

Federal Aid in Wildlife Restoration Project No: W-15-R
Title of Job: 2016 October Rural Mail Carrier Survey



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The 2017 October Rural Mail Carrier Survey was conducted 2-5 October 2017. We received 418 cards by 19 October 2017, of which 400 cards contained information needed for analyses (Tables 1-3). Rural carriers made observations while traveling 165,727 miles of rural roads in 86 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. In general, except for bobwhites and deer, species’ regional and statewide indices were lower in 2017 compared to 2016. For pheasants and grouse, 2017 indices were also lower than the 5-, 10-, and 20-year regional and statewide averages. For bobwhites, results were more mixed, but generally (statewide) higher than in 2016. In the East Central and North Central regions, indices were at historic highs, being >100% higher than the 5-, 10-, and 20-year averages. However, no regional or statewide index was significantly different from the 2016 index based on overlapping CIs.

Take-Home Message. As indicated by earlier surveys, bobwhite relative abundance is at historic levels, indicating plentiful opportunities exist for a successful and satisfying bobwhite hunt almost everywhere bobwhites exist in Nebraska. Opportunities for other species may be more restricted.

TABLE 1. Raw counts of pheasants, prairie grouse, wild turkey, cottontail, and jackrabbits from the 2017 October Rural Mail Carrier Survey by pheasant management region (Figure 1).

Region	Carriers	Miles	Pheasant	Grouse	Turkey	Cottontail	Jackrabbit
Central	65	25,384	59	98	1,381	61	2
Northeast	112	46,631	154	2	1,520	120	15
Panhandle	35	13,821	201	28	249	38	17
Sandhills	32	13,268	47	150	773	19	3
Southeast	116	49,279	108	12	1,377	228	1
Southwest	40	17,344	191	26	1,012	115	3
Statewide	400	165,727	760	316	6,312	581	41

TABLE 2. Raw counts of deer (bucks, does, and fawns) by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey.

Region	Carriers	Miles	Buck	Doe	Fawn	Total
Central	65	25,384	23	156	46	225
Northeast	112	46,631	23	142	44	209
Panhandle	35	13,821	71	113	28	212
Sandhills	32	13,268	50	162	44	256
Southeast	116	49,279	26	225	51	302
Southwest	40	17,344	57	377	122	556
Statewide	400	165,727	250	1,175	335	1,760

TABLE 3. Raw counts of bobwhite by bobwhite management zone (Figure 2) from the 2017 October Rural Mail Carrier Survey.

Region	Carriers	Miles	Bobwhites
East Central	68	27,895	172
North Central	51	22,484	186
Northeast	98	42,652	34
Republican	22	9,588	77
Southeast	50	20,103	124
West Platte	83	32,613	44
Not Quail Range	28	10,392	1
Statewide	400	165,727	638

FIGURE 1. Pheasant management regions.

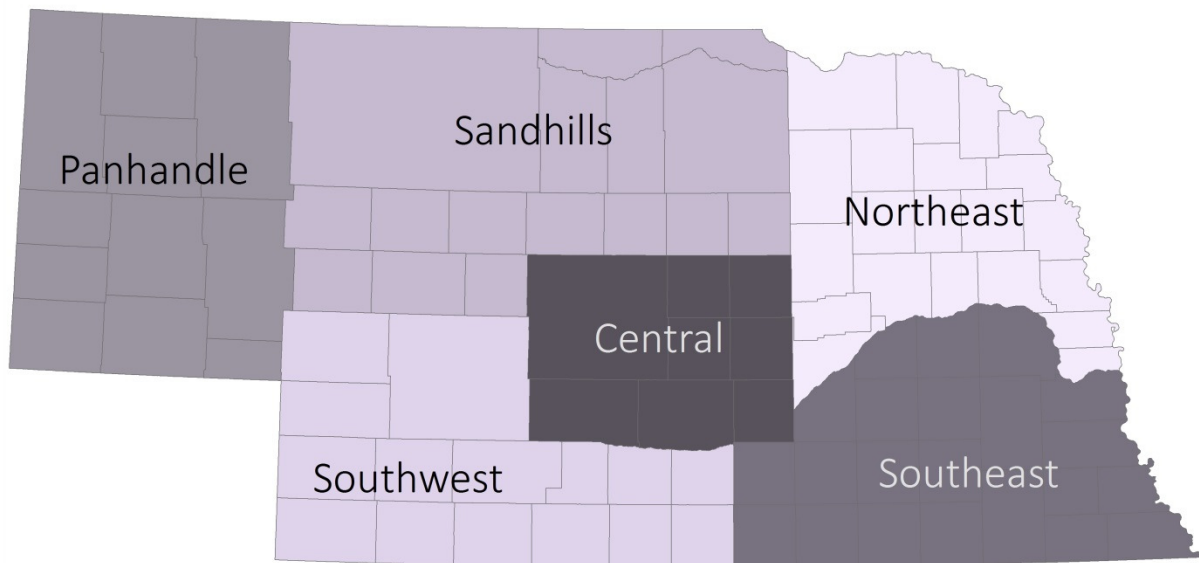
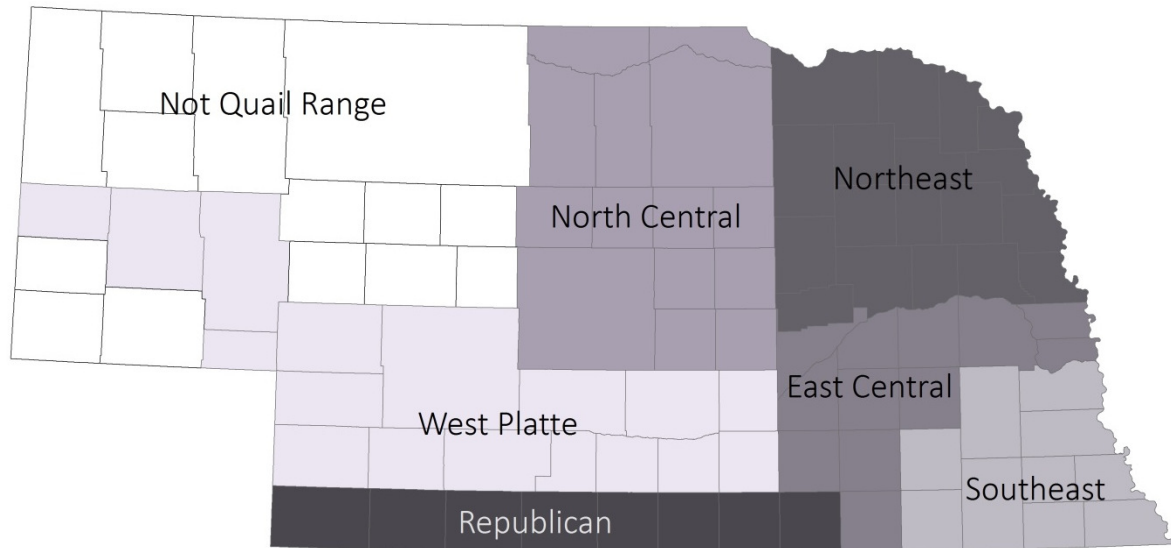


