Ohio Department of Natural Resources
DIVISION OF WILDLIFE

# RING-NECKED PHEASANT POPULATION STATUS REPORT

October 2025


## Summary

Annual roadside crow-count surveys are used to estimate Ohio's ring-necked pheasant (hereafter pheasant) population. Survey results over the past five years indicate the pheasant population has remained stable within the surveyed area. In 2025, survey results estimated a spring population density of 0.27 male pheasants/km$^2$ (0.11 male pheasants/mile$^2$; 95% confidence interval [CI]: 0.19–0.39 male pheasants/km$^2$) within the sampled region. The estimated population of pheasants within the sampled survey blocks was 1,108 pheasants (95% CI: 772–1,591 pheasants), assuming a 1:1 sex ratio.


## Introduction

Pheasants were first introduced into Ohio in the 1880s and 1890s. Populations were considered established by 1916. Pheasant populations in Ohio peaked in the 1930s and 1940s at an estimated population of 5 million birds with nearly statewide distribution (Leedy 1987). Pheasant populations have declined steadily, with breeding bird surveys indicating a 5.3% decrease each year from 1966–2022 (Sauer et al. 2023). *The Second Atlas of Breeding Birds in Ohio* estimated a statewide population of 35,000 (Rodewald et al. 2016). Changes in agricultural practice and land use have likely led to pheasant population declines in Ohio and throughout the Midwest.

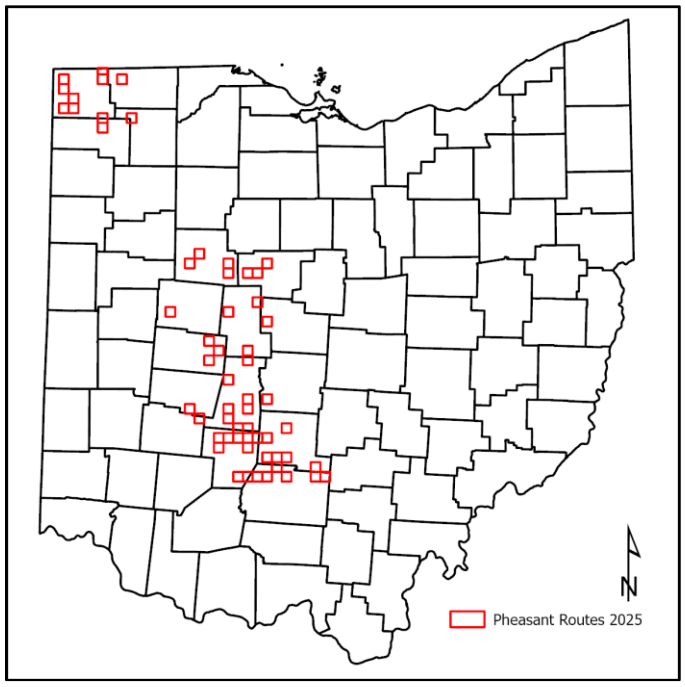


**Figure 1**. Completed ring-necked pheasant survey blocks in 2025. Each block has 6 survey stops. A total of 342 stops were completed.

## Methods

Staff from the Division of Wildlife completed 57 roadside survey routes throughout central and northwestern Ohio in 2025 (Figure 1). Routes were randomly selected and consisted of six survey stops each and were conducted from April 1 to May 5. Staff recorded any pheasants seen or heard during each of the four-minute surveys and estimated the distance to each bird.

To estimate the spring population density and abundance, Ohio Division of Wildlife staff used distance sampling, implemented in the Distance package for R, version 4.3.3 (Buckland et al. 2001, Miller et al. 2019, R Core Team 2024). We fit hazard rate, half-normal, and uniform detection keys and cosine adjustments. We truncated the farthest 10% of observations, following distance sampling protocols, to obtain a better model fit (Buckland et al. 2001). Pheasant observations were divided into categories using 113-meter intervals to reduce the effects of error bias (i.e., 0–113 m, 114–226 m, etc.). We used Akaike's Information Criterion and model weights to select the top-ranked model. We used a Chi-square test and a visual inspection of the data to assess model goodness-of-fit. Almost all pheasant observations were of crowing males; therefore, population estimates were doubled, assuming there is a 1:1 sex ratio in the population.

## Results and Discussion

In 2025, there were a total of 88 male pheasants detected at 342 route stops, for an index of 0.26 pheasants/stop. The annual population index was similar to 2024, where a total of 122 pheasants were detected at 414 route stops in 2024, for an index of 0.29 pheasants/stop. Pheasants were most abundant on routes in south-central Ohio and northwestern Ohio (Figure 2).

