

AERIAL SURVEYS

AERIAL IMAGERY



HOW DOES IT WORK?

- Study areas are flown over (usually systematically) with an aircraft, and the camera(s) attached to the aircraft records the presence of caribou.
- There are two main camera types which can be used: “thermal” sensors and images are based on heat information, and “RGB” cameras are based on visible light information.
- There are two main aircraft types that can be used: a “manned” aircraft has an on-board pilot, and an “unmanned” aircraft is controlled by a pilot who stays on the ground.

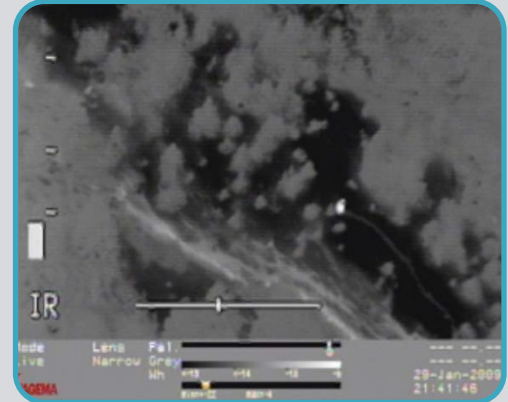


Photo credit: OMNIRF

WHAT CAN BE MEASURED?

- Aerial imagery studies are often used to help determine caribou herd distribution, and habitat use, as well as population size, density, trend, and minimum counts.
- Some jurisdictions use aerial imagery to complement other ongoing aerial survey studies; this is an emerging technology and has yet to be tested in all provinces.

WHAT (AND WHO) IS REQUIRED?

- Costs include cameras, aircraft fees, aircraft fuel, and deployment to remote locations.
- Observers should be trained in animal detection from an aircraft. If thermal imaging is used, and thermographic training may also be required.
- 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 imagery surveys are best suited for broad-scale studies. They are useful in remote areas where return visits are costly or where monitoring data are scarce.

Avoid: Aerial imagery is limited where age, sex, and health information are needed, because of image resolution restrictions.

Previous boreal caribou application: A FLIR survey of the Slate Islands in Ontario was carried out to estimate population size and for comparison with other methods of population estimation.

KEY CONSIDERATIONS

- RGB and thermal footage can provide visual data for future review and assessment. This digital survey can be replayed at the observer’s preferred speed.
- Permits may be required in many areas for use of unmanned aircraft. Check the Transport Canada website, as well as with the appropriate provincial and local authorities.



Photo credit: OMNIRF



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Cost:
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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.

