Canadian Journal of Zoology 16 February 2023

# Dear Drs. Audet and Brigham,

I am writing to submit a manuscript titled "Assessing health and fitness correlates for endangered mountain caribou demographically supported by maternal penning” for consideration for publication in the Canadian Journal of Zoology. Our study investigates the links between multiple southern mountain caribou health metrics, demography, and the effects of temporary confinement on this iconic species.

Our research is timely and significant, as southern mountain caribou populations have been declining rapidly in recent years due to habitat fragmentation, climate change, and predation. Despite numerous conservation efforts, the population decline has continued, and urgent action is needed to reverse this trend.

Our study focuses on the role of health in mountain caribou populations, specifically the prevalence of pathogens, stress, and nutrition, in relation to age, sex, reproductive success, and occupancy in a maternal pen where females live for five months and give birth to their calves in safety. We collected and analyzed data from most female caribou living in the Klinse-Za subpopulation and compare our results to extensive data collected in nearby subpopulations. Our results highlight the importance of considering the health of individual animals and its impacts on population dynamics and persistence.

Our findings have important implications for the conservation of southern mountain caribou, and provide insights into potential management strategies that can improve their chances of survival. Our study provides potential trace minerals that, if supplemented, may increase pregnancy and calf viability. In addition, we provide evidence that repeat captures and stays in a maternal pen did not confer negative health outcomes for mountain caribou. We believe that our study makes a significant contribution to the understanding of the health and conservation of this species, and we are confident that it will be of interest to your readership.

Thank you for your consideration of our manuscript. We believe that it is a valuable addition to the scientific literature, and we look forward to hearing back from you.

Sincerely,

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Clayton T. Lamb, PhD

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