

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

Board of Directors Meeting – June 12, 2016 – Technical Report

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2016 SPRING TURKEY SEASON SUMMARY

During the youth spring turkey season, which took place April 9-10, hunters harvested 4,167 turkeys. This harvest total was 6% less than the 2015 youth season harvest and 1% less than the previous five-year average. The 2016 youth harvest was the fourth highest on record since the season was initiated in 2001. Hunters harvested 44,187 turkeys during the 21-day regular spring turkey season, which ran from April 18–May 8.

Juvenile male turkeys represented 18% of the regular season harvest, which is 14% less than the previous five-year average. The total 2016 spring harvest, including both the youth and regular seasons, was 48,354. This harvest total was slightly less than the 2015 harvest (48,442) and 5% greater than the previous five-year average (Figure 1). Counties with the highest total spring harvest were Franklin, St. Clair, and Texas, where 1,066, 963, and 934 turkeys were harvested, respectively (Figure 2).

Regional harvest totals were:

Kansas City:	5,826 (+6% from 2015)
Central:	7,798 (+4% from 2015)
St. Louis:	3,890 (+2% from 2015)
Southeast:	4,950 (+1% from 2015)
Northeast:	6,169 (-2% from 2015)
Ozark:	6,331 (-2% from 2015)
Southwest:	7,960 (-4% from 2015)
Northwest:	5,430 (-5% from 2015)

Spring turkey hunting in Missouri is a substantial recreational activity with typically more than 500,000 days spent afield each year. Total permit sales for the 2016 spring turkey season (107,482; excluding no-cost landowner permits) were 3% less than in 2015 and slightly less than the previous five-year average (107,903). Spring turkey permit sales in 2016 included 99,160 (92%) resident permits and 8,322 (8%) nonresident permits. An additional 42,624 no-cost permits were distributed to landowners. The total number of spring turkey hunters in Missouri in 2016 was 144,840. The number of spring turkey hunters in 2016 was 3% less than in 2015 and 1% less than the previous five-year average. Note that the total number of hunters does not equal the permit sales total, as some hunters purchase a permit in addition to receiving a no-cost landowner permit.

Missouri Spring Wild Turkey Harvest and Permit Sales

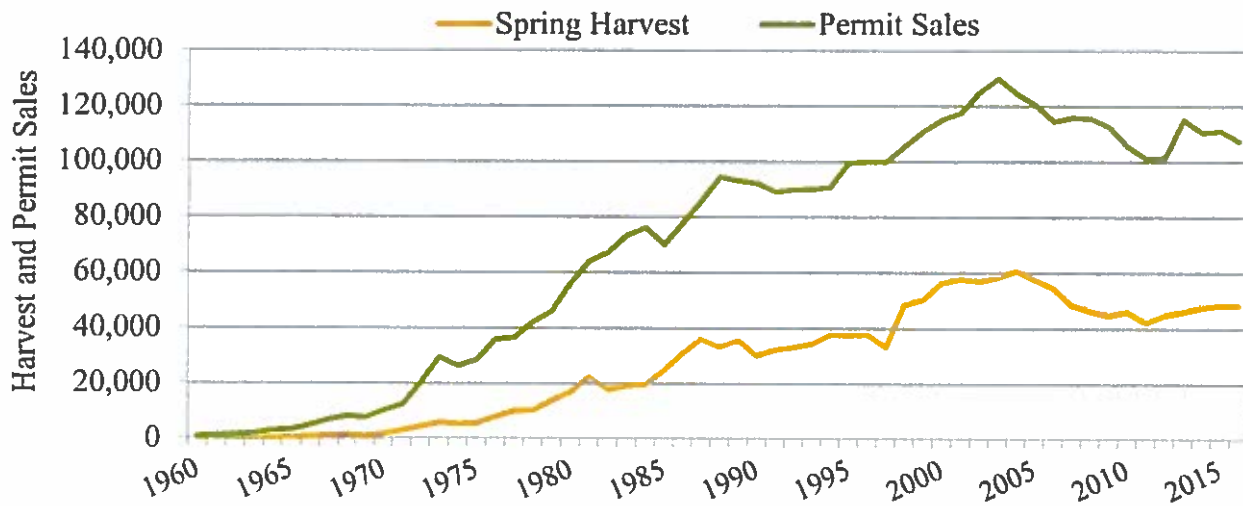


Figure 1. Number of wild turkeys harvested during the spring season (youth and regular seasons) in Missouri, and the number of turkey hunting permits sold for the spring season, 1960-2016. Permit sales do not include no-cost landowner permits.