FIGURE 2. Bobwhite management zones.

Results. Although winter and spring conditions were generally mild once again, relative abundances for species were mixed, both regionally within species and among species (Tables 4-10, Figures 3-9). Regional indices for pheasants were generally lower compared to 2016 (Table 4, Figure 3). Indices were also generally lower than the 5-year mean (Table 4). Likewise, regional indices for prairie grouse were lower across the state (Table 5, Figure 4) compared to 2016. Regional indices for grouse were also generally lower than the 5-, 10-, and 20-year means. For bobwhites, regional indices were mixed compared to 2016, with indices higher in the East Central and North Central regions, and lower to similar to 2016 elsewhere (Table 6, Figure 5). Wild turkey indices were also mixed compared to 2016, with lower indices in the Central, Panhandle, and Southwest regions, and decreases elsewhere (Table 7, Figure 6). For Cottontails, regional indices were lower than in 2016 everywhere except the Southeast and Southwest (Table 8, Figure 7). Regional indices of abundance for jackrabbits were lower in 2017 compared to 2016 except in the Northeast (Table 9, Figure 8). Finally, indices of deer abundance were higher in 2017 compared to 2016 in all regions except the Central and Panhandle (Table 10, Figure 9). Of the 400 usable cards returned, 54 (13.5%) had no observations of any wildlife. The number and percentage of the total usable cards received for each species is provided in Table 11.

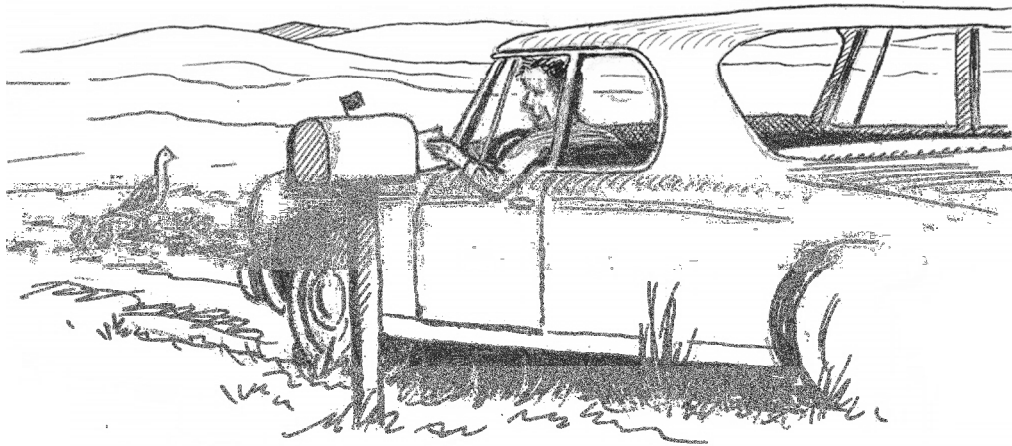


TABLE 4. Pheasant indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean pheasants per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2016	Mean 2012-2016	Mean 2007-2016	Mean 1997-2016
Central	0.23 (0.13-0.34)	-38	-20	-29	-47
Northeast	0.33 (0.23-0.43)	-6	1	-27	-47
Panhandle	1.45 (0.83-2.08)	-44	-12	13	32
Sandhills	0.35 (0.16-0.55)	-19	-31	-47	-43
Southeast	0.22 (0.16-0.28)	-29	-18	-43	-57
Southwest	1.10 (0.62-1.58)	-27	-12	-33	-24
Statewide	0.46 (0.37-0.55)	-31	-19	-31	-35

FIGURE 3. Regional and statewide time series (1983-2017) of pheasant population indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

