

AERIAL SURVEYS

AERIAL COUNTS



HOW DOES IT WORK?

- Study areas are flown over (usually systematically) with an aircraft, and observers count the number of caribou seen.
- Winter sampling allows observers to make use of tracks in the snow and provides good contrast against dark fur, which helps in detecting animals.

WHAT CAN BE MEASURED?

- Population density, size, age-sex structure, and minimum counts are often determined from aerial counts.
- Winter distribution and habitat use can also be recorded, though these only represent a snapshot in time.

WHAT (AND WHO) IS REQUIRED?

- Costs include aircraft fees, aircraft fuel, and deployment to remote locations.
- Observers should be trained in animal detection and classification from an aircraft. If telemetry relocation is used, navigators should also be trained in telemetry.
- Local community members can inform fieldwork by observing where caribou are throughout the year, informing the area to be surveyed. Local community members can also participate in the survey.

WHEN CAN IT BE USED?

Use: Aerial counts are best suited for broad-scale studies. Surveys are usually done in the winter, and results are most accurate when conducted under fair weather, bright sunshine near midday, and shortly after fresh snow.

Avoid: However, they are not suitable for determining annual movement patterns, or annual habitat use, as they do not provide year-round data.

Previous boreal caribou application: Aerial count surveys have a long history in Canada, providing baseline population monitoring data for many provinces and territories.



KEY CONSIDERATIONS

- Method can be combined with telemetry studies or some other form of double sampling, to estimate errors in detection rates and improve precision of population estimates.
- Method might not require repeated annual funding, because the population data obtained don't require repeated sampling events; the frequency of monitoring should be determined based on the population threat status.

Cost:
\$\$\$

Logistical Complexity:
MODERATE

Capture/Handling:
NO

For more information, including regional subtleties and method particularities, please refer to decision tree, detailed write-ups and suitability tables 1 and 2. The information contained in this factsheet is intended for rapid communication and summary purposes only.