

NWTF Technical Committee Standardized Brood Survey Analysis

Delaware 2026

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September 03, 2026

INTRODUCTION

This document summarizes the results of analyzing your state's wild turkey brood survey data for 2026 according to a standardized protocol (National Wild Turkey Federation Technical Committee 2019). The purpose of the standardized survey was to facilitate comparisons of turkey productivity metrics across states and regions (Danks et al. 2025).

METHODS

Data filtering

Observations meeting any of the following criteria were not included in the analysis:

- Observations in which $\geq 25\%$ of turkeys are marked as unidentified
- Observations of ≥ 8 hens with 0 poults
- Observations of poults with 0 hens
- Observations of ≥ 1 poult and ≥ 1 hen in which the ratio of poults to hens is ≥ 16 (or hens to poults is ≤ 0.0625)
- Observations of turkeys believed to have been recorded before
- Observations of 0 turkeys
- Observations outside of the 1 July - 31 August survey window

Data analysis

The following metrics were calculated at statewide and state-specific regional scales, if applicable (e.g., turkey productivity regions, wildlife management units):

- Total number of hens, poults, males, and unidentified turkeys observed during the survey
- Poult-per-hen ratio (PPH)
- Poults-per-brood (PPB)
- Proportion of hens observed in association with a brood (PHWB)

- Ratio of male to female turkeys

Estimates for these metrics included sample sizes used in the calculations, sample means, and standard errors (SE) and 95% confidence intervals (CI) estimated by bootstrapping (Fieberg et al. 2020).

RESULTS

Data filtering

- The number of observations in the dataset before filtering: 376
- The number of observations in the dataset after filtering: 297
- The number of observations removed by filtering: 79

Table 1. Total number and percentage of observations removed before the analysis for each of the standardized protocol filtering criteria. Note that 7 criteria x 79 observations removed means 553 possible observation-criterion combinations.

Filter	Number	Percent
≥25% of turkeys marked as unidentified	76	93.8
poults but no hens	3	3.7
no turkeys	1	1.2
≥8 hens with no poults	1	1.2
number of instances worthy of filtering	81	100.0
number of unique observations filtered	79	

Table 2. Total number of hens, poults, males, and unknown (unidentified age or sex class) turkeys – recorded BEFORE filtering – in each region and at the statewide scale.

region	hens	poults	males	unknown	total
Statewide	578	709	221	301	1,809

Data analysis

Table 3. Total number of hens, poult, males, and unknown (unidentified age or sex class) turkeys observed during the survey – AFTER filtering – in each region and at the statewide scale.

region	hens	poult	males	unknown	total
Statewide	506	582	199	18	1,305

Table 4. Poult-per-hen (PPH) ratios & 95% CIs, standard deviations, and sample sizes for each region and at the statewide scale.

region	PPH	2.5%	97.5%	SE	n
Statewide	1.27	1.03	1.51	0.12	256

Table 5. Poults-per-brood (PPB) ratios & 95% CIs, standard deviations, and sample sizes for each region and at the statewide scale.

region	PPB	2.5%	97.5%	SE	n
Statewide	2.95	2.62	3.27	0.17	111

Table 6. Proportion of hens observed in association with a brood (PHWB) for each region and at the statewide scale.

region	PHWB	2.5%	97.5%	SE	n
Statewide	0.44	0.37	0.52	0.04	256

Table 7. Male to female ratio for each region and at the statewide scale:

region	MF	2.5%	97.5%	SE	n
Statewide	0.39	0.30	0.51	0.05	297

Productivity trends

Figure 1. Poults-per-hen (PPH) productivity metric across years of participation in the standardized survey.