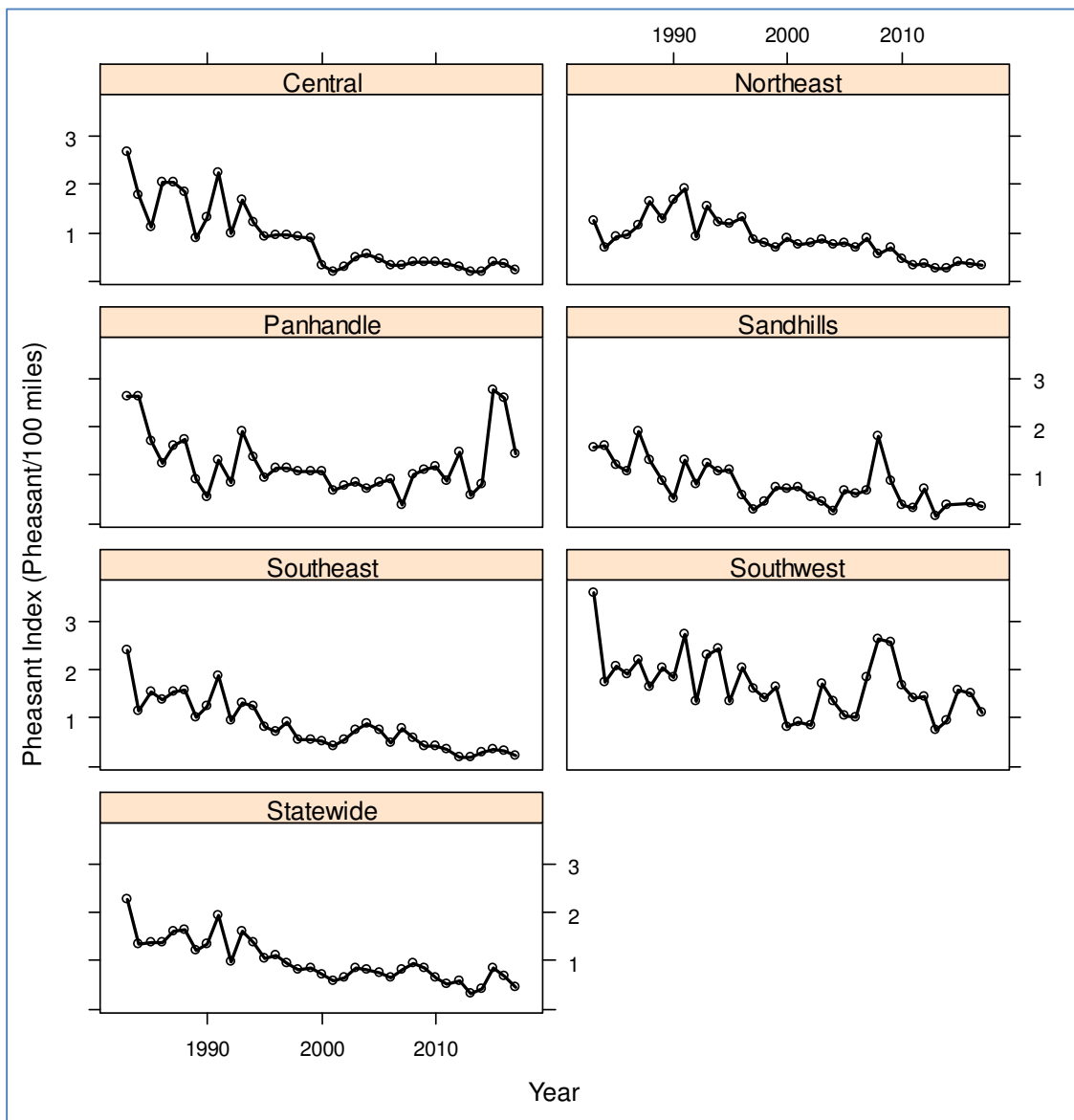


TABLE 5. Prairie grouse indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled/carrier.

Region	Mean Grouse per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2016	Mean 2012-2016	Mean 2007-2016	Mean 1997-2016
Central	0.39 (0.17-0.60)	-24	-14	-56	-45
Northeast	0.00 (0.00-0.01)	-100	-100	-100	-100
Panhandle	0.20 (0.07-0.33)	-57	-67	-51	-46
Sandhills	1.13 (0.00-2.57)	-24	-27	-42	-25
Southeast	0.02 (0.00-0.05)	-50	19	-60	-57
Southwest	0.15 (0.00-0.32)	-65	-39	-43	-22
Statewide	0.19 (0.07-0.31)	-37	-38	-48	-35

FIGURE 4. Regional and statewide time series (1983-2017) of prairie grouse indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

