**Study on Moose Population Dynamics and Hunting Impact within British Columbia**

**Introduction and Objectives/Hypotheses:**

The decline in moose populations across certain regions of British Columbia, Canada, since the mid-2000s, raises substantial concerns, particularly with a licensed harvest plummeting by over half from 1987 to 2014 (Kuzyk et al. 2020). Studies revealed a linear decline in the average age of harvested bulls over the years, with a similar trend observed in the latter half of the study period for cows. This underscores the critical need for continuous monitoring of the age structure within moose populations. Remarkably, a study identified hunting as the second most significant factor influencing moose mortality out of the 49 documented cases (Kuzyk et al. 2016). The most recent studies delves into various hypotheses to comprehend the factors contributing to moose population declines in British Columbia. Covering aspects related to adult female survival, landscape changes, nutrition, health, thermal stress, and predation, their ongoing work focuses only on nutrition and predation (Anderson et al. 2023).

Despite these comprehensive studies, none have specifically targeted moose populations in Upper British Columbia near the Taku River Tlingit territory and the First Nations has raised concern over a recent decline in the moose populations that isn’t reflected in the provincial counts. They are worried that the size of the wildlife management unit in their region is not giving a fair representation of the situation they are facing and that hunting pressure may be much larger than what their moose populations can sustain. Therefore, my proposed study working with the Taku River Tlingit First Nation aims to examine how hunting pressure, influenced by factors such as Wildlife Management Unit size and latitude, impacts moose populations across BC. By contributing to the understanding of population dynamics, this research seeks to guide effective and context-specific moose management strategies in British Columbia. Through the analysis of existing data, I will determine the correlation between hunting practices, WMU size, and moose population trends, providing valuable insights for sustainable management strategies tailored to the distinctive context of the Taku River Tlingit First Nation territory.

Timeline:

The timeline for these directed studies includes initial analyses in January, with results finalized by the end of February. In March, I plan to present findings at the Science Undergraduate Poster Conference, and in early April, I will complete and submit the final report, as well as communicate the results back to the Taku River Tlingit First Nations.

**Literature cited**

‌Anderson M, Procter C, Scheideman M, Hodder D, Schindler H, Thacker C, Bohm H. 2023. Factors Affecting Moose Population Declines in British Columbia Summary and Recommendations. BC Government Repot. Available from: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/moose/ten\_year\_provincial\_moose\_project\_report\_2023.pdf.

Kuzyk G, Marshall S, Klaczek M, Procter C, Cadsand B, Schindler H, Gillingham M. [Internet]. 2016. Determining Factors Affecting Moose Population Change in British Columbia: Testing the Landscape Change Hypothesis Ministry of Forests, Lands and Natural Resource Operations. BC Government Report. Available from: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/moose/2016\_moose\_research\_progress\_report.pdf.

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