

**GEORGE CLARK MISSOURI STATE CHAPTER OF THE NATIONAL WILD
TURKEY FEDERATION**

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2017 SPRING TURKEY SEASON SUMMARY

During the youth spring turkey season, hunters harvested 4,060 turkeys. This harvest total was 2% less than the 2016 youth season harvest and 4% below the previous 5-year average. Hunters harvested 39,239 turkeys during the 21-day regular spring season bringing the total 2017 spring harvest to 43,343 (Figure 1). This year’s total spring harvest was 10% less than last year’s harvest and 8% below the previous 5-year average. Counties with the highest total spring harvest were Franklin, Texas, and Callaway, where 1,053, 907, and 789 turkeys were harvested, respectively (Figure 2).

Total permit sales for the 2017 spring turkey season (101,213; excluding no-cost landowner permits) were 6% less than in 2016 and 7% less than the previous five-year average (Figure 1). Spring turkey permit sales in 2017 included 93,063 (92%) resident permits and 8,150 (8%) nonresident permits. An additional 41,387 no-cost permits were distributed to landowners. The total number of spring turkey hunters in Missouri in 2017 was 137,050. The number of spring turkey hunters in 2017 was 5% less than in 2016 and 7% less than the previous five-year average. Note that the total number of hunters does not equal the permit sales total because some hunters purchase a permit in addition to receiving a no-cost landowner permit.

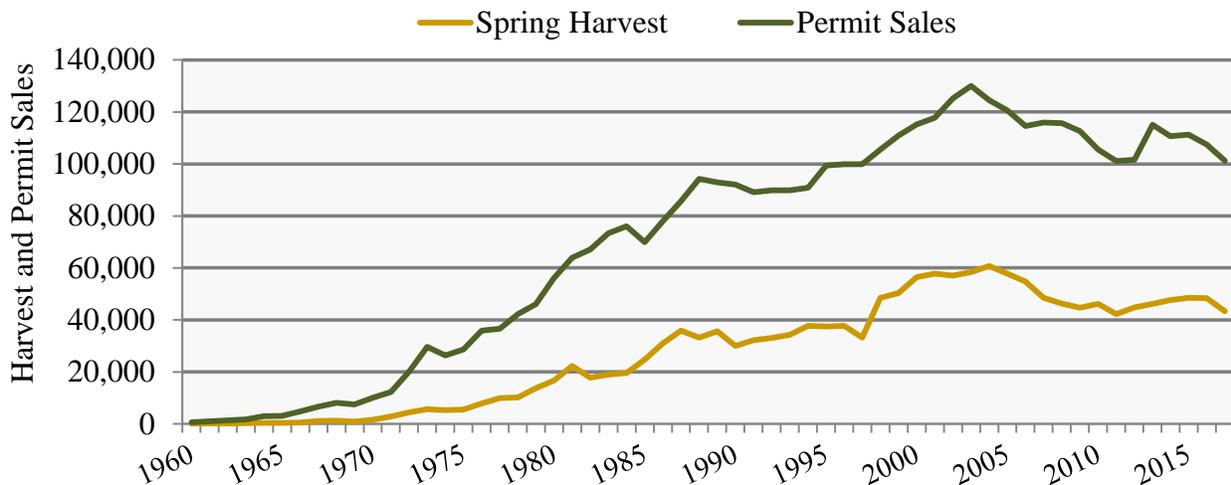


Figure 1. Number of wild turkeys harvested during the spring season (youth and regular seasons) in Missouri, and the number of turkey hunting permits sold for the spring season, 1960-2017. Permit sales do not include no-cost landowner permits.

