

BIRDS IN THE HAND



PERRY SUMNER

BANDING STUDY GIVES BIOLOGISTS INSIGHTS ON THE MIGRATIONS OF MOURNING DOVES.

written by Mike Marsh

Shooting was slow, as it often is during a late-September dove hunt. The action was steady enough, though, that my hunting partner, David Franklin, and I had a fair bag of nine doves between us. As Santana, my Labrador retriever, fetched each dove, I placed it inside the game pocket of my hunting vest, not paying attention to any individual bird beyond feeling feathers wet from my dog's mouth. Since our bag was well below a one-hunter limit of 12, I transferred the doves into a plastic grocery bag for David to carry home. He called me that evening as he was cleaning them.

"Guess what I found," he said.

I started going through a mental checklist of what I might have left in his pickup truck after our hunt. But he was so excited, that he blurted out the reply before I could offer a guess. "Two of our doves were wearing bands!" he said.

Though I had bagged many waterfowl wearing aluminum bracelets, I had never even seen a dove wearing the tiny jewelry, so I had not thought to check. An examination showed contact information identical to that stamped into waterfowl bands: Call 1-800-327-BAND, a serial number and LAUREL MD 20708 USA.

I phoned Phil Stone, a wildlife technician at the N.C. Wildlife Resources Commission's Holly Shelter depot. I remembered, nearly too late, that I had spoken with him about the commission's participation in a banding study. Stone looked up the band numbers and discovered that his crew had indeed banded our birds. Both were trapped near our hunting area.

Biologists once relied on call counts conducted during the May nesting season to estimate dove populations. But they realized they needed better information to manage the migratory birds. "In North Carolina, our dove call counts are among the highest in the nation," said Joe Fuller, the commission's migratory game bird coordinator. "But it could just mean our routes are in good dove habitat."

For dove studies, North Carolina is part of the Eastern Management Unit (EMU), which includes all states east of the Mississippi River. The EMU call counts indicate a declining population.

"However, we have other sources besides call counts," Fuller said. "We also record the number of doves we see during the call count survey and the more comprehensive Breeding Bird Survey counts every bird seen, including doves. Those were telling us the dove population was stable or increasing. After a review of available data, we recognized that we could do a better job of monitoring dove populations."

To gain more information, the U.S. Fish and Wildlife Service began a new three-year nationwide dove banding study in 2003. It began as an experimental project, but has shown enough success it will likely be continued. "It's similar to waterfowl banding," Fuller said. "It will tell us harvest and survival rates and provide information on where and when doves are harvested. We now know most doves banded in North Carolina are shot close to where they were banded, during the first two weeks of hunting season."

LOTS OF DOVES, LOTS OF BANDS

North Carolina has one of the highest banding quotas in the nation because of its relatively high call count results and large geographic area. Though most states have a banding quota of 500 to 1,200 doves, North Carolina's quota was 1,380 in 2003, 1,660 in 2004 and 1,380 in 2005.

Doves are captured between July 1 and Aug. 15. Young birds are old enough to fly by then, and the timing of the banding period allows trap bait to be removed before the hunting seasons open so there won't be a compliance problem with baiting laws. Some states band doves at public hunting areas and some at private sites.

The trap is a 2-foot by 2-foot by 8-inch wire cage with no floor and a door in the top. Two funnel openings operate much like those of a crab trap. Doves walk in but can't find their way out. The traps are placed upside down adjacent to millet or other seed. Once doves are accustomed to the trap, it is flipped over. Commission personnel check it daily, crimp leg bands on captured doves, and record where and when the birds are captured and whether they are young doves captured during their hatching year (HY) or adults captured after their hatching year (AHY). Although the state met its total banding quotas for the three-year study, it did not always meet its goal for banding HY doves.

Our dove, No. 1613 74183, was an AHY female banded July 2, 2005. The other dove, No. 1583 97577, was an AHY male banded July 22, 2004.

"The male probably migrated, then returned to the same area it was banded," Fuller said. "Doves are seed eaters. When the ground freezes or is snow-covered, doves have to move to find food."

A total of 184 bands were recovered in North Carolina from the first two years of the study. Two doves banded in North Carolina were recovered in South Carolina and Florida. Several doves banded in other states were recovered in North Carolina.

"We had five bands from South Carolina, one from Georgia, one from Maryland, three from Pennsylvania, two from Ohio and one from Michigan," Fuller said. "We are getting some good information for a more objective approach to dove harvest management. There are no overreaching concerns over dove populations on large geographic scales, but banding data can help us decide when and if we ever need to change hunting season regulations. North Carolina is a very important dove state in terms of dove populations and in terms of numbers of dove hunters. That's why we have one of the highest banding goals in our management unit."

