

Cape Breton moose (*Alces alces andersoni*) aerial survey results 2020 to 2024

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Ungulate populations are difficult to assess, however, aerial surveys are the most accurate survey method used. Aerial surveys are used estimate the moose (*Alces alces andersoni*) population in Cape Breton, Nova Scotia. Aerial surveys were collaboratively completed by the Nova Scotia Department of Natural Resources and Renewables (NSDNRR), Parks Canada, the Unama'ki Institute of Natural Resources, Kwilmu'kw Maw-klusuaqn (KMK) and the Confederacy of Mainland Mi'kmaq in late February/early March in 2020, 2023, and 2024. The study area (6772 km²) covered all five Moose Management Zones and the Cape Breton Highlands National Park. Transect lines were flown across the survey area, and number of animals seen, locations, group size, sex, and age class were all recorded. We determined group distance from the survey line flown, and data was analyzed using traditional distance sampling and density surface models. Population estimates (95% CI in brackets) were as follows: 2020: 2288 (1663, 3148), 2023: 1513 (1118, 2046), and 2024: 733 (459, 1171). Following examination of historical records, it is evident that the moose population has gradually declined since 2006, with a slight increase 2015 followed by a rapid decline in 2019. Based on these 2024 results, the decline has continued, which led NSDNRR to suspend moose hunting in 2024 until at least 2027. The hope is that with time and a cessation of hunting, the moose population should rebound to allow for a sustainable hunt in the future. NSDNRR will continue to monitor the situation and make changes as necessary.

Keywords: aerial survey, population estimates, distance sampling, moose