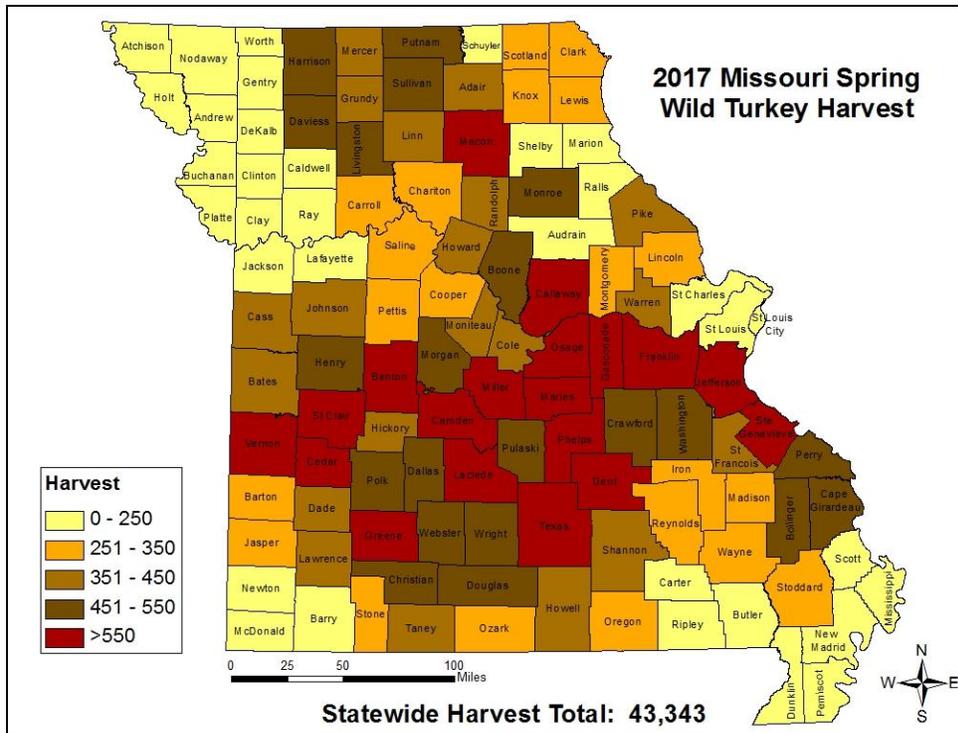


Figure 2. Total spring wild turkey harvest in Missouri, 2017.

NORTHEAST MISSOURI WILD TURKEY RESEARCH PROJECT UPDATE

In 2013, the MDC began a five-year wild turkey research project in north Missouri in partnership with the University of Missouri, University of Washington, and the National Wild Turkey Federation (NWTF). The study is being conducted in Putnam, Schuyler, Monroe, and Marion Counties. Funding for the project is provided by the MDC and grants from the U.S. Fish and Wildlife Service’s Wildlife Restoration Program and the George Clark Missouri State Chapter of the NWTF. The research project will provide information that will be used by the Conservation Department’s Wild Turkey Management Program to monitor the turkey population and assist with making decisions about hunting regulations. The Conservation Department uses a science-based approach to manage the state’s wild turkey population and this research project is just one of the many ways that the Conservation Department obtains the information used in its program.

The goal of the research project is to develop population models, which will provide annual estimates of turkey population size, survival rates, harvest rates (percentage of the population shot by hunters), recruitment (number of young produced that enter the population), and the growth rate of the turkey population. A computer software program will also be developed to facilitate use of the population models. Researchers will be capturing and radio-tracking turkeys throughout the four-county study area. During trapping efforts, all turkeys are released in the same fields where they are captured. The field-based portion of the research project will provide

the Conservation Department with estimates of seasonal and annual survival for adult gobblers, jakes, and hens, as well as harvest rate estimates during the spring and fall hunting seasons.

Fitting wild turkeys with radio-transmitters will allow researchers to track the birds and determine survival throughout the year in addition to identifying the various sources of mortality. Of central importance will be determining what percentage of adult gobblers and jakes are harvested during the spring hunting season. To allow harvest rates to be estimated, a toll-free phone number has been inscribed on each turkey band. Should a hunter happen to shoot a banded turkey, in addition to reporting their bird through the Telecheck system, the Conservation Department asks that they call the toll-free number on the band. The information gained from band returns is critically important to the success of the project.

In addition to determining the percentage of adult gobblers and jakes that are harvested during the spring hunting season, researchers will determine what percentage of banded turkeys are harvested during the fall season. Researchers will also be monitoring hens closely during the nesting and brood-rearing seasons. The study will allow researchers to answer some basic questions about turkey reproduction, including: What proportion of hens attempt to nest each year? Does this differ between adult and juvenile hens? What percentage of hens nest successfully? Of those hens that nest successfully, how many poults that hatch survive? Although previous research projects have shed light on the answers to these questions, brood survey results indicate considerable declines in turkey production since the last turkey research project was conducted in Missouri and having updated information is important to the Conservation Department's Wild Turkey Management Program.

