

Federal Aid in Wildlife Restoration Project №: W-15-R-80
Title of Job: 2023 Northern Bobwhite Whistle Count Survey

Job: H1



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Northern bobwhite whistle counts were conducted between 15 June and 10 July 2023, inclusive, within each of the 6 bobwhite management zones (Figure 1). A total of 55 routes were surveyed in 2023 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.

Interpretations. This year's statewide bobwhite index was similar to 2022 and 6% above the 5-year mean. Relative abundance decreased in all management zones except the Southeast. Confidence intervals overlapped for all regional indices, indicating differences were not statistically significant. Regional indices were 4% to 46% lower than in 2022 (except for Southeast which was 25% higher). Regional indices were higher than the five-year mean in the East Central, Northeast, and Southeast regions, and lower elsewhere. The relative abundance of bobwhites observed in 2023 was highest in the Southeast, East Central, and Republican management zones.

Take-home Message. Nebraska's bobwhites are at the northernmost extent of their range in the U.S. and their abundance here may experience greater fluctuations in response to environmental conditions than in the core areas of the species' range. Winter conditions in 2022/23 were relatively mild where most bobwhites occur in Nebraska, but there was an abnormally cold period in December and heavy snow and ice may have impacted populations along the northern fringes of their range. Also, persistent drought across the state through much of the pre- and early nesting seasons may have suppressed production. Bobwhite abundance remains highest across southern Nebraska (core range in Nebraska) and this year's fall population will largely depend on late-season production that may have occurred once drought conditions subsided. Bobwhites are prolific breeders and have the ability to rapidly repopulate when good habitat and weather conditions persist.

Table 1. Mean number of calling male bobwhites heard per stop along roadsides during the 2023 bobwhite whistle count survey, by bobwhite management zone (Figure 1).

Zone	Number of Routes	Calling Males per Stop:		
		2023 x̄ & 90% CI	2022 x̄ & 90% CI	2018-2022 x̄ & 90% CI
East Central	4	1.49 (0.16-2.82)	1.56 (0.18-2.93)	1.14 (0.66-1.63)
North Central	8	0.25 (0.08-0.41)	0.46 (0.17-0.74)	0.36 (0.10-0.62)
Northeast	7	0.62 (0.24-0.98)	0.68 (0.22-1.14)	0.52 (0.27-0.77)
Republican	10	1.04 (0.32-1.76)	1.26 (0.60-1.92)	1.27 (0.92-1.61)
Southeast	14	1.94 (1.50-2.38)	1.55 (1.12-1.98)	1.31 (1.01-1.62)
West Platte	12	0.56 (0.24-0.87)	0.66 (0.31-1.01)	0.80 (0.43-1.17)
Statewide	55	1.03 (0.78-1.27)	1.03 (0.82-1.24)	0.97 (0.81-1.13)

Table 2. Percent change in the mean number of calling males heard during the 2023 bobwhite whistle count survey from 2021 and the 5-year mean, by bobwhite management zone (Figure 1).

Zone	Percent Difference from:	
	2022 Mean	2018-2022 Mean
East Central	-4	31
North Central	-46	-31
Northeast	-9	19
Republican	-17	-18
Southeast	25	48
West Platte	-15	-30
Statewide	0	6

Figure 1. Bobwhite management zones.