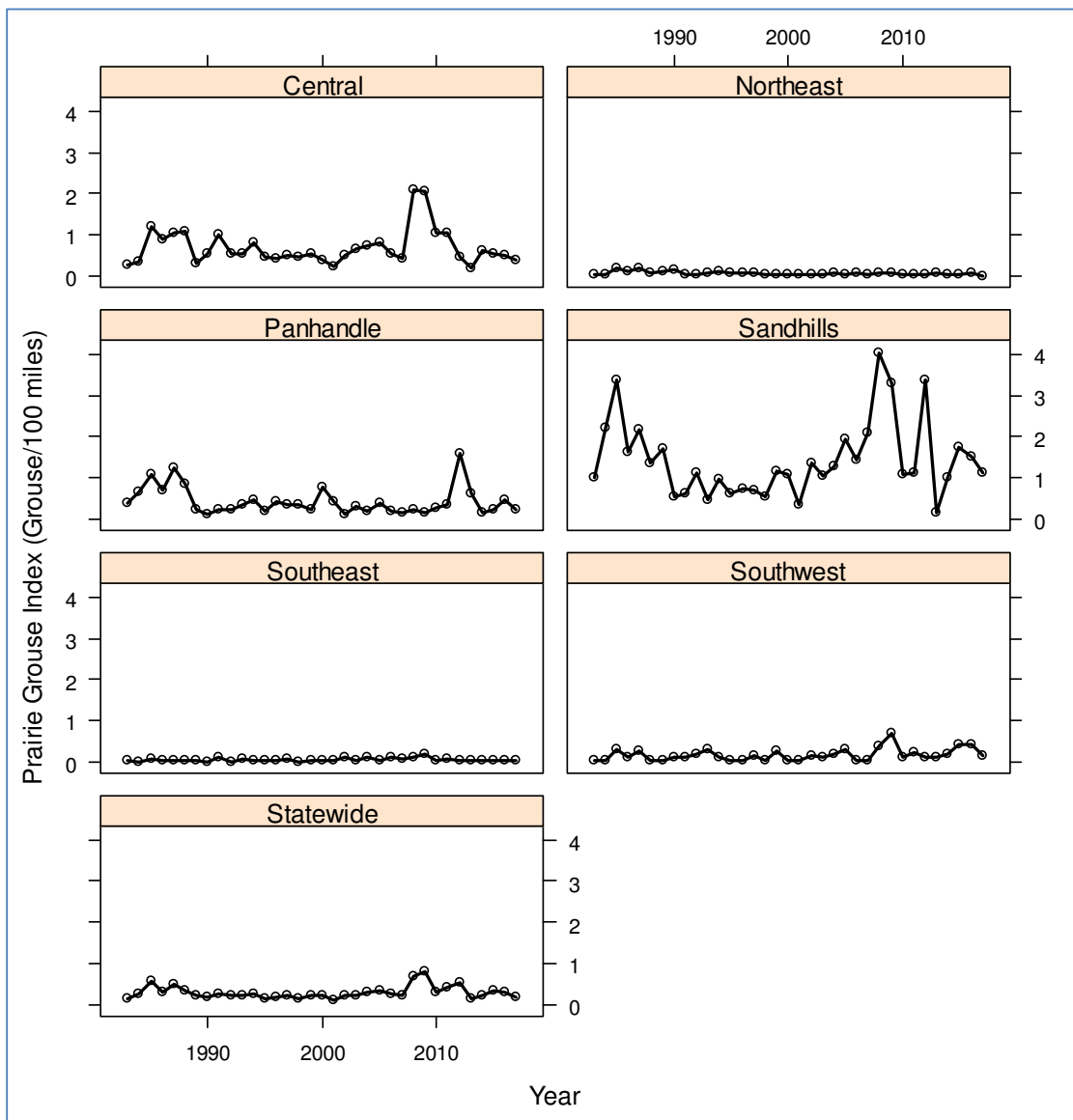


Table 6. Bobwhite indices and percent change by bobwhite management zone (Figure 2) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Zone	Mean Bobwhites per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2016	Mean 2012-2016	Mean 2007-2016	Mean 1997-2016
East Central	0.62 (0.36-0.87)	55	165	216	168
North Central	0.83 (0.36-1.30)	57	117	168	154
Northeast	0.08 (0.03-0.13)	0	0	-25	-45
Republican	0.80 (0.13-1.48)	-15	66	96	93
Southeast	0.62 (0.26-0.97)	-13	28	37	39
West Platte	0.13 (0.07-0.20)	-13	-4	-4	-9
NQR	0.01 (0.00-0.03)	-50	-79	-85	-81
Statewide	0.39 (0.30-0.48)	18	60	78	60

Figure 5. Regional and statewide time series (1983-2017) of bobwhite indices by bobwhite management zone (Figure 2) from the October Rural Mail Carrier Survey.