North Carolina is grouped into the South Atlantic sub-unit of the EMU. There are three dove management units, similar to the four waterfowl flyways with which duck hunters are familiar. The EMU includes all states east of the Mississippi River. The Central Management Unit (CMU)



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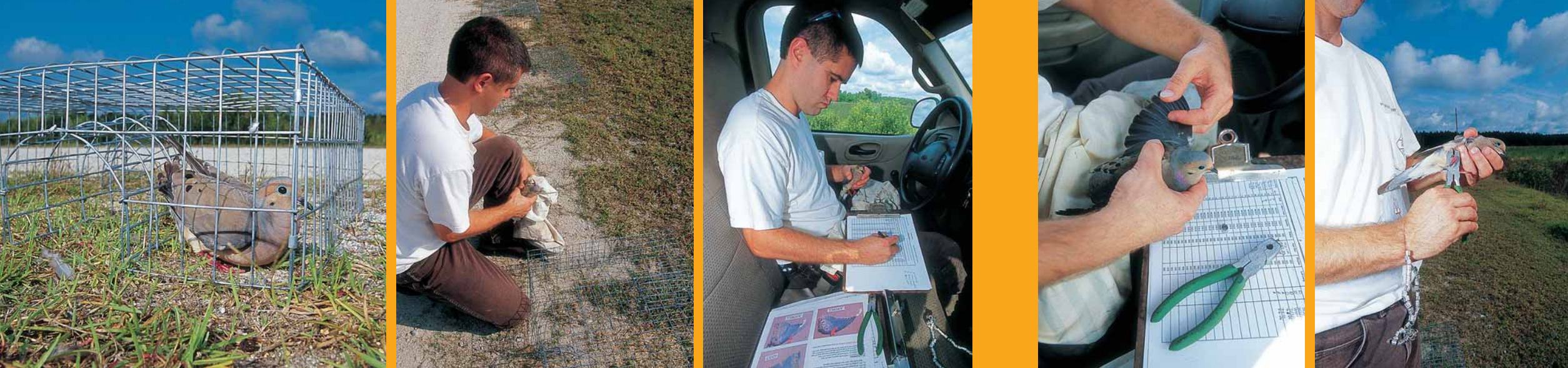


MIKE MARSH

Information from dove bands helps biologists manage the species. When a hunter kills a banded dove, he reports the serial number. To encourage reporting, some gold bands (far left) offer a \$100 reward.



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IMAGES BY MIKE MARSH

Banding mourning doves is a relatively simple process. After a dove is trapped, a biologist places it into a bag for processing. He records the band number, date and place of capture and determines from examination of the dove's wings if it is from the current hatch year or is an older bird. The biologist also will note the dove's sex, if it is an after-hatch-year bird. Then he attaches the band loosely on its leg. In a matter of several minutes, the dove is released.

includes all states west of the Mississippi River and east of the Rocky Mountains. The Western Management Unit (WMU) includes all states west of the Rocky Mountains.

Dave Otis, unit leader of the Iowa Cooperative Fish and Wildlife Research Unit at Iowa State University, compiles band information. He supervised graduate students as they strung bands together and completed data collection forms sent to the 29 participating state agencies. Seventeen of the states are in the EMU, eight in the CMU and four in the WMU. Otis and his students also set up workshops for wildlife personnel, resulting in considerable travel.

State participation was vital to the study because the regional subunits are based on doves sharing similar habits and habitats in smaller geographic areas. Although doves do migrate, the study is showing that most doves are harvested close to where they are banded.

REFINING REGULATIONS

"What's envisioned is that harvest regulations will be based on a harvest unit scale, as is currently done with waterfowl," Otis said. "We need a number of states in each of those management units, and we need demographic information on these birds. We need to know survival rates, harvest rates and migration patterns. There are also secondary things we need to know, such as how many birds in a certain area are harvested, and what the harvest distribution is."

While the banding study is patterned after the USFWS waterfowl-banding program, doves are not ducks. Unlike waterfowl, doves do not often migrate long distances before being harvested, so state-level participation

is vital to the study. Without prior banding studies, even that tidbit of information would not have been known.

"One key aspect of the program is that for the last two years, we banded a proportion of doves with \$100 reward bands," Otis said. "Based on our data with waterfowl, if a hunter shoots that bird, it's enough money to make him report it. That allows us to do a whole lot of other things in terms of a future banding program. Not every hunter reports every band. We surmise from waterfowl band returns that about half the bands recovered are reported. But we know nearly 100 percent of reward bands are reported."

