

# Midwest Partners in Amphibian and Reptile Conservation (MWPARC) Student Travel Grant Report 2025

**Awardee:** Caleb Krueger

**Professional association:** Michigan State University

**In one or two paragraphs, describe the work you participated in that was facilitated by this award.**

With the help of the MWPARC Student Travel Grant, I was able to continue my work on a metapopulation of endangered spotted turtles (*Clemmys guttata*) in southwest Michigan. Despite their wide range, spotted turtles are patchily distributed across the landscape and seemingly isolated from one another, though populations are also notoriously difficult to detect. Due to this latter point, the abundance and connectivity of populations remains understudied, particularly in the Midwest where large tracts of relatively unaltered habitat that might support metapopulations are less common.

My study area contains two previously known spotted turtle populations, but over the past 3 years of surveys, we have confirmed the presence of spotted turtles in 7 additional wetlands, including 3 found while supported by MWPARC. In 2025, we had 183 spotted turtles captures across the 9 known populations as well as 96 Blanding's turtle captures and a handful of eastern massasauga observations, providing valuable information on the distributions of these species of conservation concern. Alongside environmental data, I'll use the spotted turtle data to develop an occupancy model and better understand which wetland characteristics predict the presence of spotted turtle populations. This in turn will help identify wetlands in the region with high probabilities of supporting spotted turtle populations that should be targeted in future surveys. In addition, the number of populations identified establish the presence of a metapopulation in the area that's suitable for continuing population surveys, telemetry work, and genetic analyses to understand how landscape features influence spotted turtle population connectivity.

**How has this work aided you in achieving your career goals?**

This research is a part of my dissertation and contributes to the completion of my PhD program. In addition, this last year of surveys established the potential of my study area as a long-term field site to study the ecology of various reptile species, which I hope to continue as a professor at a local university. And last but certainly not least, I've had the pleasure of bringing multiple undergraduate students along with me so they could get experience with research and field work!

**Image description:** Caleb holding a large turtle.