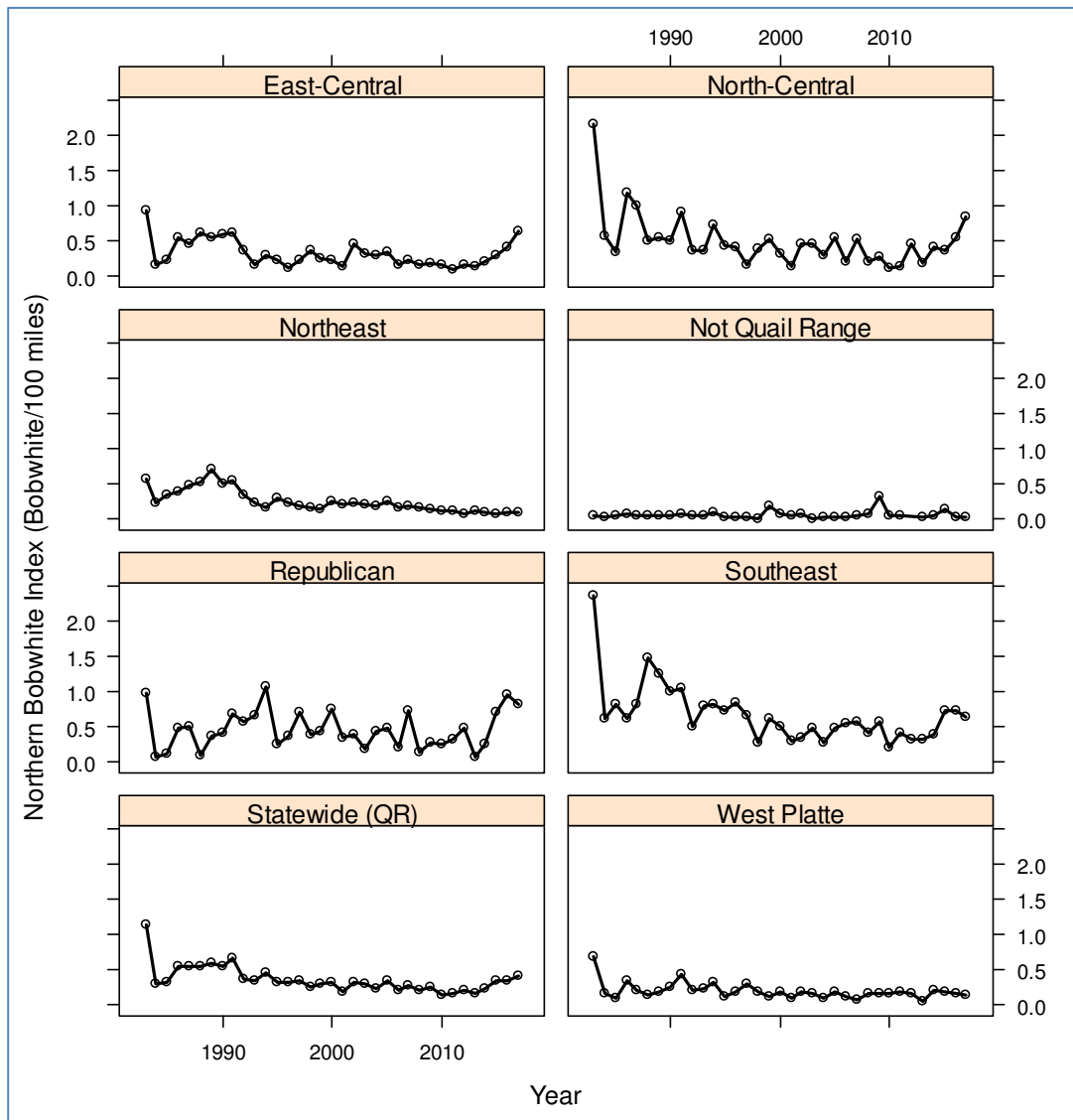


Table 7. Wild Turkey indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles travelled/carrier.

Region	Mean Turkeys per 100 Miles & 90% Confidence Limits	Percent Difference from:		
		2016	Mean 2012-2016	Mean 2007-2016
Central	5.44 (3.33-7.55)	-15	13	-7
Northeast	3.26 (1.74-4.78)	21	75	60
Panhandle	1.80 (0.34-3.26)	-30	-42	-37
Sandhills	5.83 (3.40-8.25)	11	8	-21
Southeast	2.79 (2.27-3.32)	30	45	31
Southwest	5.83 (4.02-7.64)	-49	-35	-38
Statewide	3.81 (3.18-4.44)	-10	2	-3

Figure 6. Regional and statewide time series (2000-2017) of wild turkey indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

