Alberta Conservation Association

2021/22 Project Summary Report

Project Name: Factors Affecting Moose Survivorship and Recruitment

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Partnerships

Alberta Environment and Parks
fRI Research
Fuse Consulting Ltd.
University of Saskatchewan
West Fraser
Weyerhaeuser Company Ltd.

Key Findings

- We assisted fRI Research in planning an online workshop titled *Moose Habitat in Forested Landscapes: Current Knowledge - Future Steps*. Thirty-nine participants attended, representing governments, universities, forest companies, conservation organizations, and Indigenous communities.
- The workshop produced the following four recommendations to explore further:
    - Investigate what co-created moose habitat research might look like in Alberta. How might it effectively combine the knowledge, priorities, and concerns of Indigenous, non-Indigenous, government, and industry organizations, while building trust, engagement, and information sharing?
    - Get an update on the status of moose habitat in Alberta and the social value placed on moose (and moose habitat) by relevant stakeholders and communities.
    - Do reforestation approaches, such as scarification, and chemical treatments,

negatively influence moose survival?
    - What are the impacts of different timber harvesting designs (size and shape) on moose populations?

Abstract

We were part of a planning committee for a moose research-needs workshop. The workshop, which took place virtually in September 2021, was called *Moose Habitat in Forested Landscapes: Current Knowledge – Future Steps*. Thirty-nine participants from government, industry, not-for-profit organizations, Indigenous communities, academia, and consulting companies contributed to discussion on topics related to data sharing, the human dimensions of moose and moose habitat management, and the impact of landscape change on moose. The final recommendations from the workshop prioritized the following list of topics for further consideration:

- Investigate what co-created moose habitat research might look like in Alberta. How might it effectively combine the knowledge, priorities, and concerns of Indigenous, non-Indigenous, government, and industry organizations, while building trust, engagement, and information sharing?
- Get an update on the status of moose habitat in Alberta and the social value placed on moose (and moose habitat) by relevant stakeholders and communities.
- Do reforestation approaches, such as scarification, and chemical treatments, negatively influence moose survival?
- What are the impacts of different timber harvesting designs (size and shape) on moose populations?

Introduction

Alberta Environment and Parks (AEP) biologists have witnessed a decline in moose populations over the past 15 years in select Wildlife Management Units (WMUs) located in the Boreal Forest and Foothills natural regions. Models have suggested that moose abundance has declined over time in parts of Alberta, particularly in the Parkland and western Boreal regions, when compared to reference conditions (ABMI 2016). Moose declines have also been reported across various jurisdictions within North America over the past decade (Timmerman and Rodgers 2017) and

hunters in Alberta reported seeing few calves in the Rocky Mountain Natural Region (Peters et al. 2018), which can be associated with a declining population trend. Literature suggests that predation, climate change, parasitism, disease, vehicular collisions, and unregulated harvest have negatively influenced moose populations throughout North America (Timmerman and Rodgers 2017, West 2009). A key challenge in responding to these threats is determining which of these factors may be affecting moose populations in a given region or WMU.

A valuable step in investigating potential population threats is to identify the current state of knowledge and information gaps. Alberta Conservation Association (ACA) sought to contribute to that by joining a group of partners that were working to deliver a workshop on moose research needs in Alberta's forested landscapes.

Methods

Although the workshop was hosted by fRI Research, the planning committee consisted of representatives from ACA, AEP, fRI Research, Fuse Consulting Ltd., University of Saskatchewan, West Fraser, and Weyerhaeuser Company Ltd.. The online workshop was held on September 8, 2021, titled *Moose Habitat in Forested Landscapes: Current Knowledge - Future Steps*. The workshop was designed to bring together a diverse group of people from public stakeholder groups, Indigenous communities, forestry companies, governments, universities, and conservation organizations.

This workshop, which was initially planned for fall 2020, was delayed multiple times due to the COVID-19 pandemic restrictions and was eventually held in an online format.

Results

The one-day workshop was attended by 39 people, who represented government, industry, not-for-profit organizations, Indigenous communities, academia, consulting companies, and other participants. The morning consisted of presentations on Moose in Managed Landscapes and Community-Based Monitoring and Research Case Studies. During the first part of the afternoon, facilitated discussions were held on a combination of topics previously identified by the planning committee and brought up by workshop participants:

- Reconciling moose and woodland caribou management in Alberta.
- Developing moose monitoring systems that weave Indigenous and non-Indigenous knowledge.
- How do moose respond to natural and human disturbances? Where do they go?
- How does dispersed, versus aggregated forestry disturbance affect moose populations?
- Impacts of herbicides on moose browse and moose health.
- Impacts of roads and/or linear features on moose populations.

The second breakout session of the afternoon had participants discuss a series of subjects that had been voted on using a "25/10" exercise:

- How do we build trusting relationships and engage Indigenous and non-Indigenous people in ensuring the survival of moose and moose habitat in forested landscapes?
- What would a moose co-management and research prioritization regime look like in Alberta? How might it effectively combine the knowledge, priorities, and concerns of Indigenous, government, and industry organizations?
- How can we achieve a balance when considering the diverse interests of stakeholder groups when deciding what moose management should look like?
- Do reforestation approaches, such as scarification, and chemical treatments, negatively influence moose survival?
- How can the government get support from all stakeholder groups to fully understand all hunter moose harvest?
- Impact of different timber harvesting designs (size and shape) on moose populations.

The planning committee met following the workshop to review the discussion and come up with a series of next steps. The committee felt that the following topics were both worth pursuing and fell within the original focus of the workshop (moose habitat in forested landscapes):

- Topic 1: Investigate what co-created moose habitat research might look like in Alberta. How might it effectively combine the knowledge, priorities, and concerns of Indigenous, non-Indigenous, government, and industry organizations, while building trust, engagement, and information sharing?

- Topic 2: Get an update on the status of moose habitat in Alberta and the social value placed on moose (and moose habitat) by relevant stakeholders and communities.
- Topic 3: Do reforestation approaches, such as scarification, and chemical treatments, negatively influence moose survival?
- Topic 4: What are the impacts of different timber harvesting designs (size and shape) on moose populations?

A subcommittee of those involved in planning the workshop was formed. They will be investigating options for establishing a working group of individuals and organizations interested in pursuing one or more of these topics.

Conclusion

There is keen interest for the conservation of moose within Alberta as expressed by the enthusiastic and broad cross-section of stakeholders that participated in this workshop. However, ACA's future role and involvement with investigating and addressing the issues discussed is uncertain, and doubtful at this time. We work with AEP on an annual basis to set key priorities for ACA to focus on. To date, we have not been provided with the endorsement to move forward with respect to any of the recommendations that came out of the workshop.

Literature Cited

Alberta Biodiversity Monitoring Institute (ABMI). 2016. *Moose* (Alces alces). ABMI Species Website. Version 3.2 (2016-03-18). Available online at http://species.abmi.ca/pages/species/mammals/Moose.htm (accessed September 28, 2017).

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Photos

Not applicable