

**Eastern Box Turtle  
Continuing Research Program  
January 2015  
Ridge Nature Area  
Fayetteville, Georgia**

The start of the eighth year of Eastern Box Turtle research, which began in 2008, will be in a few weeks when the turtles begin to emerge from hibernation.

This program is basic research into the population dynamics for this diminutive animal. When a turtle is located, measurements and photographs taken and individual markings made to identify them for future data analysis. In addition, global positioning (GPS) is recorded to create home ranges for turtles that are recaptured frequently enough to provide adequate data.

Other records are maintained, to the extent possible, for general health, shell damage (if any) and turtle activity at the time of capture. Occasionally one of the population dies. To date, the cause of such mortality has not been determined.

Beginning in 2013, Clayton State University researcher(s) joined the Ridge Nature Area research project. They are assisting with population data, while concentrating on DNA sampling. However, DNA research on animal populations usually takes years to develop so results will not be available in the near future.

Overall, the box turtle population for the Ridge Nature Area is higher on a per acre basis and relatively stable when compared to many other areas. This stability requires that young turtles be added at a rate equal to, or more than, natural mortality. Unfortunately, a change is beginning which was first noticed during the 2013 research year. It appears that we are losing more adults than are being replaced. During 2013, we found 5 dead from our marked population. In 2014, we lost 2 more. The concern is a marked increase in turtle nest predation. In 2013, we counted 18 destroyed nests. This year, a protection effort was begun where we covered two nests shortly after the females had finished laying eggs. During the remaining research effort, we took note of 4 other destroyed nests. The photos below show one of our nest protectors and, unfortunately, several eggs from the protected nests that were not viable.

There is a probability that the nest predation is due to the large population of armadillos on the nature area. The box turtles nest most frequently along an existing dirt road. But the predators are also making heavy use of that road which puts them right on the nests.

Added to the predation problem is that box turtles, when the young do hatch, have a



very low survival rate. In addition, we believe that some eggs are not fertilized successfully (photo above). During the 2014 nesting season, even with our in a new nest protection project, **only 1 baby turtle** was known to survive. To give this baby, and any future turtles a better chance, Clayton State University is assisting with a 2-year head start to increase survival odds. The end result is, in the last two years, 7 dead adults and only 1 new baby. There could be other young added from nests that we don't have information on, but all things considered, the population appears to be in trouble.



To address the issues, the nest protection project will be expanded. In addition, more habitat improvement efforts (such as creating brush piles) may also help by providing safety habitat for both young and adult turtles and better feeding opportunities. Long-term improvements in the vegetation enhancement projects under consideration will also help.

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