

2019 Missouri Wild Turkey Brood Survey Results

Reina M. Tyl – Resource Scientist
Missouri Department of Conservation

18 October 2019

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.

The 2019 statewide poult-to-hen ratio (PHR) was 0.9, which was equal to the 2018 ratio and 21% less than the previous five-year average (Figure 2, Table 1). This year's PHR was 29% less than the 10-year average and 38% less than the 20-year average (Table 1). Regional PHRs in 2019 ranged from 0.7 in the Ozark Border Region to 1.7 in the Mississippi Lowlands Region (Figure 1, Table 1). Compared to the five-year averages, production in 2019 was higher in the

Mississippi Lowlands Region and lower in the remaining regions (Table 1).

At the statewide scale, 34% of hens were observed with a brood, which was down from 36% in 2018 and was 13% less than the 5-year average (Table 2). The percentage of hens observed with a brood ranged from 25% in the Northeast Region to 57% in the Mississippi Lowlands Region (Table 2). Statewide, the average number of poults per brood was 3.7, which was down from 3.8 in 2018 and 7% less than the five-year average (Table 2). The average number of poults per brood ranged from 3.3 in the West Prairie Region to 4.4 in the Mississippi Lowlands Region (Table 2).

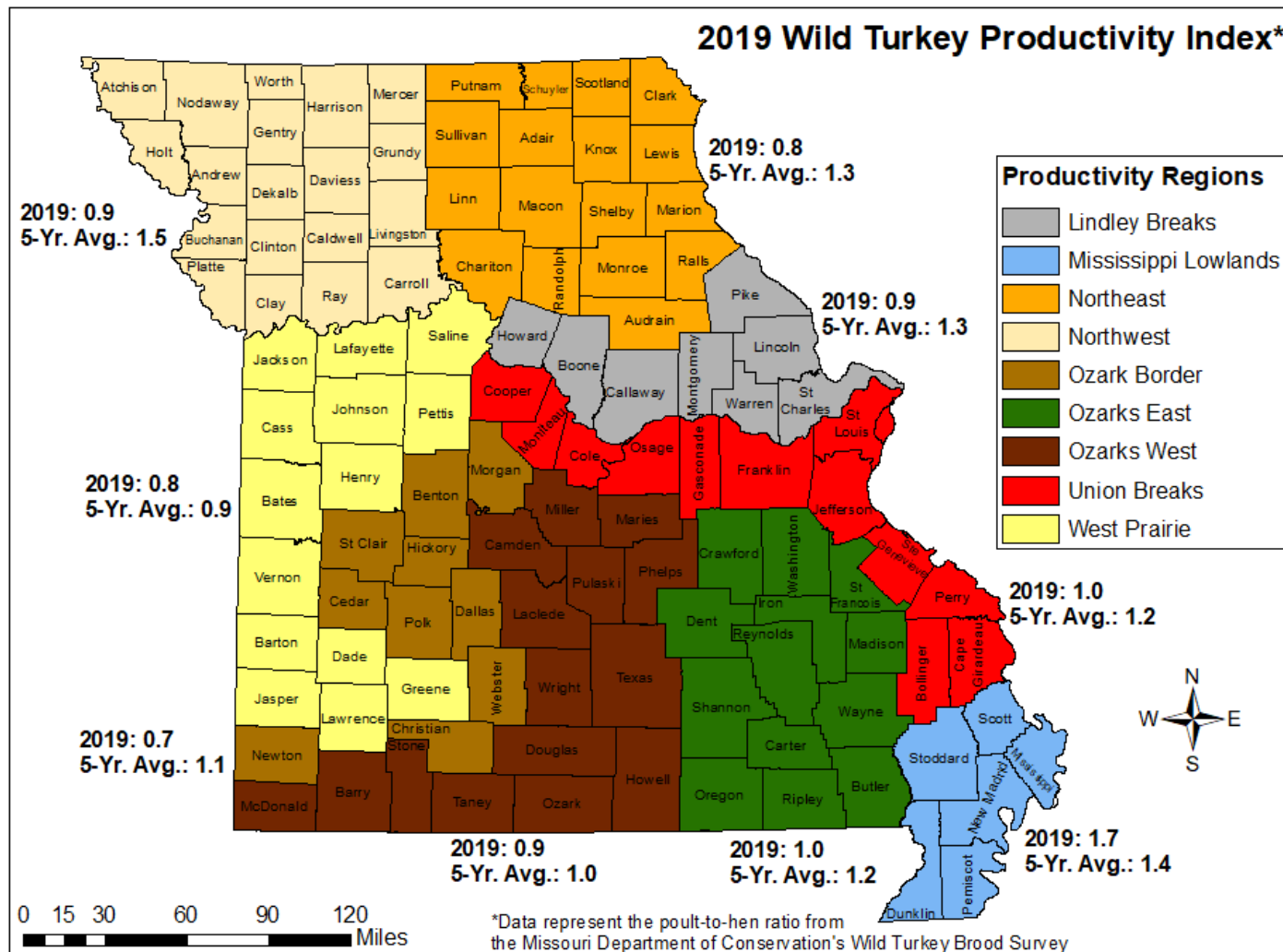


Figure 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the Conservation Department's 2019 Wild Turkey Brood Survey and are compared to the previous five-year averages.