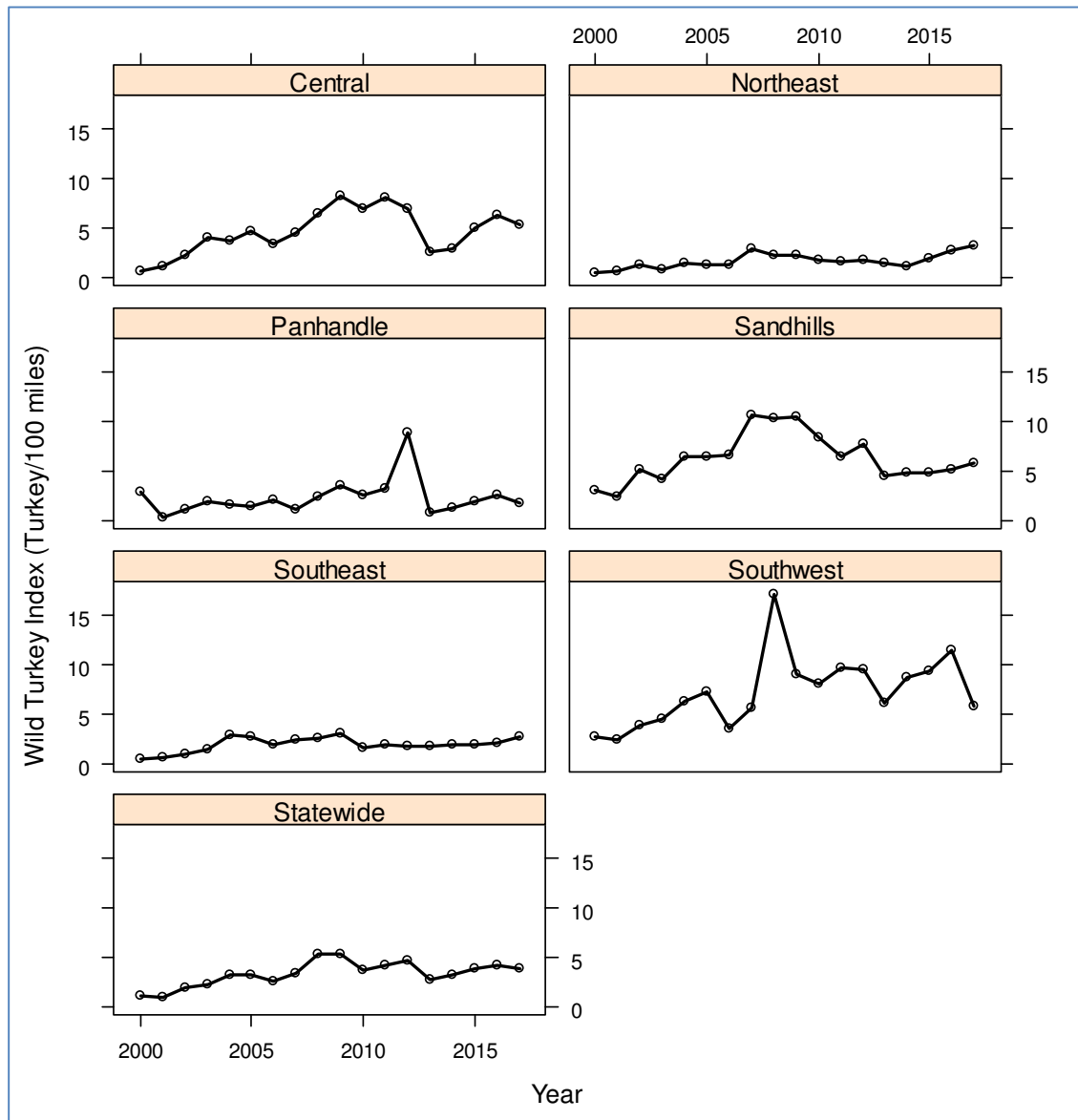


Table 8. Cottontail indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier Means are weighted by miles traveled per carrier.

Region	Mean Cottontails per 100 miles & 90% Confidence Limits	Percent Difference from:			
		2016	Mean 2012-2016	Mean 2007-2016	Mean 1997-2016
Central	0.24 (0.08-0.41)	-40	-25	-53	-54
Northeast	0.26 (0.16-0.36)	-26	-32	-43	-43
Panhandle	0.27 (0.03-0.52)	-23	-1	9	17
Sandhills	0.14 (0.02-0.27)	-7	-11	-24	-13
Southeast	0.46 (0.34-0.59)	10	35	24	9
Southwest	0.66 (0.18-1.14)	38	77	89	100
Statewide	0.35 (0.28-0.42)	-8	3	-10	-11

Figure 7. Regional and statewide time series (1983-2017) of cottontail indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

