

2021 Missouri Wild Turkey Brood Survey Results

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The Missouri Department of Conservation (MDC) has conducted a wild turkey brood survey annually since 1959. During the survey, MDC staff and citizen volunteers record turkey observations during June, July, and August to determine the success of the hatch. Data are collected at the county level and reported statewide and by Turkey Productivity Region, which are counties grouped by similar land cover composition (Figure 1). Each year, hundreds of staff and thousands of citizens participate in the survey, and we are grateful for their contribution. I would also like to thank those staff involved with distributing survey cards and entering the thousands of turkey observations obtained during the survey. The turkey brood survey provides important information for the Conservation Department's Wild Turkey Management Program, and the large dataset we have obtained since the survey was initiated would not have been possible without the dedication of staff and our citizen volunteers.

In 2021, MDC staff and citizen volunteers recorded observations of over 75,000 turkeys during the three-month survey. The 2021 statewide poult-to-hen ratio (PHR) was 1.0, which was the same as the 2020 PHR and 11% greater than the previous five-year average (Figure 1, Figure 2, Table 1). However, this year's PHR was 17% lower than the 10-year average and 23% lower than the 20-year average (Table 1). Regional PHRs in 2021 ranged from 0.7 in the West Prairie Region to 2.4 in the Mississippi Lowlands Region (Table 1). Compared to the five-year averages, production in 2021 was greater in the Lindley Breaks, Mississippi Lowlands, Northwest, Ozark Border, Ozarks East, Ozarks West, and Union Breaks Regions but lower in the

Northeast Region (Table 1). Production in the West Prairie Region was equal to the five-year average for that region (Table 1).

At the statewide scale, 40% of hens were observed with a brood, which was up from 38% in 2020 and was 22% greater than the 5-year average (Table 2). The percentage of hens observed with a brood ranged from 31% in the West Prairie Region to 64% in the Mississippi Lowlands Region (Table 2). Statewide, the average number of poult per brood was 4.0, which was up from 3.8 in 2020 and 9% greater than the five-year average (Table 2). The average number of poult per brood ranged from 3.5 in the West Prairie Region to 5.1 in the Mississippi Lowlands Region (Table 2).

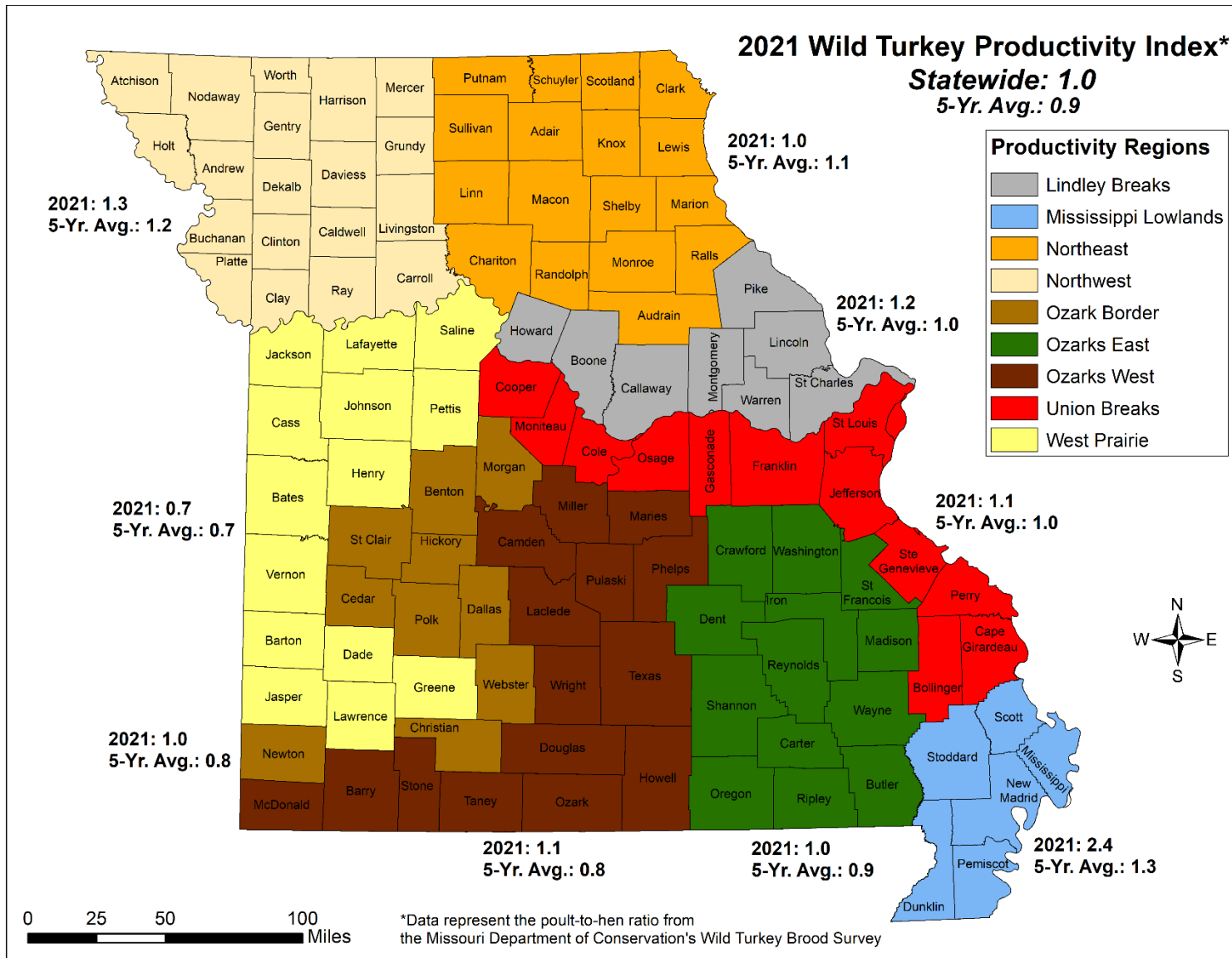


Figure 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the Conservation Department's 2021 Wild Turkey Brood Survey and are compared to the previous five-year averages.