Project Summary

Researchers have captured over 1,300 turkeys during the first four winter field seasons, including 381 males and 985 hens. All males were banded and radio-tagged; 136 hens were banded and radio-tagged, and 849 hens were marked only with bands.

Annual survival rates of radio-tagged hens have ranged from 50–63%. Winter was the season of highest survival during the first (93%) and third (98%) years of the project. During the second year of the project, highest seasonal survival was during spring (89%). Lowest seasonal survival period was summer during years one (84%) and two (78%). During year three, spring was the lowest seasonal survival period (81%).

Annual survival of adult gobblers (39–46%) was lower than that of hens and jakes (68–77%). For adult gobblers, seasonal survival has been greatest in fall (92%) during years one and two, and in winter (98%) during year three. Seasonal survival rates of adult gobblers have been lowest during spring (56–69%). Greatest seasonal survival of jakes has varied from summer (98%) in year one, summer and winter during year two (95%), and fall (100%) in year three. Lowest season survival of jakes has been during spring in years one and three (both 85%) and during fall (89%) in year two.

During the first three years of the project, predation has been the leading cause of death of hens and jakes. Based on evidence at kill sites, coyotes, bobcats, and great-horned owls were suspected of having predated radio-tagged turkeys. Hunter harvest has been the leading cause of death for adult gobblers. During the first four years of the project, the percentage of adult gobblers harvested during the spring season has ranged from 15–31%. Not surprisingly, the percentage of jakes harvested during the spring season has been considerably lower than that of adult gobblers (0–6%).

Researchers were radio-tracking 126 turkeys (38 adult gobblers, 55 jakes, and 33 hens) during the 2014 fall turkey season; an additional 68 hens had been banded the previous winter, but had not been fitted with radio-tags. During the 2014 fall season, three jakes (2% of the radio-tagged turkeys) were harvested. None of the marked hens were harvested. During the 2015 fall turkey season, 131 turkeys (39 adult gobblers, 60 jakes, and 32 hens) were being radio-tracked and an additional 219 hens had been banded the previous winter, but not radio-tagged. Similar to 2014, 2% of the radio-tagged turkeys were harvested during the 2015 fall season. This included one hen and two males (one adult gobbler and one jake). An additional banded hen (not radio-tagged) was also harvested. On opening day of the 2016 fall turkey season, researchers were radio-tracking 126 turkeys (46 adult gobblers, 47 jakes, and 33 hens); an additional 207 hens had been banded the previous winter. During the fall season, one radio-tagged hen was harvested, which was less than one percent of the radio-tagged turkeys. An additional banded hen (not radio-tagged) was also harvested.

Of the hens radio-tracked during the first three years of the project, the median dates of initial nest incubation initiation have ranged from May 7–16. Most radio-tagged adult hens (69–88%) have initiated incubation of at least one nest each year, whereas only 40–60% of juvenile hens initiated incubation on an annual basis. Of the adult hens that failed their initial nesting attempt, 30–60% initiated incubation of a second nest. One-third of juvenile hens have re-nested during the first three years of the study.

During years 1–3, the percentage of hens that have been successful at hatching poults (female success) has ranged from 17–27%. Female success has been greater for adult hens (29%, 24%, 19%) than for juvenile hens (20%, 10%, 0%). Average first nest clutch sizes have been 10, 11, and 11 eggs, respectively. Of the eggs laid in successful nests, 94%, 82%, and 97% have hatched. During the first three years of the project, 47%, 25%, and 15% of hatched poults have survived to be about a month old.

WILD TURKEY MEETINGS

I will be attending the 43rd Southeast Wild Turkey Working Group meeting next week. The meeting will be hosted by the West Virginia Department of Natural Resources. I will also be attending the 41st Midwest Deer and Wild Turkey Study Group meeting the week of August 28. This year's meeting will be hosted by the Iowa Department of Natural Resources.