Saskatchewan Wildlife Survey Report

WMZ 33 - Greater Moose Mountain Provincial Park Aerial Ungulate Survey (2024)

Background

An aerial ungulate survey for moose and elk was conducted for the Greater Moose Mountain Provincial Park (MMPP) area. MMPP is located within Wildlife Management Zone (WMZ) 33 in the southeastern corner of the province, bordering WMZs 16, 17, 32 and 34 near the Manitoba border. Much of the surrounding area is used for cattle grazing, haying and crop production. The study area is within the Aspen Parkland ecoregion and the park is heavily wooded and with rolling terrain. Elk hunting opportunities are liberal in WMU 33, with multiple seasons for either-sex and antlerless draw opportunities, and a 2-elk limit for all antlerless draw quota. Despite years of increased elk harvest opportunities, reports of elevated damage to agricultural products on neighbouring lands remain high. In 2022-23, non-forest WMZs moose quotas were adjusted to maintain moose populations near the current level and ensure a sustainable harvest. The objectives of this survey were to assess herd structure and obtain minimum total counts for elk and moose.

Methods

A total coverage survey was completed of the target survey area, the greater MMPP (Figure 1). The survey was completed from February 27 to March 1, 2024. The greater MMPP survey covers an area of 1,725 km^2 divided into 35 survey units was flown using two helicopters (A-Star B-350), each carrying a pilot, navigator/data recorder and two dedicated observers. Survey units were 5 km x 10 km; 10 km transects were spaced 500 m apart. The aircraft altitude varied according to visibility but was generally 300 feet above ground. Each observer was responsible for a viewing distance of 250 meters perpendicular to the aircraft to achieve 100 per cent coverage. All moose and elk groups were counted, and classed by age and sex when possible. SLR high-definition digital photography assisted with classification for elk herds.

Temperatures fluctuated between -20°C and -2°C during the survey. The skies were generally overcast, with occasional light snow showers contributing to a minor accumulation of snow on the ground. In the week prior to the survey, the survey region received 35 cm of snowfall, which provided adequate snow.

Results

In total, 3,450 km of transect lines were flown over 44.5 hours of survey time. The survey results represent a minimum count for moose and elk, as no adjustments for sightability or precision estimates were made.

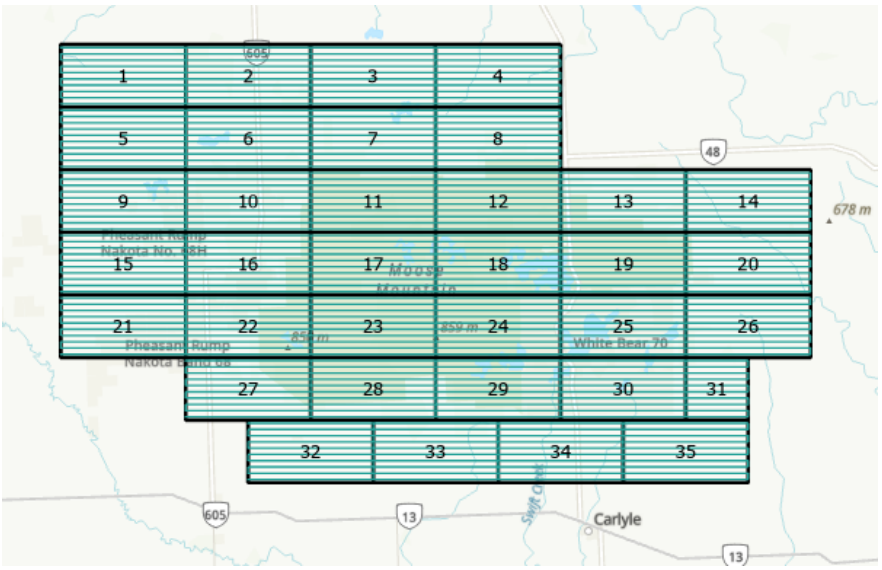

Figure 1 Greater Moose Mountain Provincial Park survey area, including flight lines within thirty-five sample units.

A total of 800 moose were observed in 98 groups (range 1-8 animals). The estimated density was 0.46 moose/ km2, representing a 14 per cent increase from the survey in 2017. The bull:cow:calf ratio was 49:100:53.

Table 1. *Moose estimates from current and historical minimum count surveys*

Year	Method	Count	Density (km^2)	Bull	Cow	Calf
2024	Minimum total count	800	0.46	49	100	53
2017	Minimum total count	699	0.41	N/A	N/A	N/A
2013	Minimum total count	1202	0.70	56	100	57
2009	Minimum total count	869	0.50	70	100	55

A total of 1,293 elk were observed in 98 groups (range 1-172 animals). The estimated density was 0.75 elk/ km^2 representing a 14 per cent increase from the survey in 2017. The bull:cow:calf ratio was 32:100:30 in 2024.

Table 2. *Elk estimates from current and historical minimum count surveys*

Year	Method	Count	Density (km^2)	Bull	Cow	Calf
2024	Minimum total count	1293	0.75	32	100	30
2017	Minimum total count	1135	0.66	35	100	52
2013	Minimum total count	1212	0.70	42	100	48
2009	Minimum total count	1285	0.74	30	100	48