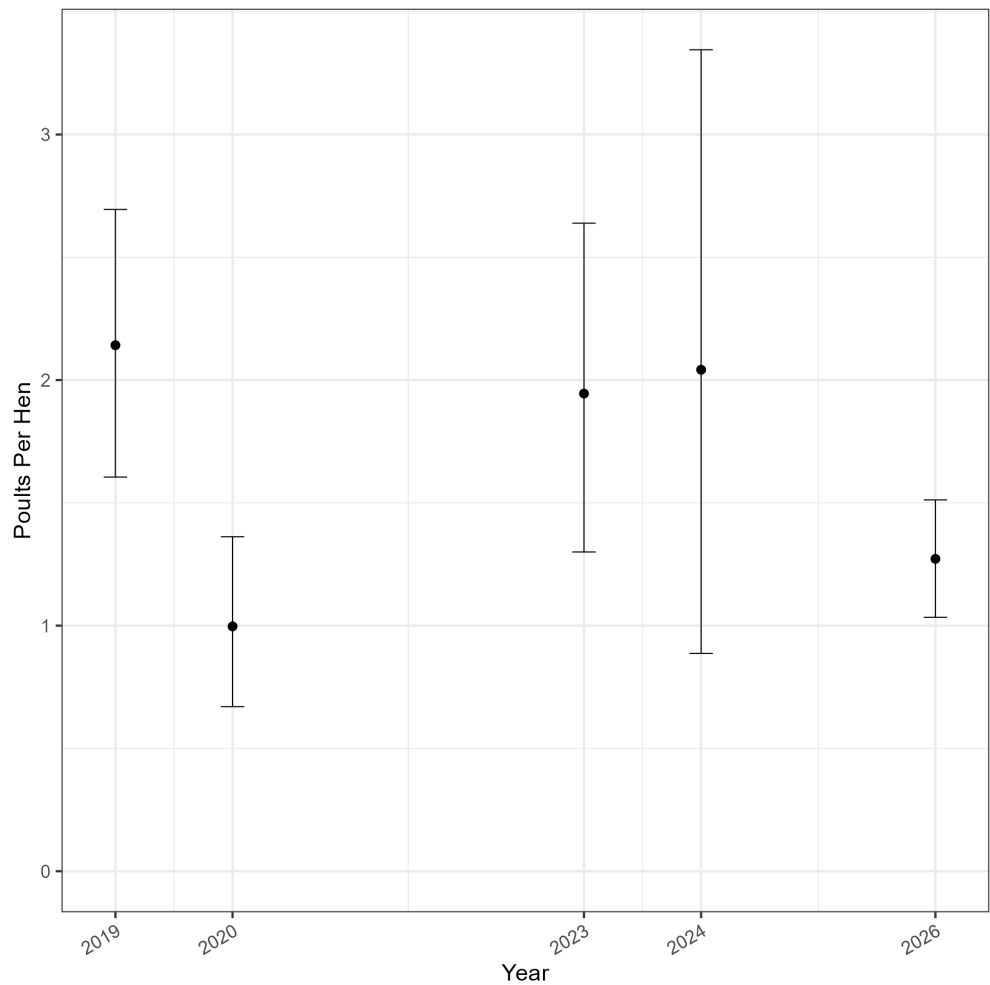


Figure 2. *Poult*s-per-brood (PPB) productivity metric across years of participation in the standardized survey.