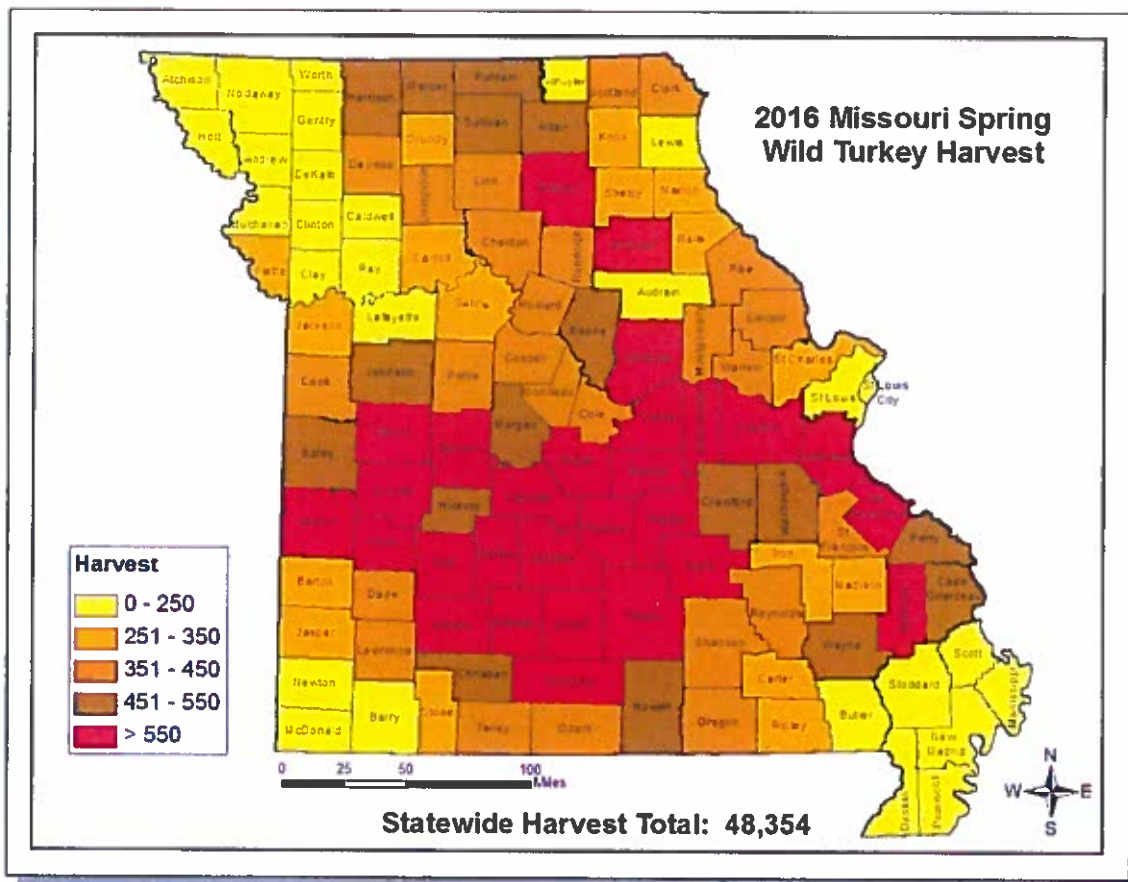


Figure 2. Total spring wild turkey harvest in Missouri, 2016.

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

During the first three winter field seasons of the project, researchers have captured 908 turkeys (261 during year 1, 325 during year 2, and 322 during year 3). This capture total has included 76 adult gobblers, 227 jakes, and 605 hens. All male turkeys were banded and fitted with radio-transmitters. Of the captured hens, 111 were banded and fitted with radio-transmitters and the remaining 494 were only banded.

During the first two years of the project, annual survival rates of radio-tagged hens were 63% and 53%. Winter was the season of highest survival for hens in both years (93% and 90%), whereas survival was lowest during summer (84% and 78%). Annual survival of adult gobblers (46% and 43%) was lower than that of hens and jakes (69% and 78%). Survival of adult gobblers was greatest during fall (92% in both years) and lowest during spring (69% in both years). Survival of jakes during the first year of the project was greatest during summer (98%) and lowest during spring (86%). During year two, however, survival was greatest during winter (96%) and lowest during fall (89%).

During the first two years of the project, predation has been the leading cause of death of radio-tagged turkeys. Based on evidence at kill sites, coyotes, bobcats, and great-horned owls were suspected of having preyed on radio-tagged turkeys.

During the 2014 spring turkey season, researchers were radio-tracking 60 adult gobblers, of which 17% were harvested. The harvest rate was similar in 2015, when 15% of the 75 radio-tagged adult gobblers were harvested. As expected, harvest rates were considerably lower for jakes. During the 2014 spring season, 6% of the 65 radio-tagged jakes were harvested and none of the 69 radio-tagged jakes were harvested during the 2015 spring season. Harvest rates of adult gobblers increased considerably in 2016; 27 of the 88 (31%) adult gobblers being radio-tracked were harvested. The harvest rate of jakes was much lower, with only 3 harvested out of the 57 (5%) being radio-tracked. The overall harvest rate of adult gobblers and jakes during the first three years of the project is 22% and 4%, respectively.

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 firearms season, three jakes (2% of the radio-tagged turkeys) were harvested. None of the radio-tagged or banded turkeys were harvested during the 2014 fall archery season. 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 during the fall firearms season and two males (one adult gobbler and one jake) during the fall archery season. An additional banded hen, that had not been radio-tagged, was harvested during the fall archery season.

Of the hens radio-tracked during the 2014 and 2015 nesting seasons, the median dates of initial nest incubation initiation were 16 May and 7 May. Most radio-tagged adult hens (86% and 88%) initiated incubation of at least one nest, whereas only 40% and 50% of juvenile hens initiated incubation. Forty-seven percent and 60% of the adult hens that failed their initial nesting attempt

initiated incubation of a second nest. There have been no renesting attempts by juvenile hens thus far. Of the hens being radio-tracked during the 2014 nesting season, 27% were successful at hatching poults (known as female success). Female success was lower in 2015 (21%). Female success has been greater for adult hens (29% and 24%) than for juvenile hens (20% and 10%). Average first nest clutch sizes have been 10 and 11 eggs. Of the eggs in laid in successful nests, 94% and 82% hatched (known as hatching rate). During the first two years of the project, 47% and 25% of hatched poults have survived to be about a month old.

WILD TURKEY MEETINGS

I will be attending the 42nd Southeast Wild Turkey Working Group meeting the week of June 20. The meeting will be hosted by the South Carolina Department of Natural Resources and will take place in Garnett. I will also be attending the 40th Midwest Deer and Wild Turkey Study Group meeting the week of August 22. This year's meeting will be hosted by the Kentucky Department of Fish and Wildlife Resources and will be held in Carrolton.