

Aerial Wildlife Survey Report

Wildlife Management Unit 841 Aerial Ungulate Survey (2018-19)

Background

Lakeland Provincial Recreation Area (WMU 841) covers an area of 450.7 square kilometres (km²) and is located east of Lac La Biche, Alberta. Lac La Biche (to the west) is the closest population center.

The unit is predominantly forested (68.4%), including large swaths of mature deciduous (35.9%), coniferous (14.0%), and mixedwood (18.5%) stands. A large portion of the WMU (28.9%) is occupied by Touchwood, Seibert, Pinehurst, and Ironwood Lakes. The unit is a provincial protected area, and as such, no industrial activities are permitted. However, a wide range of recreational activities are permitted, including hunting in the fall.

The objective of the 2019 aerial ungulate survey was to assess the status of moose and white-tailed deer populations in WMU 841 by estimating abundance, density and the age-sex composition.

Survey Method

An aerial survey for ungulates was conducted January 15 to 17, 2019 (concurrently with WMUs 515 and 651) using distance sampling techniques (Buckland *et al.*, 2001, Thomas *et al.*, 2010). A total of 27 north-south transect lines (survey effort = 133.8 kilometres) were flown with two jet ranger helicopters, each outfitted with rear bubble windows to maximize visibility. Moose and (where possible) white-tailed deer were classified by age class (adult or juvenile) and sex. Other incidental wildlife sightings were also recorded.

Results

Moose

A total of 23 moose were observed in 15 groups, which included

- 12 cows
- 5 calves, and
- 6 bulls (2 antlerless, 4 antlered)

The estimated density was 0.315 moose/km² (90% CI 0.197 – 0.507) and the estimated abundance was 106 individuals (90% CI 66 – 171; Table 1). All individuals were successfully classified and the bull:cow:calf ratio was estimated to be 42:100:50; however, this should be used with caution given the low sample size.

White-tailed deer

A total of 113 white-tailed deer were observed in 57 groups, which included:

- 77 does
- 31 fawns
- 1 definitively identified buck (i.e., antlered), and
- 4 unclassified individuals

The estimated density was 2.749 deer/km² (90% CI 2.006 – 3.769) and the estimated abundance was 924 individuals (90% CI 674 – 1,267; Table 1). Given the timing of the survey, antler drop was already well underway, making white-tailed deer sex ratios unreliable.

Table 1. Current ungulate population estimates¹ for WMU 841. Estimates include number of individuals, density and age-sex composition ratios. Ranges in parentheses represent 90% confidence limits.

Species	Survey Year	Survey Method	Abundance Estimate ²	Density ²	Ratio to 100 Females	
			Mean (90% CI)	Sq. km	Males	Juveniles
Moose	2019	Distance	106 (66 – 171)	0.32	50	42
White-tailed deer	2019	Distance	924 (674 – 1,267)	2.75	N/A	N/A

¹ Based on a stratified analysis of combined observations from WMUs 515, 841, and 651, which were surveyed concurrently.

² Due to small sample sizes, estimate precision was relatively low for both moose (CV = 0.287) and white-tailed deer (CV = 0.188).

Acknowledgements

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Literature

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