Biological Science Technician Internship at Patuxent Wildlife Research Center

Haley Turner - Environmental Science, B.S.

Background

Patuxent Wildlife Research Center (PWRC) is a refuge that was established in 1936 by an executive order from president FDR. The refuge was created for research purposes, but parts of the refuge are open to the public. There are many different labs within PWRC including national ones like the Bird Banding Lab or the Breeding Bird Survey. However, PWRC conducts diverse research ranging from amphibian monitoring to trends with our native pollinators. As a biological science technician at PWRC I work on monitoring Woodland Box Turtles (*Terrapene carolina carolina,* Figure 3), a subspecies of the Eastern Box Turtle, as part of a long-term monitoring project started in the 1940's by acclaimed wildlife toxicologist Lucille Farrier Stickel.

Position

As a biological science technician at PWRC my job includes conducting visual encounter surveys to locate *T. c. carolina* in two separate forest plots. I process the turtles, taking various morphological measurements and noting physical characteristics and habitat location information (figure 2). My job also entails data management and analysis. This includes keeping detailed records of data recorded during field surveys and looking for trends or larger implications in the data. Some trends to look at include habitat fragmentation or connectivity, population and density estimates, and activity patterns among turtles.

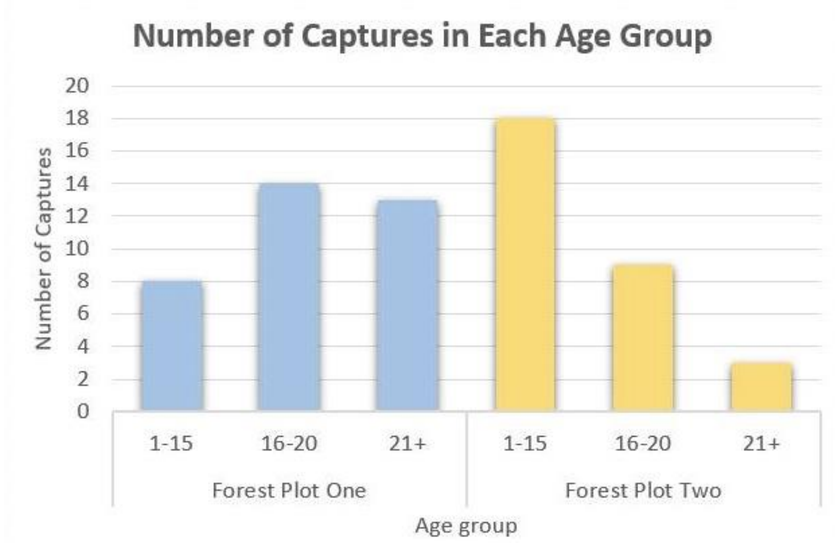

Figure 1: Amount of captures of unique individuals in each age group for the two forest plots surveyed at PWRC.

Figure 2: A turtle being processed during a capture occasion.

Figure 3: A female woodland box turtle.

Findings

Data collected from this project will be analyzed using the Spatially Explicit Capture Recapture (SECR) model, which uses geospatial information and turtle capture information to produce a robust estimate of population density. It will also be analyzed to get a clearer understanding of habitat fragmentation and landscape connectivity among the populations of *T. c. carolina* on the research center. So far in the survey season, there have been 65 unique captures within a total of 91 overall capture occasions. As seen in figure 1, the first plot appears to have a relatively equal age distribution, whereas the second plot appears to have a higher percentage of juvenile turtles (age 1-15) than mature turtles (age 16+). Quantitative data such as this can help researchers to understand the dynamics and overall stability of a population. As *T. c. carolina* is a vulnerable species it is important for researchers to understand the size of populations, and how those populations are connected, in order to make the right conservation decisions toward saving this threatened chelonian species.

Acknowledgements

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