

BEORN OGRODNIK, HOLLY RACINE, ZACHARY LOUGHMAN Department of Biology, West Liberty University, West Liberty, WV, 26074, and JAMES BOGAN, Orianna Center for Indigo Conservation, Eustis, FL, 32736, Determining the Standard Metabolic Rates of Eastern Indigo Snakes (*Drymarchon couperi*)

The Eastern Indigo Snake (*Drymarchon couperi*) is North America's largest snake and is endemic to the southeastern United States longleaf pine ecosystem. While anecdotal reports suggest that this species has a higher metabolic rate than other snakes, no research has confirmed this. This study aims to analyze the standard metabolic rate of Eastern Indigo Snakes by measuring oxygen consumption and carbon dioxide production using an open flow respirometry system. Airtight chambers sized for a single adult snake will be connected to a gas analyzer to monitor oxygen and carbon dioxide levels continuously. Trials will take place in a temperature-controlled room for eight hours per session. Oxygen consumption rates will be adjusted for the snake's mass and compared with those of other species. Insights from this research can inform the ecological understanding and conservation of Eastern Indigo Snakes, enhancing breeding, reintroduction, and captive care programs. The findings will also help optimize captive diets and predict how environmental changes and human-related stressors could impact this species.