

Saskatchewan Wildlife Survey Report

Multi Species Aerial Survey

2025 WMZ 2W Survey

Background

Wildlife Management Zone (WMZ) 2W encompasses a broad section of southwestern Saskatchewan, including the communities of Val Marie, Frontier, and Shaunavon, and stretches south to the U.S. border. The zone is characterized by expansive mixed-grass prairie, gently rolling hills, coulees, and the Frenchman River valley, creating a mosaic of habitats across the region. Grasslands dominate much of the landscape, particularly within the Frenchmen River valley. In other areas, agriculture and ranching are prominent, with cultivated fields and pastureland interspersed with natural prairie.

The primary objective of this survey was to update population estimates for mule deer, white-tailed deer, and elk in WMZ 2W, with incidental observations of moose also recorded. The last aerial survey in this zone was conducted in 2019, which was prior to population declines caused by severe winters in 2021/2022, and again in 2022/2023. Updating data is essential for supporting informed wildlife management decisions and guiding harvest allocation strategies.

Survey Method

A rotary wing survey for ungulates (mule deer, white-tailed deer, elk, and moose) was conducted in WMZ 2W in February 2025. Strip transect methodology was used, following standardized protocols (Beveridge, 2006), to estimate deer population density and to obtain a minimum total count of elk present in the zone. Transects were systematically distributed across the zone to ensure adequate coverage. A total of 111 transects, averaging 21 km in length, were oriented east-west and spaced at 1.85 km intervals, providing 39 percent coverage with an 800-meter-wide survey strip. In total, 2,423 km of transect lines were flown, requiring 28 hours of flight time to complete. Because transect lengths varied, density estimates for mule deer and white-tailed deer were calculated by multiplying the number of animals observed per transect by the total area searched, following the method described by Jolly (1969) and outlined in Krebs (2014).

Results

Results from the survey in WMZ 2W provide updated estimates for mule deer and white-tailed deer population size and density. A total of 1,135 mule deer were recorded across 111 groups, with an average group size of 10. The estimated density was 0.58 mule deer/km², with an abundance of 2,873 individuals (90% CI: 2,516–3,230). For white-tailed deer, 590 individuals

were recorded in 42 groups, averaging 13 deer per group. The estimated density was 0.30 white-tailed deer/km², and the abundance was 1,494 individuals (90% CI: 1,125–1,771). Elk and moose were also observed during the survey. A minimum total count of 204 elk was recorded across 12 groups, with an average group size of 17. All elk were successfully classified, and the bull:cow:calf ratio was estimated at 68:100:17, providing insight into the herd's sex and age composition. Additionally, 13 unclassified moose were recorded. These findings support ongoing wildlife monitoring efforts and contribute to informed, adaptive management strategies across Saskatchewan.

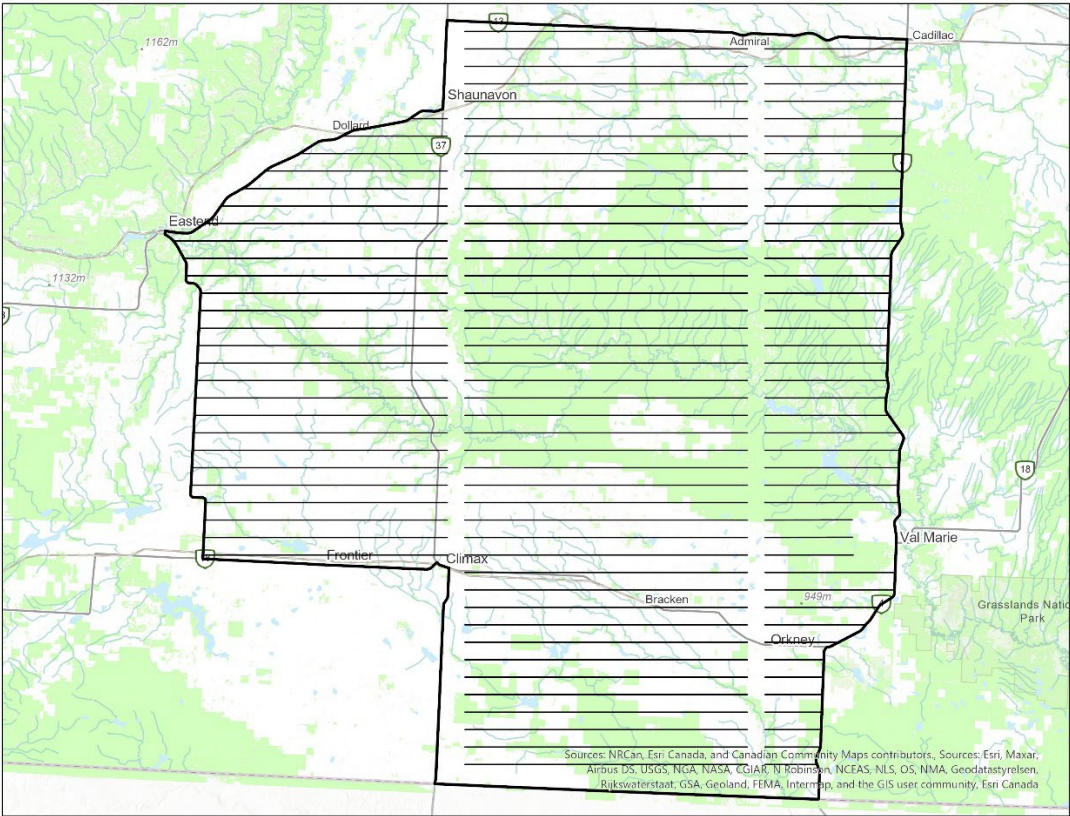


Figure 1. Map of Wildlife Management Zone 2W in southern Saskatchewan. Black lines indicate aerial transect lines flown during wildlife surveys.

Table 1: Deer density estimates for WMZ 2W

Species	Survey Year	Method	Estimated Abundance (90 percent CI)	Density (km ²)
Mule Deer	2025	Transect	2,873 (2,516-3,230)	0.58
White-tailed Deer	2025	Transect	1,494 (1,125-1,771)	0.30
Mule Deer	2019	Distance	7,673	1.56
White-tailed Deer	2019	Distance	4,958	1.01

Literature

Beveridge, E.D. 2006. Saskatchewan mule deer population aerial survey protocol. Resource Stewardship Branch, Saskatchewan Environment, Regina. 71pp.

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Jolly, G.M. 1969. Sampling methods for aerial census of wildlife populations. E. Afr. Agric. For. J. 34:46-49