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Select Metal and Metalloid Surveillance of Free-ranging Eastern Box Turtles from Illinois and Tennessee

The Eastern box turtle has been proposed as a biomonitor because it is long lived, relies on the environment for food and water, and has a small home range. To establish this designation, ISTC partnered with the Illinois Natural History Survey, the College of Veterinary Medicine at the University of Illinois, and the Clinch River Environmental Studies Organization. Plasma samples from 273 free-range box turtles were collected in 2011 and 2012 in Tennessee and Illinois.

The team found no differences in metal concentrations detected in the turtles based on age or gender, but did find that chromium and lead levels were higher in turtles from Tennessee, and arsenic, zinc, selenium, and copper levels were higher in turtles from Illinois. They also found seasonal and health parameter variations based on metal levels. The researchers determined that the Eastern box turtle can serve as a biomonitor for metal contaminants. Data from this study can serve as a baseline for future studies.



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John Scott

Elizabeth Meschewski

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