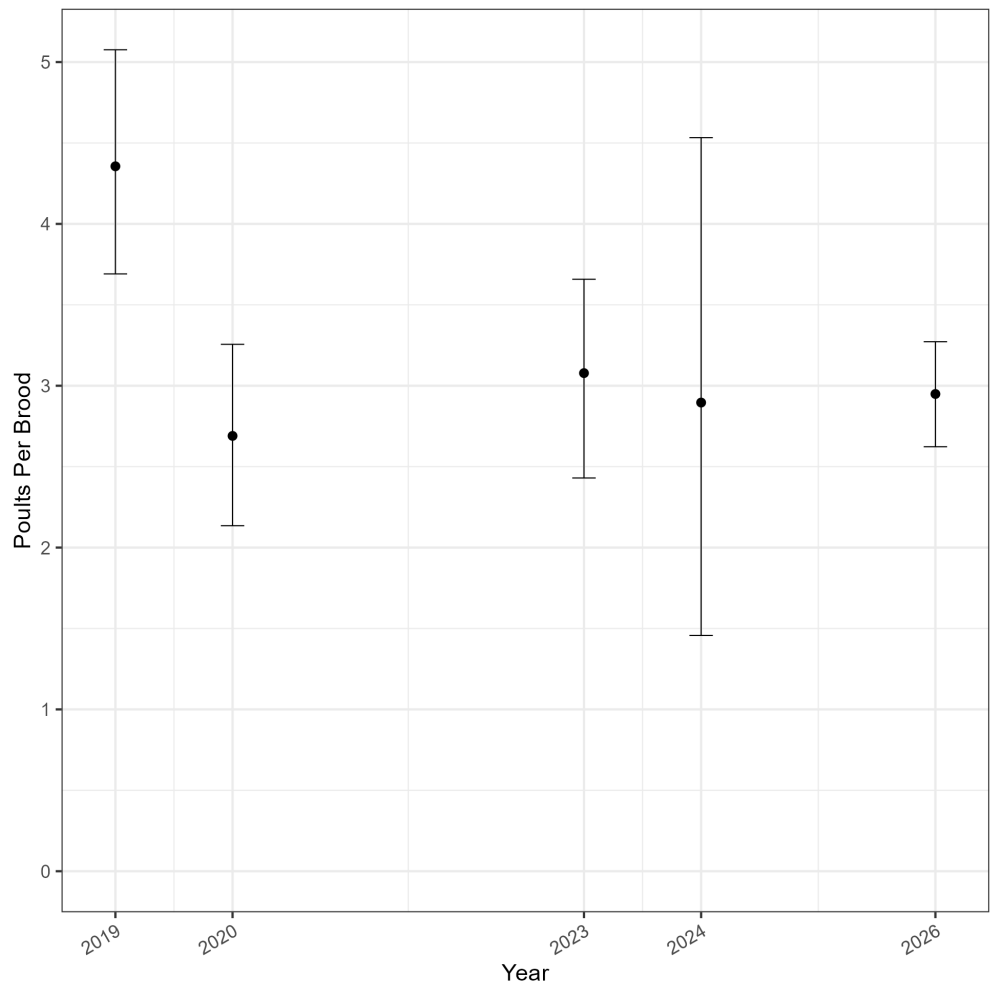


Figure 3. Proportion of hens with a brood (PHWB) productivity metric across years of participation in the standardized survey.

