

October Webinar: Managing for Caribou Recovery I – A focus on habitat related issues

Speaker Abstracts

Recovery Actions for Woodland Caribou: Predicting and testing the efficacy of habitat restoration

Melanie Dickie, Scott McNay, Glenn Sutherland, and Michael Cody

Anthropogenic habitat alteration via land conversion reduces habitat availability and disrupts ecological processes. Western Canada's boreal forest has undergone rapid landscape change as a result of human expansion and resource development. Resulting habitat loss and alteration is hypothesized to be the ultimate cause of boreal woodland caribou declines, one of the most high-profile species at risk in Canada's boreal forest. While a variety of recovery actions are being employed to recover caribou populations, habitat restoration has been identified as a necessary and important management tool. Restoration is required to restore ecological processes to address the ultimate cause of caribou declines, habitat loss and alteration, as well as the proximate cause, unsustainable predation rates as a result of human-mediated changes to predator-prey dynamics. While the importance of conducting habitat restoration is clear, the effectiveness of restoration treatments is not well understood. Given the spatial extent of these disturbances and the cost of habitat restoration treatments, it behooves researchers and managers to predict and monitor the effectiveness of restoration treatments. Here we explore the predicted success of restoration for recovering caribou populations using predator-prey simulations, and empirically test the effectiveness of restoration treatments. We present a multiple-lines-of-evidence approach for understanding caribou, moose, wolf and bear response to habitat restoration treatments aimed to restore the functional and ecological processes in northeastern Alberta. Understanding behavioral and population-level responses to restoration treatments is necessary to ensure successful recovery and adaptive management.

Biosketch: Melanie Dickie is the research coordinator at ABMI's Caribou Monitoring Unit. Melanie focuses on informing woodland caribou recovery in western Canada using applied research and actively collaborating with academics, industry, First Nations and government. Melanie is also starting a PhD at the University of British Columbia Okanagan.

Facilitating Understanding Between Western-Based Science and Indigenous Traditional Knowledge for the Conservation of Species-at-Risk in Northwestern Alberta, Within the Context of a Proposed Indigenous Protected and Conserved Area (IPCA)

Matthew Munson, Fred Didzena, Kecia Kerr, Gillian Chow-Fraser, and Ryan Cheng

The northwest corner of Alberta is a remote boreal forest landscape encompassing some Traditional Territory of the Dene Tha' First Nation. The area holds Alberta's third largest lake and would benefit from ecologically sustainable and culturally appropriate management, as it provides important habitat for many species-at-risk and holds strong cultural importance to the Nation. Indigenous Protected and Conserved Areas (IPCAs) present an opportunity to create protected areas that are co-managed by Indigenous governments, supporting conservation values and Indigenous traditional uses of the land. We will summarize an in-progress community-led project within the proposed IPCA area. The project aims to highlight the role of Traditional Knowledge (TK) in guiding community-based research for the benefit of many species at risk upon which communities depend. The project goals are to: successfully implement community-based research, wherein project questions and methodological designs are consistently informed /validated by TK; understand boreal mammal dynamics, with express interest in how Bistcho Lake is seasonally used by woodland boreal caribou, wolverine, and grizzly bear, and; collect data and analyze trends to inform land use and adaptive management plans and actions within the proposed IPCA. The project will inform land management actions for the IPCA, presenting one option for a framework for IPCAs in the province. Benefits of Indigenous-led conservation must recognize not only the ways in which Indigenous communities can collaborate on management actions to improve desired outcomes, but additionally recognize the societal benefits of empowering communities that regain agency in stewarding their traditional lands and resources.

Biosketch: Matthew Munson, BSc. Matthew is a Dene Tha' band member and Technical Consultant, with over 12 years of experience in geographic and information management systems as these relate to government and Industry Crown consultation and environmental assessment processes, Matt's work was key in developing DTFN's Traditional Use Study (TUS) Geodatabase.

Partial Cutting: Changing the timber harvest paradigm in Alberta to conserve mountain caribou.

Kirby Smith

The Government of Canada issued an Imminent Threat Assessment for 2 herds of mountain caribou in west central Alberta in May 2018: the Redrock-Prairie Creek and Narraway herds. The Assessment states that "the effects of the threats facing the species will make achieving the recovery objectives of the species highly unlikely or impossible without immediate intervention including population and habitat management measures". In contrast, the Government of Alberta provided direction to

increase the volume of timber to be clear-cut within the winter ranges of these 2 herds from 200 000 cubic meters to 500 000 cubic meters annually over the next decade. This form of timber harvest eliminates lichen producing habitat essential for caribou, increases vehicle access and increases the amount of habitat suitable for alternate prey thereby contributing to "apparent competition". An alternative to clear-cut logging is partial cutting, which was experimentally applied in west central Alberta more than 20 years ago (Vitt et al, 2019). This approach has the potential to avoid the three aforementioned issues for caribou, while still providing timber supply and regeneration of coniferous stands.

Biosketch: Kirby Smith is a recovering wildlife biologist who spent 35 years working for the Government of Alberta in west central Alberta. He spent much of his time working on woodland caribou including completing a MSc thesis which examined woodland caribou demography and persistence relative to landscape change.