

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

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**Defense Date and Time:** July 12, 2023

**Defense Location:** Virtual

**Title:** Assessment of Wild Versus *Ex Situ* Managed Mountain Tapir (*Tapirus pinchaque*) Serum Metabolome and Implications for Conservation and Husbandry Actions

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**Committee:** Dr. Budhan Pukazhenti (Co-Director) and Dr. Elizabeth Freeman

**ABSTRACT**

Metabolomics is a field of study that focuses on the monitoring and observation of the body's metabolome and some existing studies have demonstrated that the serum metabolomic profile of captive animals tends to vary significantly from their wild counterpart, even serving to monitor dietary intake and provide indication of the development of various metabolic diseases. Mountain tapirs are a little studied endangered species with a small captive population and a declining wild population. Study of the metabolome of wild tapirs could provide valuable insights into the health and husbandry of the few remaining *ex situ* individuals. This thesis aims to assess the serum metabolome of mountain tapirs, both in terms of wild versus captivity status and sex as means of better understanding this threatened species. Results allow for direct comparison between sample groups and provide insights into the health and management of *ex situ* mountain tapirs.