

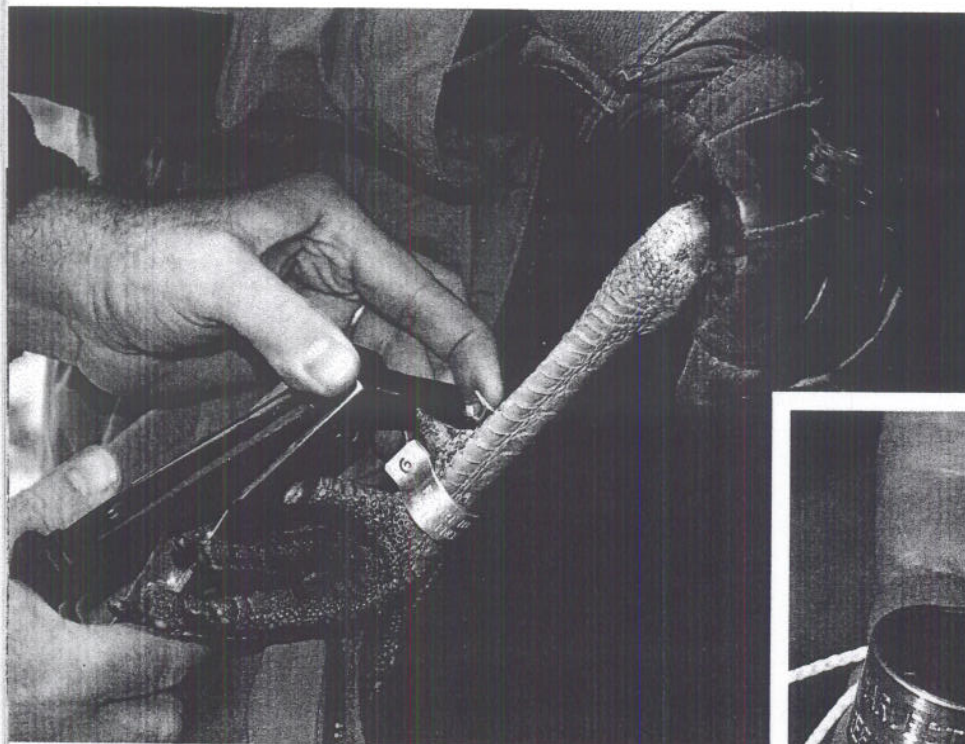
Tri-State Gobbler Banding Study

Biologists need data to evaluate the potential impact of hunting season regulation changes on gobbler numbers. Some basic information required to determine how hunting will affect turkey flocks includes harvest rates, survival estimates, hunter success rates, hunter numbers and hunter reporting rates.

State University Cooperative Fish and Wildlife Research Unit, as well as the NWTF. State agency research budgets, the NWTF Grant-in-Aid Research Program and state chapter Hunting Heritage Super Fund dollars funded the project. Field work on the project wrapped in late winter 2009.

geographic area consisting of three states, 15 physiographic regions and 182,000 square miles. To assure accurate results, a sample of up to 900 gobblers was required to be banded each year (300 in each state).

The study was designed to estimate the rate at which gobblers of various ages enter the spring harvest in three important wild turkey hunting states. While that was the major goal of the work, the study also provided biologists with the ability to estimate annual survival for adult and juvenile gobblers, hunter reporting rates, non-hunting mortality rates and the reliability of different types of bands used on wild turkeys. In addition, researchers could determine how land use patterns affect harvest rates and overall survival of gobblers. Data from this study is applicable to the Northeast and Mid-Atlantic regions of the country and perhaps other areas.



Less important, but still good to know are specific causes of turkey mortality, range size, habitat preferences and movement patterns.

Beginning in January 2006, trapping teams from three state agencies prepared for the largest wild turkey banding effort ever. Supplies were ordered, teams trained and the details of two years of planning were set in motion. The cooperative research project involved the New York Department of Environmental Conservation, Pennsylvania Game Commission and Ohio Division of Wildlife in addition to the Pennsylvania

THEY'RE WITH THE BAND

Many wild turkey survival studies use radio telemetry to monitor the birds. Telemetry studies are generally confined to relatively small study areas (200 to 500 square miles) and a limited number of birds, ranging from 30 to 60 each year. Researchers planning this project used leg banding, allowing the study to cover a large

➤ Leg bands play an important part in tracking wild turkeys over a large area.

