

Winter 2023 Cape Breton Moose Survey

May 2023

Summary

An aerial moose population survey was undertaken from February 27 to March 2, 2023. This survey was a cooperative operation led by the Nova Scotia Department of Natural Resources and Renewables, and included Parks Canada, the Kwilmu'kw Maw-Klusuaqn, Unama'ki Institute of Natural Resources and the Confederacy of Mainland Mi'kmaq. The study area covered all five of Nova Scotia's Moose Management Zones and Cape Breton Highlands National Park (CBHNP).

Distance sampling was the survey method used to estimate the moose population. This method involves flying transect lines across an area and recording the number of animals observed and their locations. The distance sampling method corrects for the fact that the percentage of animals detected decreases the farther the animals are away from the helicopter. This survey method calculates moose density estimates, calf/cow ratios, and adult sex ratios of the moose population within each region surveyed.

Moose, an animal native to Cape Breton, were extirpated from the island prior to the 1940s. In the late 1940s, 18 moose were released to CBHNP. Over time, moose numbers increased, and animals spread across most of western Cape Breton. This led to over-browsing and likely contributed to the abnormal forest succession that occurred in the central highlands, replacing softwood forests with grassland "moose savannah". Efforts have been undertaken to help restore the health of this important ecosystem through the Bring Back the Boreal initiative led by Parks Canada between 2014 and 2019.

Survey results over the last 8 years show that the moose population has declined from population highs observed in the early 2000s. The Greater Highlands Ecosystem (GHE) is made up of the Cape Breton Highlands National Park, as well as Moose Management Zones 1, 2, 5, and most of 3 (<https://novascotia.ca/natr/draws/moosedraw/mmzones.asp>). In the GHE, the moose population was estimated to be around 4,800 (+/- 939) in 2015, 1,300 (+/- 385) in 2019, 2,300 (+/- 617) in 2020 and 1,500 (+/- 667) in 2023. These numbers demonstrate that wildlife survey population estimates can indicate cyclical populations and emphasize the importance of continued monitoring. The survey found a calf/cow ratio of 264 calves per 1,000 cows and an adult sex ratio of 598 bulls per 1,000 cows in 2023, which indicates a healthy population that has the potential to grow. We also know that through time moose are not equally distributed across the landscape, with some areas having much higher or lower densities than averages across the landscape. In 2023, moose

densities were much lower in Moose Management Zones 3 and 4 (0.13 and 0.06 moose/km², respectively) compared to Moose Management Zones 1 and 5 combined (0.70 moose/km²) and Moose Management Zone 2 (0.20 moose/km²). The CBHNP had a moose density of 0.53 moose/km². The estimated density of moose remained largely unchanged from 2020 to 2023 in Moose Management Zones 1, 3, 4, and 5. The largest decline in density over the same period was in the CBHNP and to a lesser extent in Moose Management Zone 2. Based on these densities it's estimated that there are approximately 900 moose in the five moose management zones and about 600 moose inside the CBHNP.

Information obtained from aerial surveys, biological samples, and reported harvest data from licensed harvesters along with traditional knowledge provided by Mi'kmaw harvesters all contribute important information to inform management decisions. Recommendations on moose management are made jointly by representatives of the Province and the Assembly of Nova Scotia Mi'kmaw Chiefs (Assembly). The Department of Natural Resources and Renewables and the Assembly are committed to implementing enhanced monitoring of all moose harvesting in the Highlands. The goal is to use all the information gathered in a Collaborative way to create an adaptive moose management strategy to ensure that a sustainable moose harvest will continue for all Nova Scotians in the future. The number of moose licenses available has not changed for 2023, however, licensed harvesters will only be able to harvest antlered moose (bull/male only) in all five moose management zones.

The annual application period for the 2023 Moose Draw will be from noon on May 8 to noon on May 31, 2023. The draw results will be made public on June 20, 2023, and all winners will be contacted on or after that date by mail. For more information go to <https://wrs.novascotia.ca>.