That allows a comparison between reported reward bands and non-reward bands and the calculation of a reporting rate estimate. This information is a critical piece of the equation when attempting to discern harvest rates, i.e., the proportion of the population that's harvested each year. A similar study hasn't been done with doves for over 30 years, and the process has changed a lot since that initial study. Previously hunters had to report bands by mail, but now they can also use the telephone or Internet.

Banding quotas were set up on a regional basis, based on a previous study undertaken in the 1960s. States were grouped together by estimated breeding populations.

"I asked each of 13 regions to band 2,000 birds," Otis said. "A region is a breeding population where doves have the same basic survival rates and movement patterns. It's arbitrary, but we will revisit this method of grouping now that the three-year pilot study is complete. Each state was given a separate quota based on geographic area and call

count surveys. A state with more birds was asked to band more birds."

EMU states experienced the best success at meeting or exceeding quotas. CMU states generally met quotas. WMU states had difficulty because their territories are larger, and biologists must travel longer distances to banding locations.

"Overall, everybody greatly exceeded our expectations," Otis said. "We wondered if they could band these numbers of birds. But states did some fantastic fieldwork on their own dimes. It was a great example of federal and state cooperation. The U.S. Fish and Wildlife Service put up over \$100,000. When I applied for the grant, I showed the matching states' contributions at more than \$1 million, and I'm sure the states have contributed far more. The federal government wouldn't have participated otherwise. Fish and Wildlife contributed the cash rewards and funded the data compilation."

Nationwide, approximately 95,500 doves were banded and 5,000 bands were recovered. Nearly an equal number of birds were banded each year. But there was a big difference between management units. Around 50,000 were banded in the EMU, 35,000 in the CMU and 10,000 in the WMU.

In a parallel but currently informal pilot study, some state biologists have collected wings from harvested doves in an attempt to assess annual recruitment or the number of doves added to the population each year. Doves are aged by wing plumage characteristics, but this can become confusing as some portion of immature doves have lost these characteristics and thus appear as adults, especially later in the hunting season.

Data collected during the banding program together with the wing collection project are both needed to ascertain annual recruitment. This pilot study is being modeled after other successful U.S. Fish and Wildlife Service wing collection programs, including those where selected hunters submit duck and woodcock wings and goose tail feathers. If successful, the service's wing collection programs may be formally expanded to include doves.

WHAT'S BEEN LEARNED

"We will know much more once we synthesize the results over the summer of 2006," Otis said. "But we've already found out a few things. The estimated harvest rates are already very interesting. We've found that young doves have higher harvest rates than adult doves. The same is true of waterfowl, so you would expect that with doves. Since state biologists decide where to put their banding sites, different harvest rates occur. Some biologists band doves at state hunting areas where there is lots of hunting pressure, and some utilize private sites with low hunting pressure."

In North Carolina, the number of banding sites has varied between 35 and 40. Reports are based on 10-minute quadrangles of latitude and longitude, so there are occasionally two or three banding locations within one quadrangle.

"Banding sites are fairly well distributed across the state at locations as convenient as possible to our employees," Fuller said. "Since our management crews are distributed throughout the state, it distributes the banding. Our crews spent about 170 man-days during each year of the study."

From preliminary data, including the banded doves David and I harvested, it is becoming obvious that most of North Carolina's banded doves are harvested at or near in-state banding locations. That information could skew the data toward higher-than-actual harvest rates, compared to band return data taken over a broader geographic scale. Therefore, it is only by examining data on a regional scale, where biologists have selected banding sites of widely varying characteristics, that solid conclusions can be drawn.

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game bird. Therefore, nurturing healthy dove populations is vital to ensuring the future of hunting. Nationwide, hunter numbers are falling, and that is bad news for wildlife, rural economies and budgets of state and federal wildlife agencies.

"There are about as many dove hunters as there are waterfowl hunters, and the number of doves is far greater than the number of waterfowl," Otis said. "Doves may be our most valuable asset for hunter recruitment and retention, because many hunters are initiated into the sport when they are children by an adult who takes them dove hunting. The information we gain from banding doves and receiving band reports is essential to the wise management of the country's most popular migratory game bird, and hunters are a critical part of this process. Hunters need to realize it's very important to report dove bands."

One dove banded near Asheville in August 2003 was recovered in Florida in January 2005, which was certainly newsworthy to the hunter reporting the band. Though curiosity compels most hunters to learn where their birds were banded, some think it's too much trouble to report them. Others, like me, forget to check the legs of such small game birds.

"I had one group of hunters who learned about the banding study after the season had been open for some time," Fuller said. "They went back to where they had dressed some doves and found some bands. Every band tells us something important, so hunters should remember to check for them." ❖

Wilmington writer Mike Marsh is a frequent contributor to Wildlife in North Carolina.