



Citizen Science Year End Project Summary Report 2023

Project Title:

Eastern Box Turtle Habitat and Population Study – Telemetry

No of active volunteers:

14

Season Schedule:

April-November

Total # of field project hours (incl field, data, maintenance, etc.):

285

Project Overview:

- We select 4 turtles per year and, through the use of radio telemetry, we track them on a weekly basis for a period of approximately 7 months in order to collect data about emergence times, travel distances, habitat use, terrain, behaviors and timing for start of brumation.

Methods:

- 4 turtles are selected within the season's target areas.
- Transmitters are placed on turtles beginning in April. Using a receiver with programmed channels corresponding to each transmitter's carrier frequency, we utilize a log-periodic antenna to locate turtles.
- A volunteer training session is conducted at the beginning of each season.
- A minimum of two volunteers track turtles weekly during study window. We use a standardized data sheet to record information such as location, temperature, habitat, and behavior. In-situ photos are taken as well.
- Data is entered into a database for that season's telemetry, as well as a larger data base for the overall Box Turtle Study.

Key Findings:

- Box turtles use a wide variety of habitats across the Sanctuary.
- The box turtle population at the Sanctuary is stable and dynamic.
- Telemetry is a useful technology allowing us to gain a detailed understanding of seasonal movement, habitat use, and behavior.
- We have been able to identify “turtle hotspots” on the Sanctuary, confirming data gained from other aspects of the project.
- Extensive field time also leads to encounters with other box turtles which significantly adds to our data on marked turtles and the discovery and marking of additional turtles.

Impact:

- Community education – sharing information such as the lifespan, habits, home ranges and road crossing etiquette helps to invest people in these amazing creatures and spread the word about the importance of protecting them. Making people aware of the danger of poaching and location sharing can endanger turtles.

Challenges Faced:

- Equipment Maintenance Costs, wear and tear
- Accessibility – sometimes turtles will cross sanctuary boundaries onto private property and cannot be tracked without permission from landowners, or a location that is inaccessible to volunteers (ie the partially submerged muddy areas in the bay or vernal pools, steep/dense inclines, etc.).
- Weather – Per county guidelines we cannot go out if there are high wind speeds or during a thunderstorm due to safety concerns.
- Finding them! Turtles are incredible at hiding themselves, and even with transmitters and strong signals they can be very difficult to locate.
- Signal bouncing.
- While rare, turtles can lose their transmitters.

Recommendations:

- Continue the project at the level of 4 turtles a year.
- Select candidate turtles in different locations and varied habitats so that we develop a picture of the population status across the study area.
- Create a centralized database to make data easily accessible.
- Explore ways to utilize data collected, both seasonally and comparing to overall data from the last 23 years of Telemetry records and 29 years of the General Population Study. Recruit or utilize current volunteers with the needed skills to assist with this.

- Find opportunities for others to use our data.

Volunteer Acknowledgment:

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