

INDIRECT METHODS

CAMERA TRAPS



HOW DOES IT WORK?

- Camera traps are mounted on a tree/structure. These specialized cameras have an infrared sensor, or other motion detector that records data (photo or video) if a moving object of different temperature passes by.
- Caribou presence and behaviour can be recorded.



Photo credit: Sarah Schmid

WHAT CAN BE MEASURED?

- Camera traps are best suited to monitoring caribou distribution or site-occupancy.
- Photos and videos allow insights into habitat use, foraging and activity patterns, disease, presence of predators/competitors.
- Cameras can provide continuous data over long time scales, and can operate in weather conditions that often impede other field work.
- Models to estimate population density from camera data are currently being developed.

WHAT (AND WHO) IS REQUIRED?

- Costs include initial purchase of camera batteries, and memory cards; access (costly for remote areas), and analysis (personnel and/or software). Overall, camera traps are relatively cost-effective.
- Local community members can be actively involved with camera placement, analysis of footage (photos and videos), and interpretation/reporting of results.
- Spatial distribution of sites must be well planned, as trap-to-trap distance affects interpretation.

WHEN CAN IT BE USED?

Use: Best for local-scale studies, but can be used for regional-scale monitoring through standardized camera-trap networks.

Avoid: Not intended to monitor dispersal or movement. Camera placement must avoid areas of direct sun or flooding. Ethical concerns may arise if people are photographed.

Previous boreal caribou application: In Alberta, the Fort Mackay First Nation has deployed cameras throughout their traditional territory to monitor caribou and other species. Also in Alberta, camera trapping has been used to evaluate seismic line restoration effects on large mammals.

KEY CONSIDERATIONS

- Challenges include small sampling areas and difficulty identifying individuals. These can be partly addressed through careful site selection, use of many cameras or multiple sampling methods, as well as identification software that look for specific markings.
- Any estimates of abundance from camera data needs to account for imperfect detection rates.
- Image/video files demand large storage capacity and proper data management. Camera-trap sites must be carefully prepared to avoid false triggers (e.g. wind, branches/leaves) that fill camera storage.



Photo credit: Cole Burton

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.