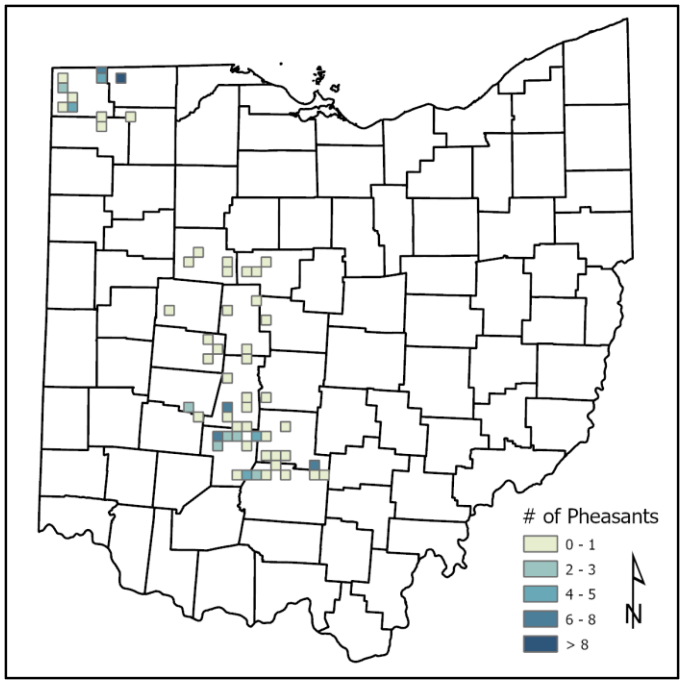


**Figure 2.** Number of pheasants detected on each route conducted in 2025.

There were an estimated 0.27 male pheasants/km$^2$ (0.11 male pheasants/sq mile; 95% CI: 0.19–0.39 male pheasants/km$^2$; Fig. 3) within the sampled area in the spring of 2025. Each survey block is 6 km x 6 km (36 sq km). We completed 57 survey routes, covering 2,052 square kilometers (792.3 square miles). Extrapolating the spring density estimate yields 554 male pheasants (95% CI: 386–796 male pheasants). If a 1:1 sex ratio is assumed, the estimated spring pheasant population in the sampled blocks was 1,108 pheasants (95% CI: 772–1,591 pheasants).

In the spring of 2024, the same area had an estimated density of 0.39 male pheasants/km$^2$ (95% CI: 0.26–0.58 male pheasants/km$^2$). Extrapolating the estimated density to the survey blocks yielded a spring population estimate of 794 male pheasants (95% CI: 531–1,188) in 2024. Assuming a 1:1 sex ratio generates an estimated 1,587 pheasants (95% CI: 772–2,376 pheasants) in 2024. The 5-year average density in spring was 0.37 male pheasants/km$^2$ (95% CI: 0.24–0.57 male pheasants/km$^2$). From 2020–2025, Ohio's pheasant population appears to be relatively stable within the core survey blocks, with minor annual fluctuations (Fig. 2).

While density estimates provide a useful metric for monitoring populations, we caution the broad extrapolation of these density estimates beyond the survey blocks. Pheasant density is extremely variable across the pheasant range in Ohio and throughout the Midwest. We believe that these

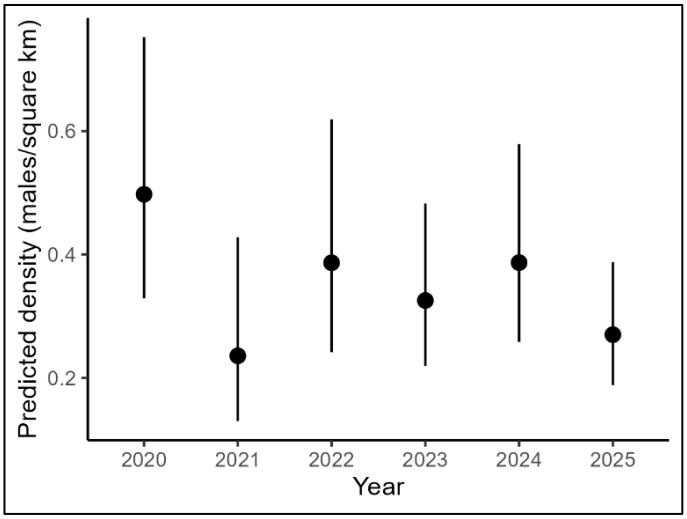


**Figure 3.** Estimated density of male pheasants within the 69 surveyed blocks from 2020-2025 in central and northwestern Ohio.

density estimates are best suited for the sampled survey blocks. There was no data collected for other sections of Ohio; therefore, these density estimates are not suitable for reliably estimating abundance in other parts of the state. Survey efforts prior to 2022 in other areas of the state suggest that pheasant populations outside of current survey blocks are below levels detectable by Ohio Division of Wildlife standardized surveys. Additionally, density estimates are not necessarily surrogates of habitat quality (Van Horne 1983, Vickery et al. 1992).

Directing efforts to improve and establish pheasant habitat in regions with existing wild pheasant populations in Ohio will likely yield the best results. Fields with sufficient grass cover provide suitable nesting habitats. Grassland with bare ground and abundant forbs (i.e., wildflowers) offer cover for brooding females. Positioning brood cover near nesting sites will likely enhance chick survival.

Previous work suggests that approximately 15% of a township needs to be within grassland cover to maintain pheasant populations (ODW 2021). Pheasants reach maximum abundance when the landscape is composed of 50% primarily undisturbed grassland and 50% cropland. These figures provide loose targets for enhancing landscapes with established pheasant populations and adjacent areas surrounding occupied areas of the state.

**References**

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