BOB ERIKSEN

BOB ERIKSEN



A LEG UP ON DATA

The study used reward and non-reward bands to estimate harvest, survival and mortality. Previous studies on waterfowl and pheasants indicated that without rewards harvest rates are often underestimated. Half of the banded gobblers were marked with reward bands worth \$100. Each band was inscribed with a special number and a toll free telephone number for hunters to call to report the harvest. Researchers at Penn State University handled more than 400 calls a year throughout the study.

State agency personnel and NWTf volunteers worked in the cold to capture and band up to 300 gobblers in each state every winter for four years. More than 3,260 gobblers were banded across all three states.

Research revealed that spring harvest rates for adult gobblers varied from state to state, ranging from 40 percent in Ohio to 38 percent in Pennsylvania and 36 percent in New York. The harvest rate for jakes was lower, averaging half the harvest rate of adult toms. These averages are within the range of harvest rates reported for previous studies in other states. Annual survival estimates for adult gobblers in these states appear to be similar to those observed in other studies too.

To test the reliability of leg band designs, each gobbler received two bands. Turkey trappers placed a rivet band on one leg and a standard "butt-end" band on the other leg. Biologists have observed band loss in all varieties of birds, but wild turkeys seem to be particularly prone to losing bands. Their long legs may provide leverage to open the band. Biologists never before fully analyzed the loss of bands by wild turkeys and this study provided the opportunity to do that.

Loss of the butt-end bands was substantial. Juvenile gobblers seem to be less prone to losing bands, but both jakes and adults lost the standard style bands at unacceptable rates. The researchers published a paper in the *Journal of Wildlife Management*

presenting the findings on band loss for the benefit other wild turkey biologists.

SURVIVAL AND RANGE

Annual survival rates in the study ranged from 30 to 40 percent for adult gobblers and from 65 to 85 percent for jakes. Older gobblers are more vulnerable to spring harvest than juvenile gobblers. Whether that vulnerability is because of behavioral attributes or hunter selectivity is not known.

Adult toms appear to be more susceptible to other causes of mortality, such as predation. Earlier research using radio telemetry on study areas in Missouri, Kentucky, Georgia and Mississippi documented similar survival rates and mortality factors. The fact that data from this work is comparable to information from other projects lends credibility to the results.

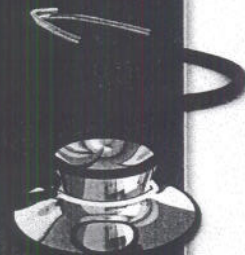
Based on data analysis completed to date, gobbler population estimates are

60,000 to 80,000 in Ohio and between 100,000 and 120,000 each in New York and Pennsylvania. The greatest distance traveled by a banded gobbler in this study was about 16 miles from the capture site. Thirty percent of banded gobblers were harvested more than four miles from where they were caught and banded.

The information generated by this massive undertaking will provide biologists with a greater ability to evaluate the possible impact of changes in hunting seasons and bag limits on gobbler numbers. Knowing the harvest rates and survival potential of gobblers in their respective states will allow state agency biologists to consider options for increasing opportunities for spring hunters.

This study is a fine example of the value of cooperation between wildlife agencies, university researchers and the NWTf conservation staff. — James Earl Kennamer, Ph.D.

ASK DR. TOM



Hen Cougars?

Can a first-year male turkey, a jake, fertilize a hen's eggs? I know a jake can/will breed a hen. But I heard that the young male is not sexually mature and cannot fertilize the eggs of a hen.

George Wills
Fairburn, Ga.

Wild turkeys are capable of successfully breeding at 10 to 11 months old. So, males hatched early last spring are often mature enough to breed during the following spring breeding season. However, competition for hens is fierce and these young males are typically not successful in competing with older males for mates during their first spring.

In the absence of gobblers, though, hens will accept jakes for mating.

FYI > According to the *Journal of Wildlife Management*, a 1964-1965 study in Missouri found that 28 percent of jakes collected at check stations during the spring hunting season were capable of breeding.

→ HAVE A QUESTION FOR DR. TOM?

Send it to turkeycountry@nwtf.net (Type Ask Dr. Tom in the subject.) or mail your question to Ask Dr. Tom c/o *Turkey Country* magazine, P.O. Box 530, Edgefield, S.C. 29824.