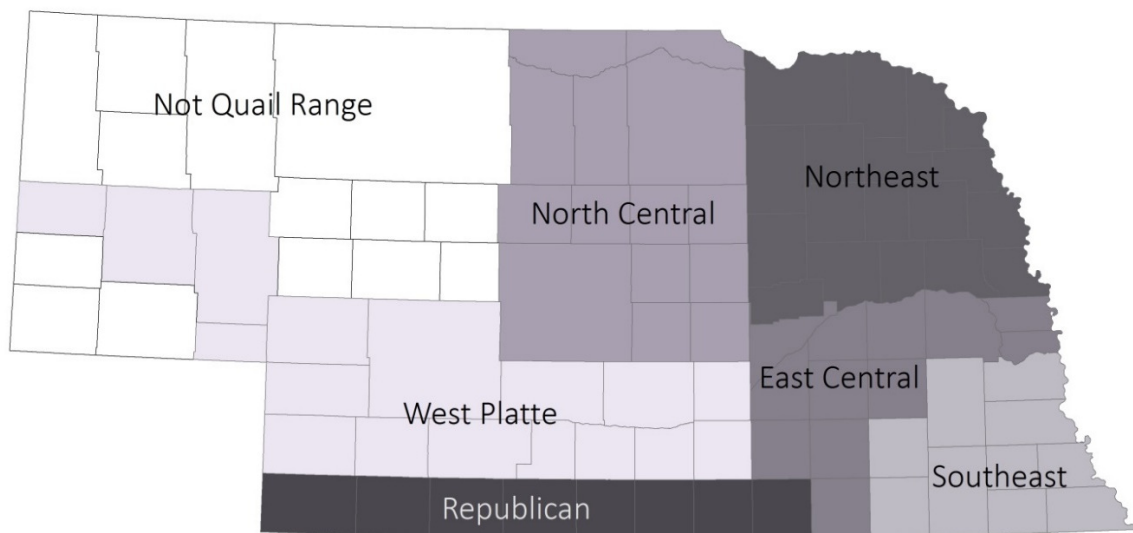
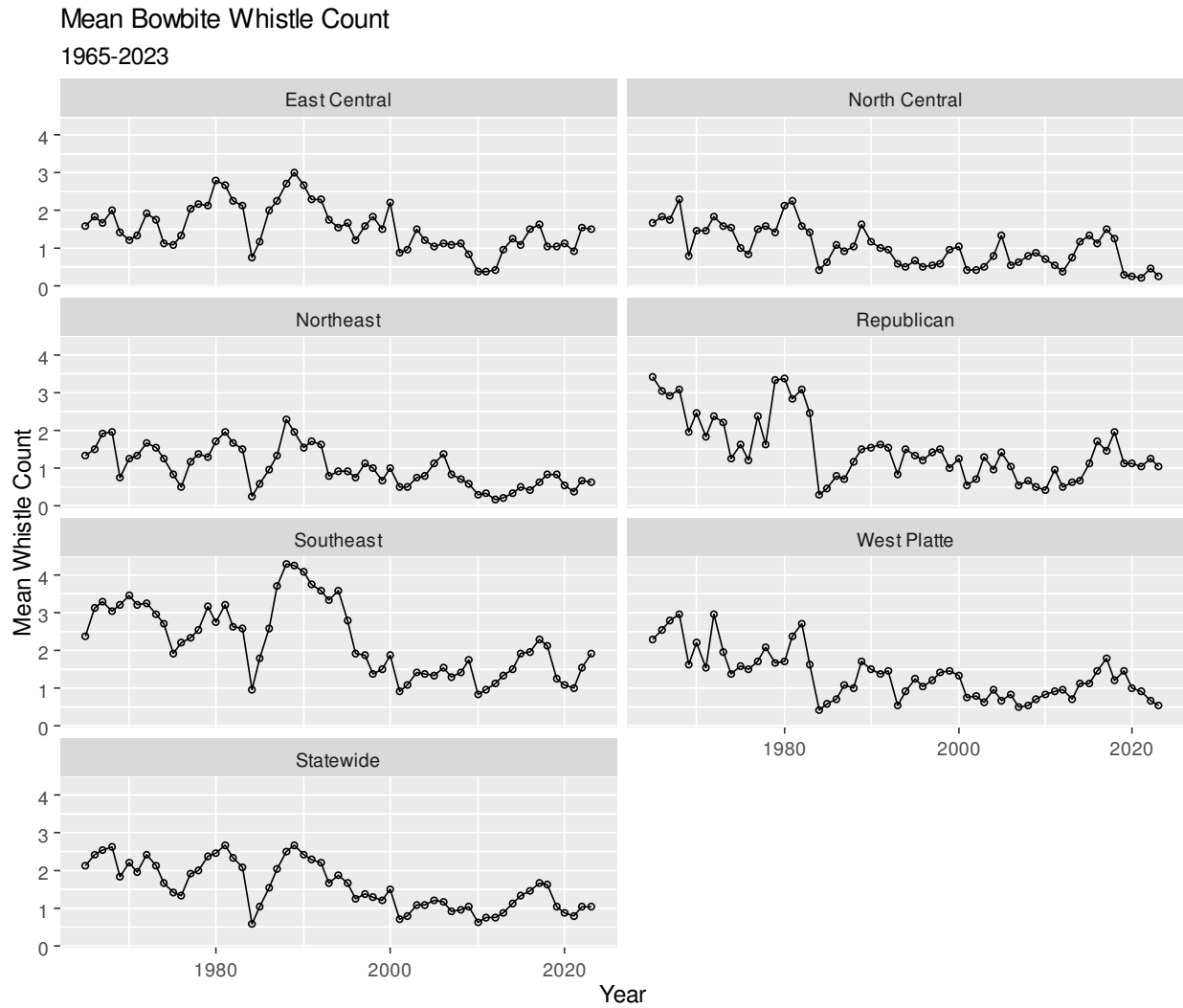


Figure 2. Time series (1965-2023) of the mean number of calling bobwhites heard per stop during the whistle count survey, by bobwhite management zone (Figure 1).



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