

Stream Ecology Field Technician, USDA/ARS

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Background

- This summer I worked as a field technician with the United States Department of Agriculture, Agricultural Research Service under the direction of Dr. Rocky Smiley.
- The ARS is a research agency of the USDA, with a vision for global leadership in agricultural discoveries through scientific excellence.
- This was my second summer with this full-time internship, which I heard about while working as a lab assistant for the same research unit.

“ARS delivers scientific solutions to national and global agricultural challenges.”



Marking an eastern garter snake for recapture after recording length and weight measurements.

On the Job

Snake sampling

- Sample snakes weekly at agricultural headwater streams in the Upper Big Walnut Creek Watershed.
- Alternate between early morning, daytime, and twilight snake runs.
- Identify species and measure the snake's length, weight, temperature, and mark it for recapture.



Eastern garter snake (*Thamnophis sirtalis*).

Independent research project

- Develop and execute my own research project.
- Research question: is tin or wood more effective as a cover board material for sampling snakes with relation to temperature?



Tin and wood artificial cover boards for catching snakes in riparian habitats.

Habitat and Geomorphology Surveying

- Survey riparian habitat characteristics surrounding artificial cover boards.
- Use a Real-Time Kinematic device (RTK) to take GPS shots in-stream.



Analyzing canopy cover and vegetation structure at artificial cover board.

Coding in R

- Use programming language R to analyze data and form meaningful conclusions.



Milksnake (*Lampropeltis triangulum*).

Reflection

This internship has offered a diverse range of experiences relating to field work and research methods. I have practiced the scientific process and applied practical skills in the field. I greatly enjoy working for Dr. Smiley, who facilitates an excellent working environment for growth and learning.

Moving forward, I will continue working for Dr. Smiley as a field technician intern, performing snake and aquatic ecology sampling and building on my data analysis skills.

My advice for a student pursuing a similar opportunity is to keep an open mind, and to treat every experience as a learning opportunity.



Northern water snake (*Nerodia sipedon*).