

Population Genetics of Eastern box turtle (*Terrapene carolina carolina*) in Indiana

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Statement of Problem:

The Eastern Box Turtle (*Terrapene carolina carolina*) is a long-lived reptile native to forested regions across the eastern United States. Research indicates that declines in box turtles populations are occurring across the country, but the causes for these declines are unknown. They likely include habitat loss and degradation, illegal collection for the pet trade, and roadway mortality.

An important step towards developing management strategies to reverse population decline is the understanding of population genetic structure. This information can quantify genetic variation, identify traces of population bottlenecks, and inform management policies.

Developing population-specific markers can also empower law enforcement agencies to enforce laws intended to protect species of special concern from commercial exploitation.

Goals:

1. Determine genetic population and variation at local, state (Indiana), and regional (Midwest) scales.
2. Identify molecular markers that can be used to determine a box turtle's origin of population.

Current Activities:

Beginning in January 2008, we are developing a set of highly variable microsatellite markers to be used to measure population structure.

Field collection of samples will begin in May 2008.