

NWT Environmental

Research Bulletin (NERB)



NWT Cumulative Impact Monitoring Program (NWT CIMP)

A source of environmental monitoring and research in the NWT. The program coordinates, conducts and funds the collection, analysis and reporting of information related to environmental conditions in the NWT.

NWT Environmental Research Bulletin (NERB)

A series of brief plain language summaries of various environmental research findings in the Northwest Territories. If you're conducting environmental research in the NWT, consider sharing your information with northern residents in a bulletin. These research summaries are also of use to northern resource decision-makers.

Impacts of wildfires on ṯdzı (Boreal caribou)

Using Ṯcẖ Knowledge to Monitor Vegetation Communities

2015-2016 was the first year specific sites were monitored to determine when *ṯdzı* (Boreal caribou) return to an area after a wildfire. Indigenous people across Canada explain that woodland caribou, of which *ṯdzı* are a population, require continuous habitat within their range to maintain a healthy population. Monitoring sites that have been burned, and where Ṯcẖ harvesters expect to see and hunt *ṯdzı* again, provides an opportunity to determine when caribou return based on the habitat and perceived intensity of the wildfire.

Why is this research important?

Caribou – including *ṯdzı* – are of significant economic and cultural importance to the Dene of the Northwest Territories. The *ṯdzı* range includes the taiga plains of the Wek'èezhì. With increasing applications for development in the region, appropriate monitoring and management of observed *ṯdzı*, as well as their habitat and preferred landscapes, is necessary to ensure a proper balance between *ṯdzı* life requirements and industrial development/infrastructures.

What did we do?

Three tasks were completed to initiate monitoring of vegetation communities and *ṯdzı* use after wildfires. First, a summary of information relating to the indigenous perspective of Boreal woodland caribou and their habitat use was undertaken. Second, sites were selected for monitoring using Ṯcẖ techniques and methods. Third, vegetation communities, as well as summer fauna and human use, were documented.



What did we find?

The research team documented plants, wildlife and activities in locations that had either never been burned or burned between one to 50 years ago. Analysis is not yet complete as this was the first year of monitoring. We did note:

- Elders and harvesters explained and directed research team attention to the variation and importance of terrain, vegetation communities and location of water within the t̥d̥z̥i range.
- Due to recent low water levels, it was difficult to access many of the sites the elders had chosen, in particular sites associated with the islands that t̥d̥z̥i prefer.
- New plants associated with dry areas that t̥d̥z̥i use.
- In some burned areas, vegetation communities were returning more slowly because soil conditions were extremely dry; however, in wetland areas, vegetation communities were returning relatively quickly.
- Evidence of t̥d̥z̥i, including tracks, pellets and browsing, at sites where wildfires had never occurred or where burns had occurred at least 15 years earlier. Evidence of t̥d̥z̥i in areas recently burned by wildfires was not found by the research team or the elders.

What does this mean?

The impacts of wildfires on t̥d̥z̥i habitat can be intensified if industrial development and associated infrastructure are also significantly changing the environment. Traditional knowledge monitoring takes into consideration all that is occurring at a site and ties it to the larger picture. Appropriate communication between traditional knowledge holders and environmental managers can provide information on the actual extent of continuous habitat t̥d̥z̥i require, and will note when the ecosystem is affected.

What's next?

Due to weather, we were only able to visit eight of the 14 sites the research team had pinpointed for monitoring t̥d̥z̥i presence and t̥d̥z̥i habitat. In 2016, we will document vegetation and evidence of t̥d̥z̥i at the sites at the north end of Whatì, and we will revisit the sites visited in 2015 to look for evidence of change.

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Documented vegetation communities at sites to be monitored. (Photo: A. Legat)



Documented animal and human activity at sites to be monitored. (Photo: A. Legat)

Traditional Knowledge

Traditional knowledge can provide long-term information on the state of Boreal caribou habitat necessary for them to return after a burn.