

Federal Aid in Wildlife Restoration Project №: W-15-R-76  
Title of Job: 2020 Northern Bobwhite Whistle Count Survey

Job: H1



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Northern bobwhite whistle counts were conducted between 15 June and 10 July 2020, inclusive, within each of the 6 bobwhite management zones (Figure 1). A total of 55 routes were surveyed in 2020 by Nebraska Game & Parks Commission and Pheasants/Quail Forever partnership staff. Along each 20-mile route, observers made stops one mile apart and conducted an auditory survey to quantify the number of unique male bobwhites calling.

**Caveats.** The bobwhite whistle count survey does not provide information on bobwhite population size, but is an index of breeding male abundance. At a statewide scale, these indices are correlated with harvest, and are useful for forecasting conditions hunters might encounter during the fall hunting season, particularly when combined with the results from other surveys. New routes have been added to this survey, so comparisons with the 5-year mean include only those routes for which  $\geq 5$  years of data had been collected.

**Interpretations.** This year's statewide bobwhite index was 14% lower compared to 2019 and 34% below the 5-year mean. Relative abundance declined in all management zones except the East Central, Northeast, and Republican zones; however, these increases were slight, indicating that populations will likely be similar to 2019. Confidence intervals overlapped for all regional indices indicating differences were not statistically significant. Regional indices were also 5% to 68% lower than 5-year averages, except in the Northeast zone, which increased by 4%. The relative abundance of bobwhites observed in 2020 was highest in the Republican, East Central, and Southeast management zones.

**Take-home Message.** Bobwhite populations appear to have entered a "bust" phase of their population cycle. Nebraska's bobwhites are at the northernmost extent of their range in the US, and populations are generally limited by extreme winter weather conditions. Although the 2019-20 winter was fairly typical for Nebraska, populations are still recovering from the severe winter weather events that impacted adult survival prior to the 2019 nesting season. This year's fall population will largely depend on production during the nesting season that is currently underway. Bobwhites are prolific breeders and have the ability to rapidly repopulate when good habitat and weather conditions persist. Timely rains this summer have improved habitat conditions throughout much of the core bobwhite range in southern Nebraska, which should offer some of the best quail hunting opportunities in 2020.

**Table 1.** Mean number of calling male bobwhites heard per stop along roadsides during the 2020 bobwhite whistle count survey, by bobwhite management zone (Figure 1).

Zone	Number of Routes	Calling Males per Stop:		
		2020 x̄ & 90% CI	2019 x̄ & 90% CI	2015-2019 x̄ & 90% CI
East Central	4	1.12 (0.26-1.98)	1.05 (0.35-1.75)	1.18 (0.00-2.46)
North Central	8	0.23 (0.07-0.40)	0.29 (0.00-0.65)	0.91 (0.05-1.76)
Northeast	7	0.54 (0.24-0.85)	0.50 (0.18-0.81)	0.52 (0.23-0.81)
Republican	10	1.13 (0.70-1.55)	1.12 (0.38-1.87)	1.47 (0.99-1.96)
Southeast	15	1.11 (0.83-1.38)	1.26 (0.83-1.70)	1.89 (1.47-2.31)
West Platte	11	0.98 (0.48-1.48)	1.44 (0.04-2.84)	1.22 (0.13-2.33)
Statewide	55	0.88 (0.72-1.05)	1.02 (0.77-1.27)	1.34 (1.09-1.59)

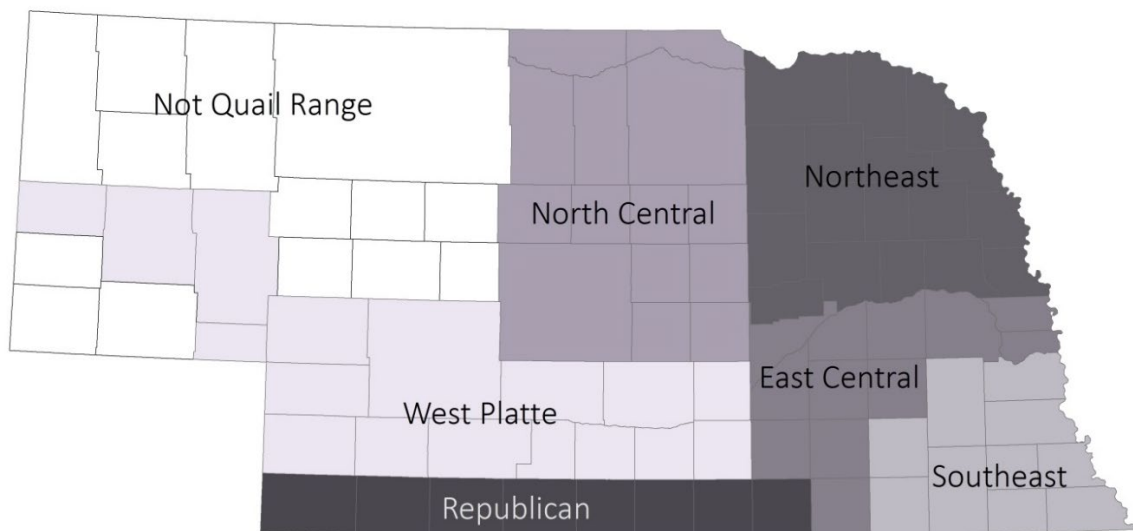
**Table 2.** Percent change in the mean number of calling males heard during the 2020 bobwhite whistle count survey from 2018 and the 5-year mean, by bobwhite management zone (Figure 1).