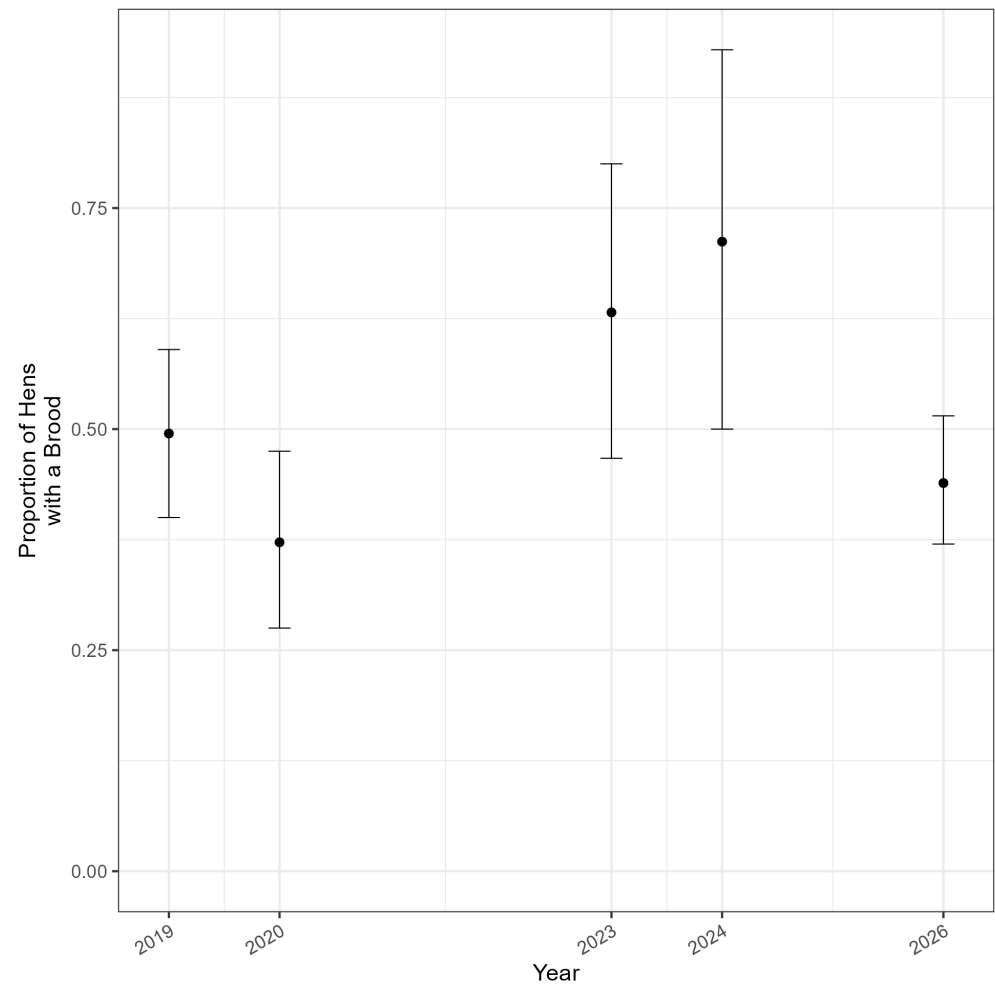
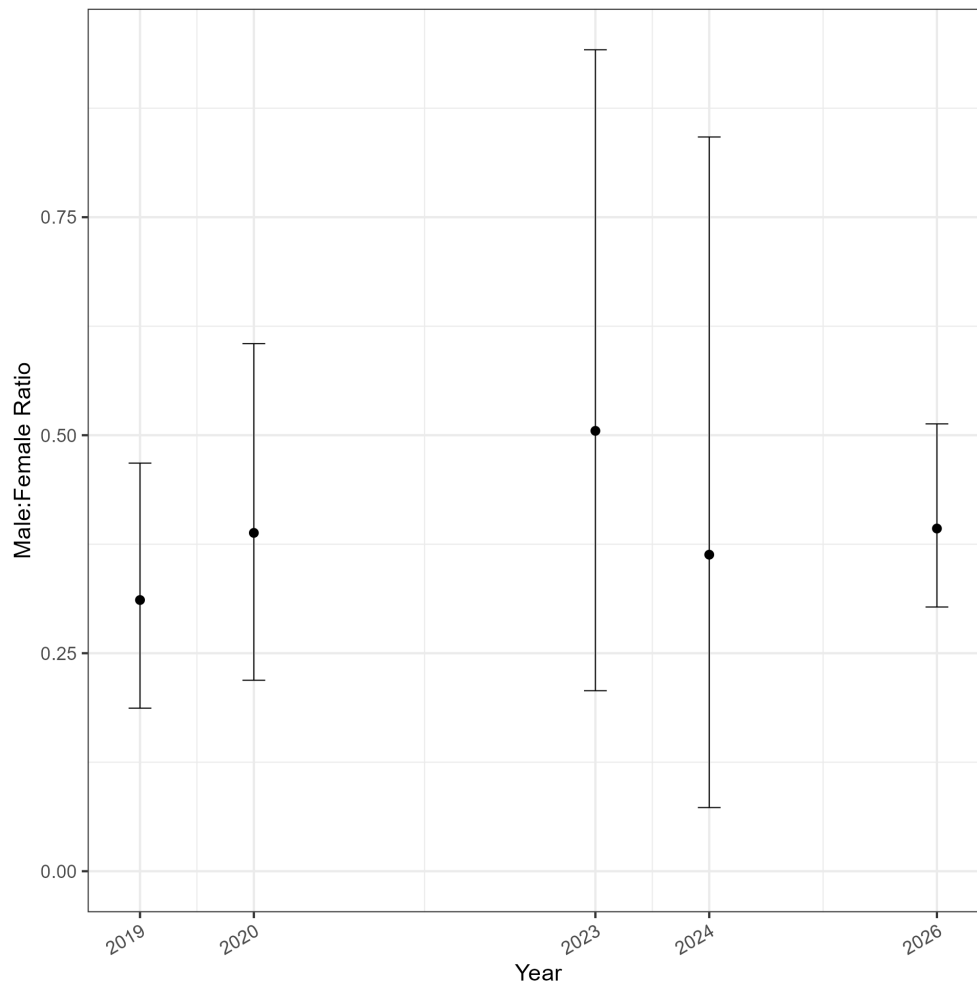


Figure 4. Male-to-female ratio productivity metric across years of participation in the standardized survey.



REFERENCES

- Danks, Z. D., R. M. Tyl, R. D. Shields, M. Muthersbaugh, J. B. Hardin, L. Garver, M. J. Casalena, and J. Coffey. 2025. A national standardized wild turkey brood survey: The first 6 years. *Wildlife Society Bulletin* 49(S1):e1641. <https://doi.org/10.1002/wsb.1641>
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