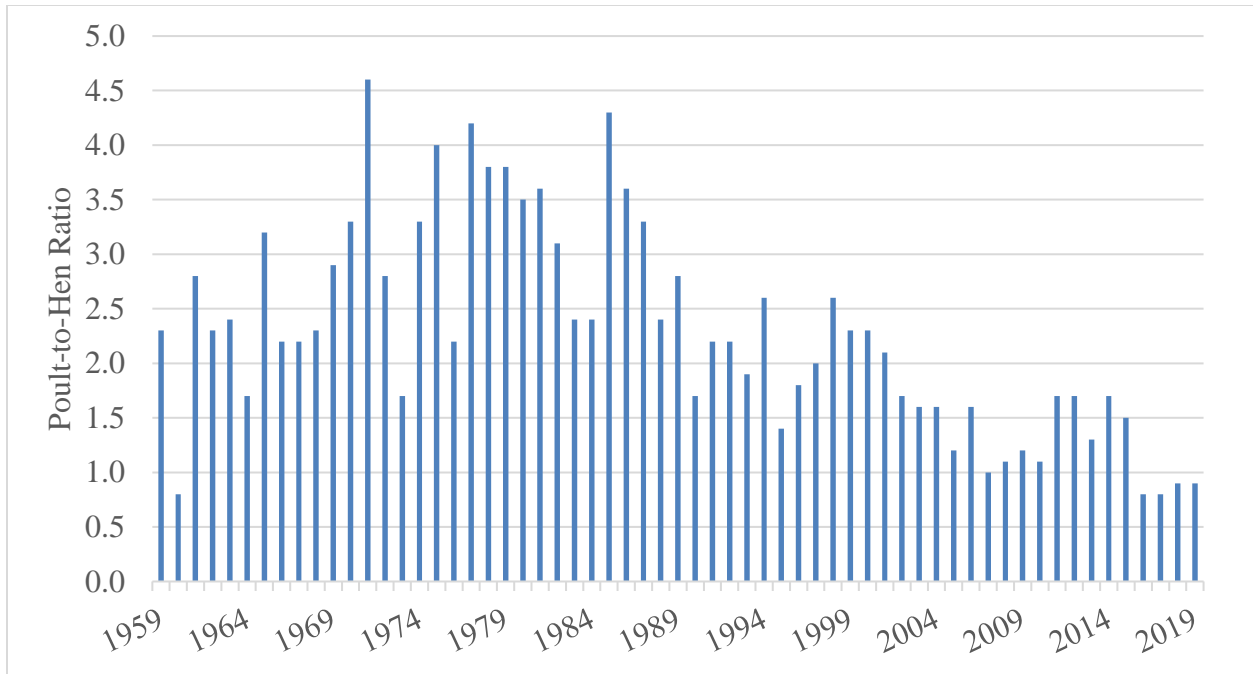


Figure 2. Statewide wild turkey productivity index (poult-to-hen ratio) in Missouri based on observations during the Conservation Department’s Wild Turkey Brood Survey, 1959–2019.

Table 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the Conservation Department’s Wild Turkey Brood Survey in 2019 and are compared to the previous year and the average for periodic intervals.

Productivity Region	2019 Index	1-Year (2018) Change	5-Year (2014-2018) Change	10-Year (2009-2018) Change	20-Year (1999-2018) Change
Lindley Breaks	0.9	-31%	-28%	-35%	-43%
MS Lowlands	1.7	+42%	+25%	+12%	-21%
Northeast	0.8	-38%	-37%	-40%	-45%
Northwest	0.9	-36%	-38%	-34%	-41%
Ozark Border	0.7	-13%	-35%	-39%	-50%
Ozarks East	1.0	+25%	-19%	-35%	-41%
Ozarks West	0.9	+29%	-11%	-25%	-36%
Union Breaks	1.0	+11%	-14%	-20%	-31%
West Prairie	0.8	No Change	-15%	-26%	-36%
Statewide	0.9	No Change	-21%	-29%	-38%

Table 2. Data obtained during the Missouri Department of Conservation’s Wild Turkey Brood Survey, listed by Turkey Productivity Region (Figure 1), 2019.

Productivity Region	% Hens w/ Brood	Average Brood Size	Poult-to-Hen Ratio	Gobbler-to-Hen Ratio
Lindley Breaks	36%	3.5	0.9	0.6
MS Lowlands	57%	4.4	1.7	0.6
Northeast	25%	3.8	0.8	0.8
Northwest	33%	3.8	0.9	0.8
Ozark Border	28%	4.1	0.7	0.7
Ozarks East	37%	3.6	1.0	0.5
Ozarks West	35%	4.0	0.9	0.6
Union Breaks	39%	3.7	1.0	0.6
West Prairie	31%	3.3	0.8	0.9
Statewide	34%	3.7	0.9	0.7