

**PhD Dissertation**  
**Department of Environmental Science and Policy**  
**George Mason University**

Candidate: John M. Orr  
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Title: The Eastern Box Turtle, *Terrapene carolina carolina*; Population Ecology, Growth, Relocation, and Soil pH of Resting Forms

Dissertation Director: Dr. Larry Rockwood  
Committee: Dr. Carl Ernst, Dr. Chris Parsons, Dr. Arndt Laemmerzahl, Dr. Terry Creque

**ABSTRACT**

The Eastern box turtle, *Terrapene carolina carolina*, is a long-lived turtle species that is declining across much of its range. A mark-recapture study of this species has been ongoing for more than thirty years at the Mason Neck National Wildlife Refuge in Virginia. Turtles in this population can live for at least fifty years with over 87% surviving from one year to the next. The sex ratio has become increasingly male over time. Individual growth rate was rapid for the first several years but decreased with age, finally leveling off after age thirty with males achieving larger carapace lengths and females reaching larger carapace heights. Relocated turtles were less likely to be recaptured than resident turtles. Resident turtles had a significantly higher survival rate over the first year than relocated turtles though the survival rates were similar for subsequent years. Resting forms and other microhabitats where turtles were found did not differ for the variables of soil moisture and soil pH.