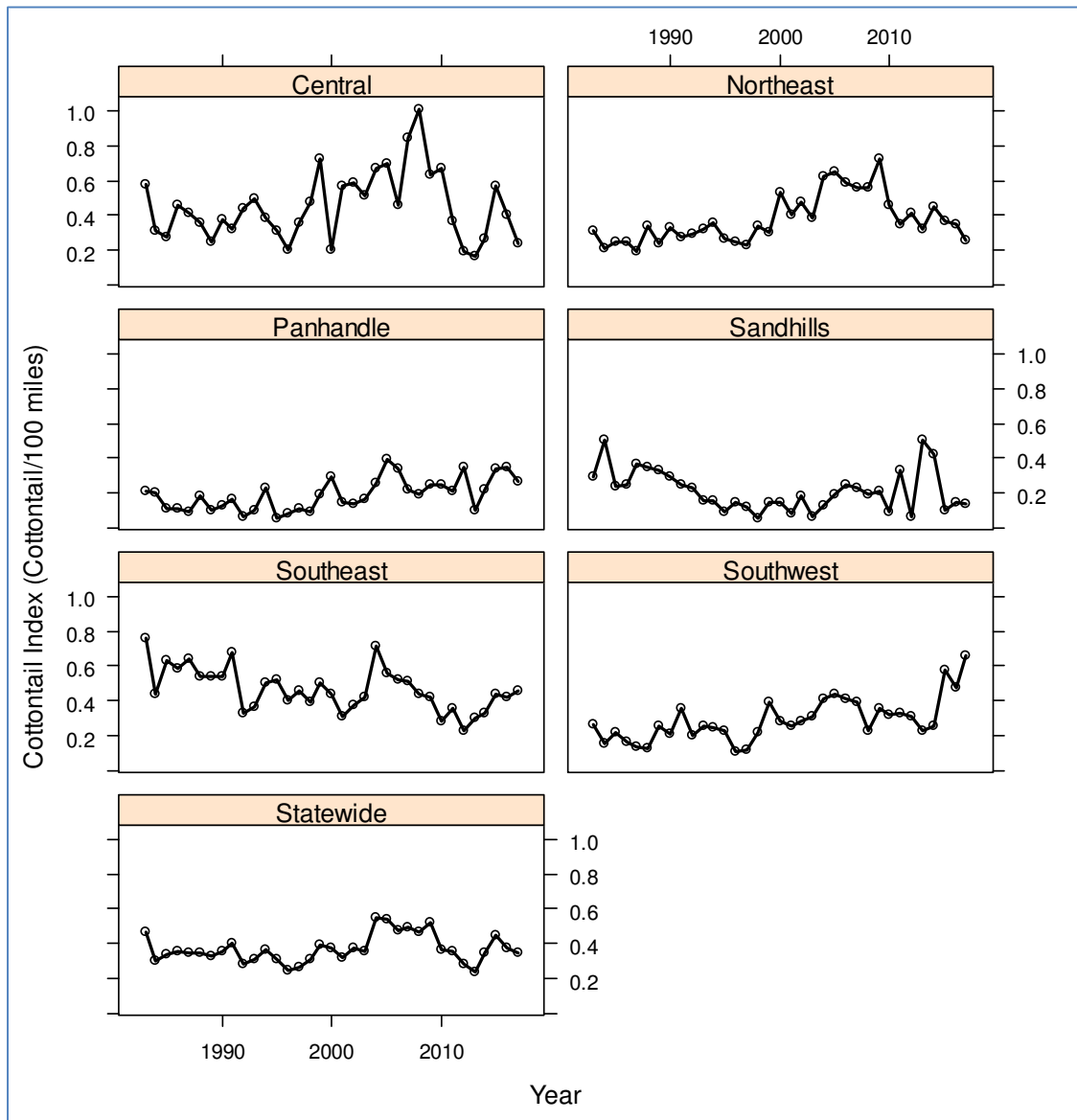


Table 9. Jackrabbit indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean Jackrabbits per 1000 miles & 90% Confidence Limits	Percent Difference from:			
		2016	Mean 2012-2016	Mean 2007-2016	Mean 1997-2016
Central	0.08 (0.00-0.37)	-64	-35	-31	-39
Northeast	0.32 (0.00-0.83)	540	400	139	123
Panhandle	1.23 (0.42-2.04)	-34	35	53	66
Sandhills	0.23 (0.01-0.44)	-52	-6	-37	-31
Southeast	0.02 (0.00-0.05)	-80	-64	-87	-85
Southwest	0.17 (0.01-0.34)	-69	-70	-71	-65
Statewide	0.25 (0.08-0.42)	-24	1	-16	-6

Figure 8. Regional and statewide time series (1983-2017) of jackrabbit indices by pheasant management region (Figure 1) from the October Rural Mail Carrier Survey.

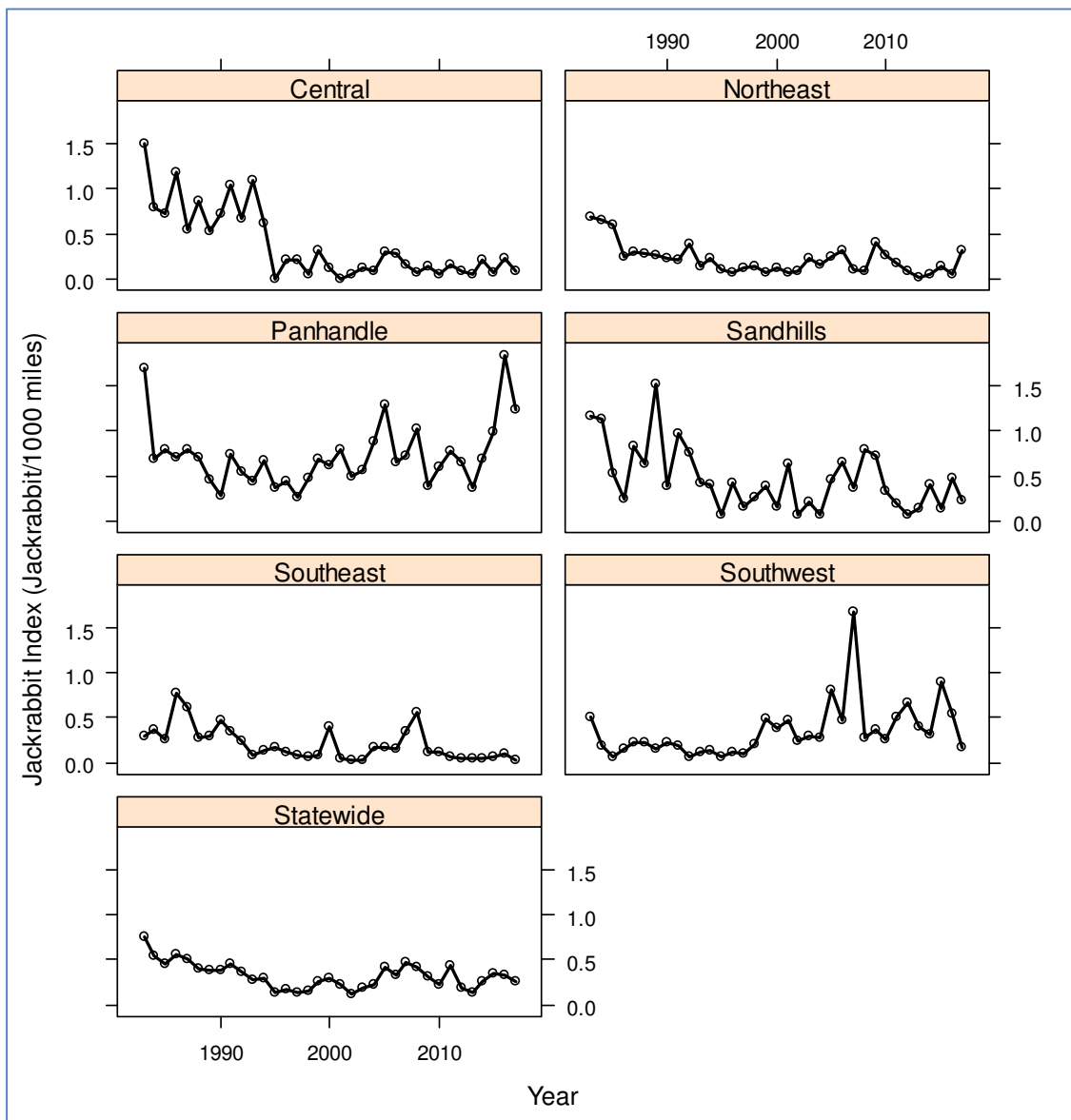


Table 10. Deer indices and percent change by pheasant management region (Figure 1) from the 2017 October Rural Mail Carrier Survey. Carrier means are weighted by miles traveled per carrier.

