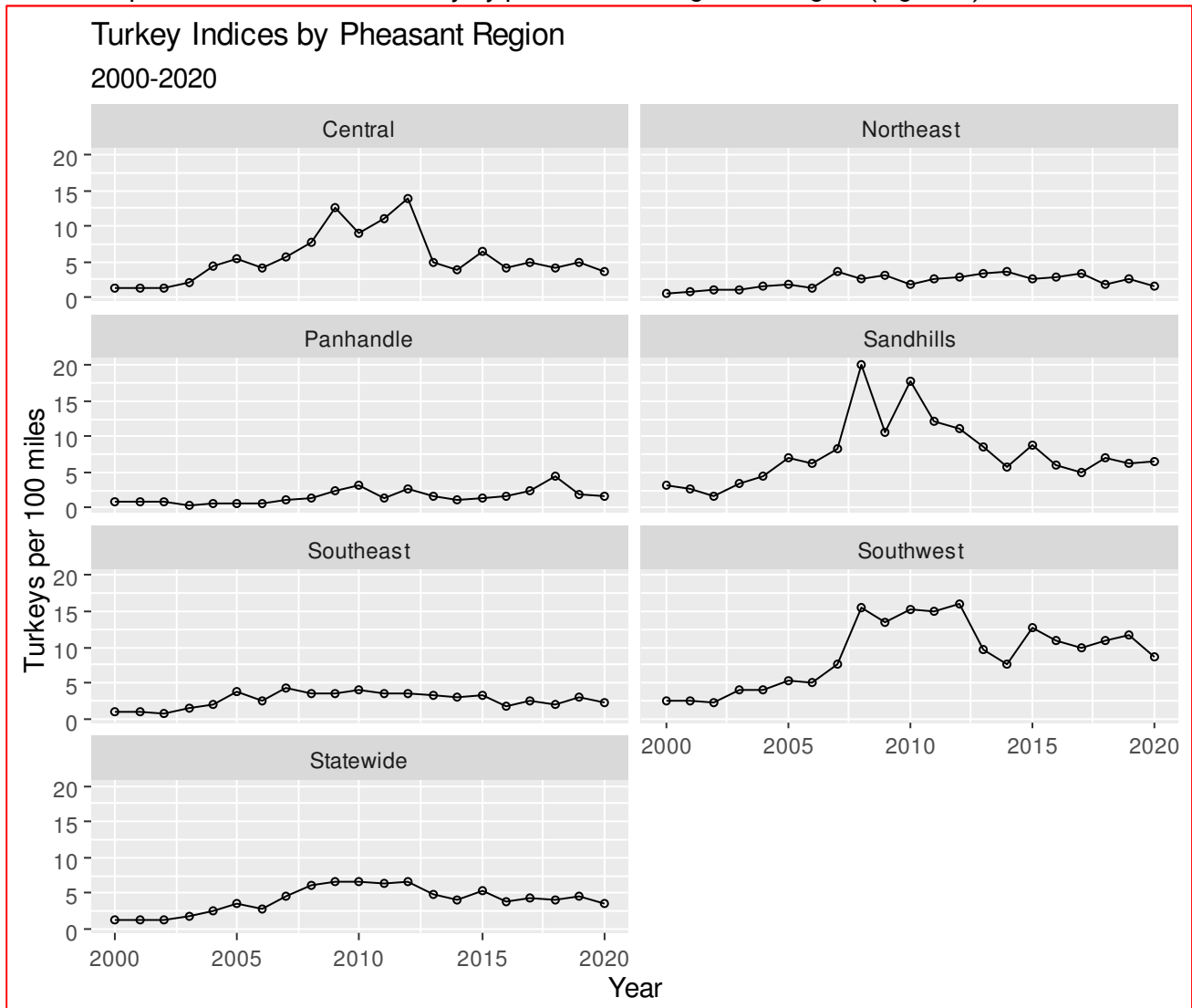


TABLE 7. Number of cards and percent of total cards ($n = 378$) that contained zero observations by species. Overall, 12.4% (cf. 20.3% in 2019, $n = 418$) of cards contained zero counts for all species (47 cards). Percentages by species from the 2019 survey are reported for comparison.

	Pheasant	Quail	Grouse	Wild Turkey	Cottontail	Jackrabbit
Nº of Cards	174	346	314	120	203	371
Percent (2020)	45	89	81	31	52	96
Percent (2019)	53	90	84	39	61	96