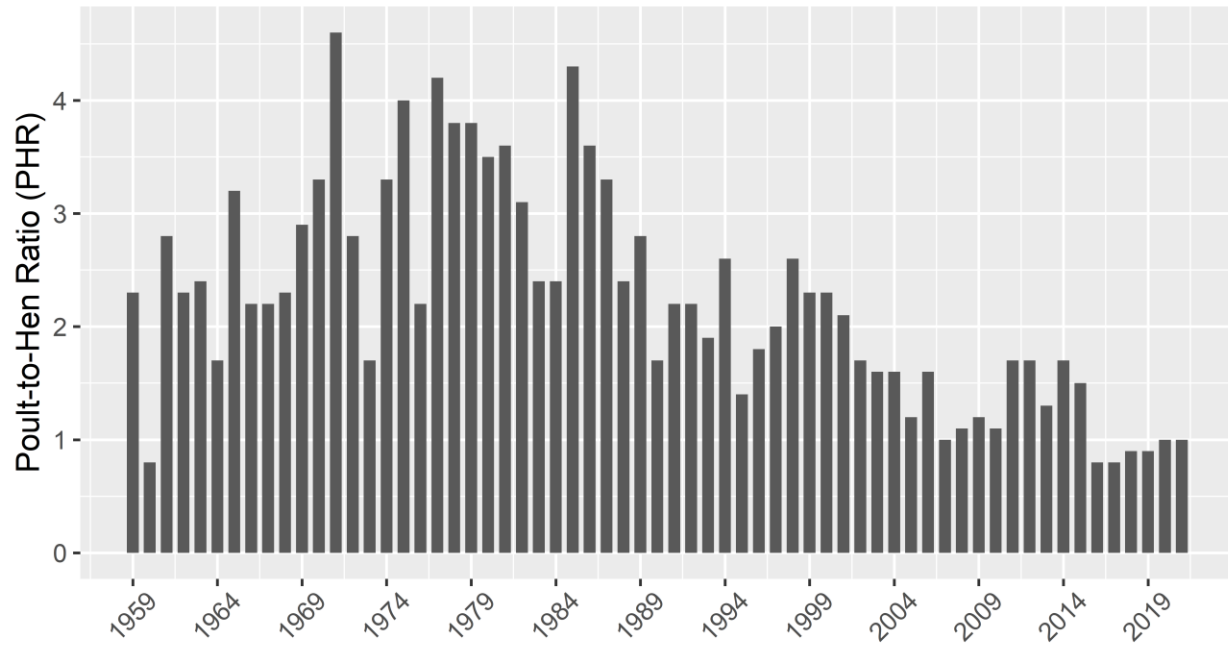


Figure 2. Statewide wild turkey productivity index (poult-to-hen ratio) in Missouri based on observations during the Conservation Department’s Wild Turkey Brood Survey, 1959-2021.

Table 1. Index (poult-to-hen ratio) of Missouri turkey production by Turkey Productivity Region (Figure 2). Data were obtained during the 2021 Wild Turkey Brood Survey and are compared to previous years. For each interval value, the percent change indicates how the 2021 index compares to the previous year or the average for periodic intervals.

Productivity Region	2021 Index	1-Year (2020) Change	5-Year (2016-2020) Change	10-Year (2011-2020) Change	20-Year (2001-2020) Change
Lindley Breaks	1.2	9%	20%	-8%	-14%
MS Lowlands	2.4	118%	85%	71%	20%
Northeast	1.0	-29%	-9%	-29%	-23%
Northwest	1.3	-7%	8%	-7%	-7%
Ozark Border	1.0	43%	25%	-9%	-17%
Ozarks East	1.0	No Change	11%	-33%	-38%
Ozarks West	1.1	57%	38%	No Change	-15%
Union Breaks	1.1	-8%	10%	-8%	-21%
West Prairie	0.7	No Change	No Change	-30%	-36%
Statewide	1.0	No Change	11%	-17%	-23%

^aStatewide totals include observations where Productivity Region was not recorded on the survey form.

Table 2. Wild Turkey Brood Survey data by Turkey Productivity Region (Figure 2). Data were obtained from Missouri's Wild Turkey Brood Survey conducted in June, July, and August, 2021.

Productivity Region	% Hens w/ Brood	Average Brood Size	Poult-to- Hen Ratio	Gobbler-to- Hen Ratio
Lindley Breaks	48%	4.0	1.2	0.8
MS Lowlands	64%	5.1	2.4	1.3
Northeast	33%	4.0	1.0	0.6
Northwest	36%	4.6	1.3	0.8
Ozark Border	36%	3.9	1.0	0.8
Ozarks East	37%	3.8	1.0	0.5
Ozarks West	44%	4.1	1.1	0.6
Union Breaks	42%	3.9	1.1	0.5
West Prairie	31%	3.5	0.7	0.9
Statewide	40%	4.0	1.0	0.7

^aStatewide totals include observations where Productivity Region was not recorded on the survey form.