Region	Mean Deer per 100 miles & 90% Confidence Limits	Percent Difference from:		
		2016	Mean 2012-2016	Mean 2007-2016
Central	0.89 (0.59-1.18)	-6	7	0
Northeast	0.45 (0.29-0.60)	15	36	0
Panhandle	1.53 (0.71-2.35)	-10	34	38
Sandhills	1.93 (1.20-2.66)	69	100	29
Southeast	0.61 (0.46-0.76)	39	37	2
Southwest	3.21 (0.72-5.69)	59	73	90
Statewide	1.06 (0.78-1.34)	26	38	24

Figure 9. Regional and statewide time series (2003-2017) of deer indices by pheasant management region from the October Rural Mail Carrier Survey.

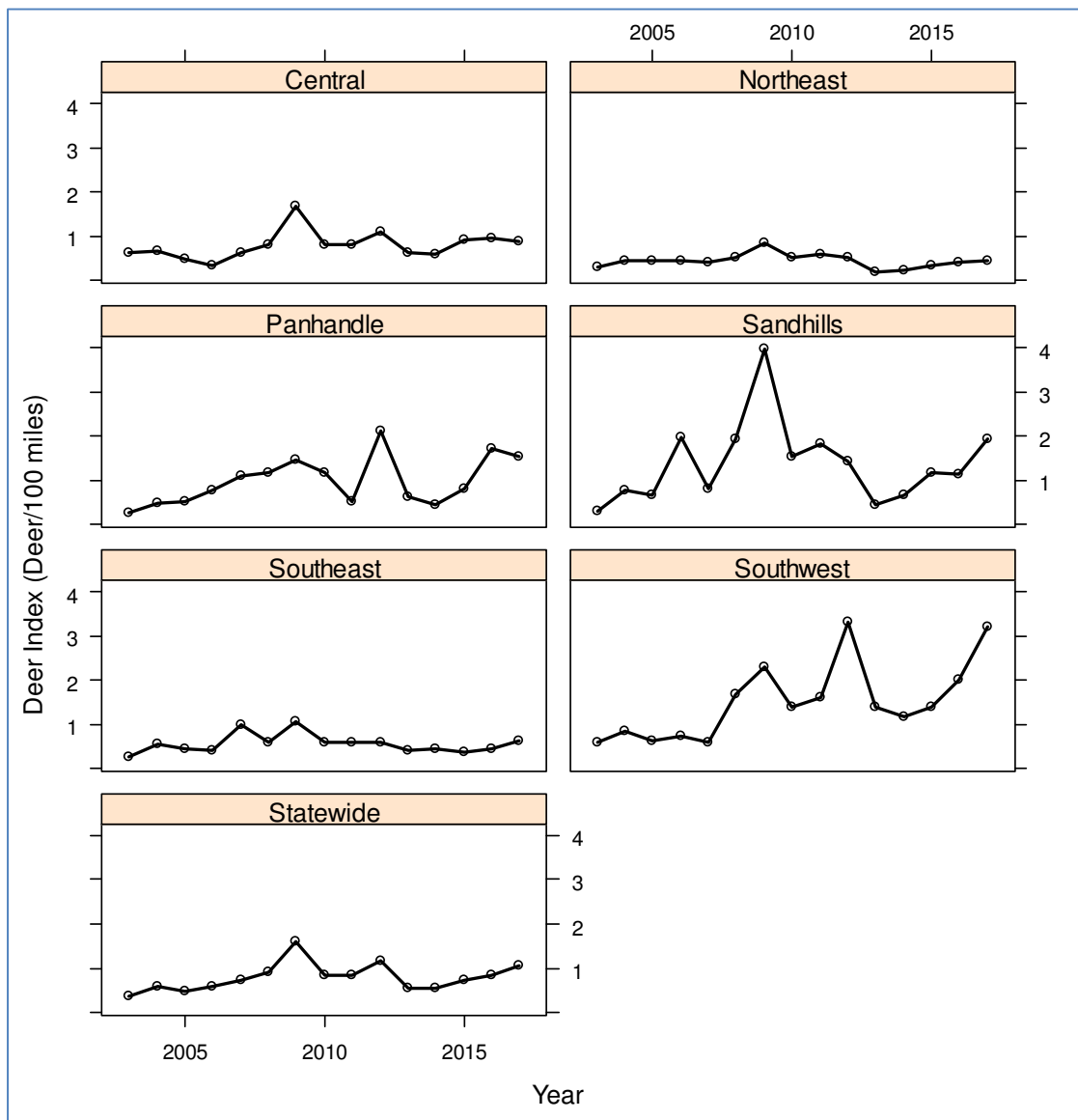


Table 11. Number of cards and the percent of total cards ($n = 400$) that contained zero observations of each wildlife species. Overall, 13.5% of cards contained zero observations of all species (54 cards).

	Pheasant	Deer	Quail	Grouse	Turkey	Cottontail	Jackrabbit
Zero Counts	224	181	326	357	150	262	382
Percent Zero	56	45	81	89	37	65	96