

MS Thesis
Department of Environmental Science and Policy
College of Science
George Mason University

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Defense Date and Time: July 25, 2024 at 2:00pm

Defense Location: Hybrid – Exploratory Hall 3301 and virtual

Title: An integrative approach to evaluate metabolic activity in maned wolves (*Chrysocyon brachyurus*)

Thesis Director: Dr. Kathleen Hunt

Committee: Dr. Elizabeth Freeman, Dr. Rosana Nogueira de Moraes

ABSTRACT

Integrated datasets of physiology, endocrinology and behavior show potential for determining the impact of environmental threats on wildlife health. I tested a protocol for long-term monitoring of metabolic activity in free-ranging wildlife by integrating biologging metrics with analysis of hair triiodothyronine (T3), a form of thyroid hormone, using captive maned wolves (*Chrysocyon brachyurus*) as a model. Findings demonstrated the feasibility of combining biologging with endocrine measures, with significant seasonal changes found in all metrics. This integrative approach shows promise for application in situ to understand how wildlife populations meet the energetic demands of altered landscapes.