Zone	Percent Difference from:	
	2019 Mean <sup>a</sup>	2015-2019 Mean <sup>b</sup>
East Central	7	-5
North Central	-21	-75
Northeast	8	4
Republican	1	-23
Southeast	-12	-41
West Platte	-32	-20
Statewide	-14	-34

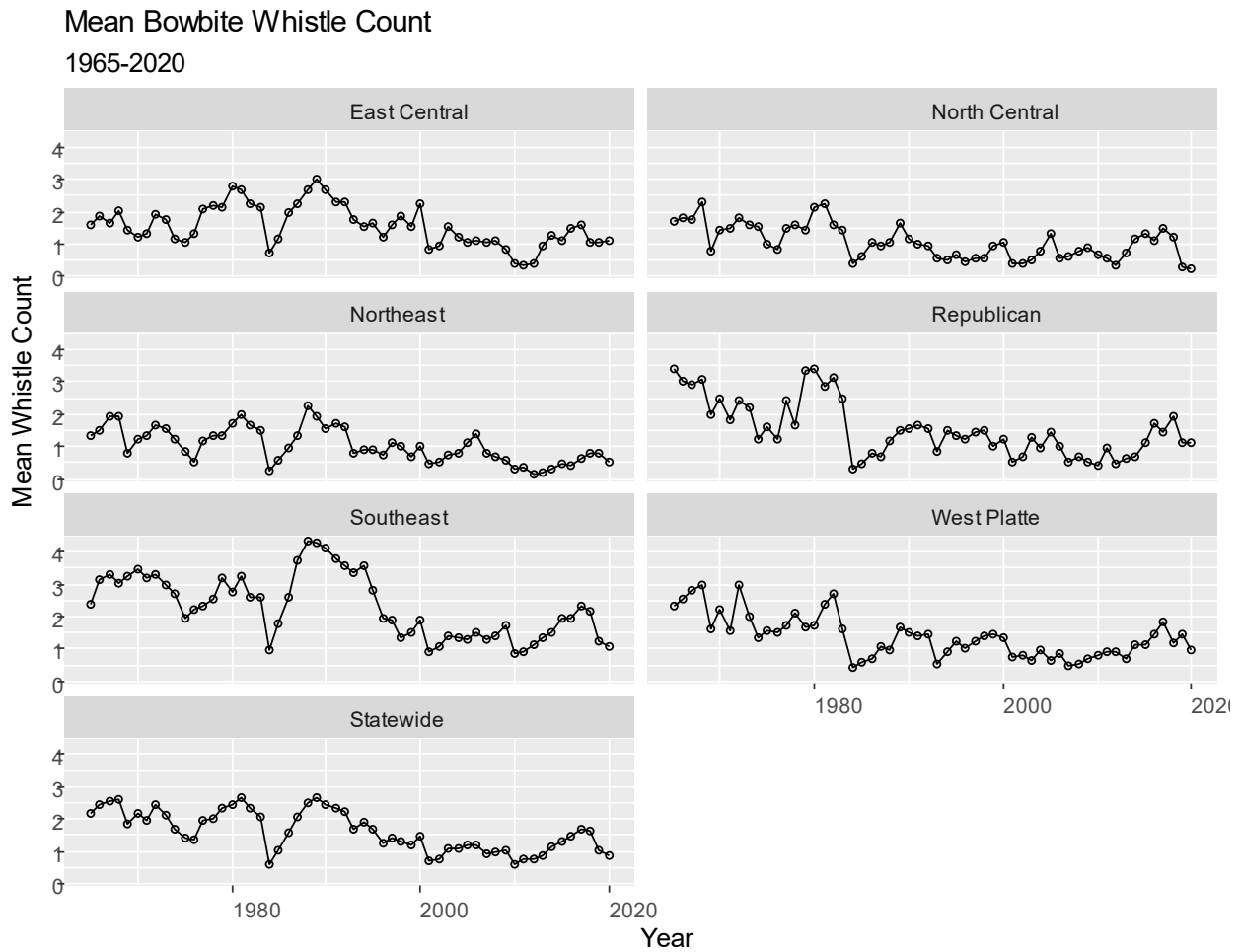
<sup>a</sup> This comparison is between *reported* indices (cf. Table 1); 42 routes in 2019 and 55 routes in 2020.

<sup>b</sup> The 5-year average is based only on routes (n = 42) for which sufficient data had amassed.

**Figure 1.** Bobwhite management zones.



**Figure 2.** Time series (1965-2020) of the mean number of calling bobwhites heard per stop during the whistle count survey, by bobwhite management zone (Figure 1).



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