

Indigenous-Led Program to Understand and Manage Cumulative Effects in Northern Alberta



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Overview

- Introduction to the community and the changing landscape
- Description of the cumulative-effects assessment and monitoring program
- Approach and results from a current assessment





Introduction

- Fort McKay Métis Nation is a multi-ethnic community with members from Dene, Cree, and other cultural groups.
- Has a long history of subsistence land use within the Athabasca region of Northeast Alberta.
- Significant land-use pressures due to location in the center of the oil sands region.





Fort McKay

Athabasca River

Athabasca River

Athabasca River

Image © 2024 Airbus
Image © 2024 Maxar Technologies

Google Earth

Imagery Date: 9/6/2023 57°09'04.83" N 111°38'32.65" W elev 0 m eye alt 12.73 km



Introduction





Introduction



Fort McKay Métis Nation



Description of program

Community-based environmental monitoring projects:

- McKay River watershed monitoring
- Wetland health monitoring
- Ground and surface water monitoring
- Navigable water monitoring
- Fish habitat monitoring
- Athabasca River fish tissue sampling
- Ronald Lake bison herd monitoring
- Wildlife and species-at-risk monitoring
- Berry monitoring
- Odour monitoring

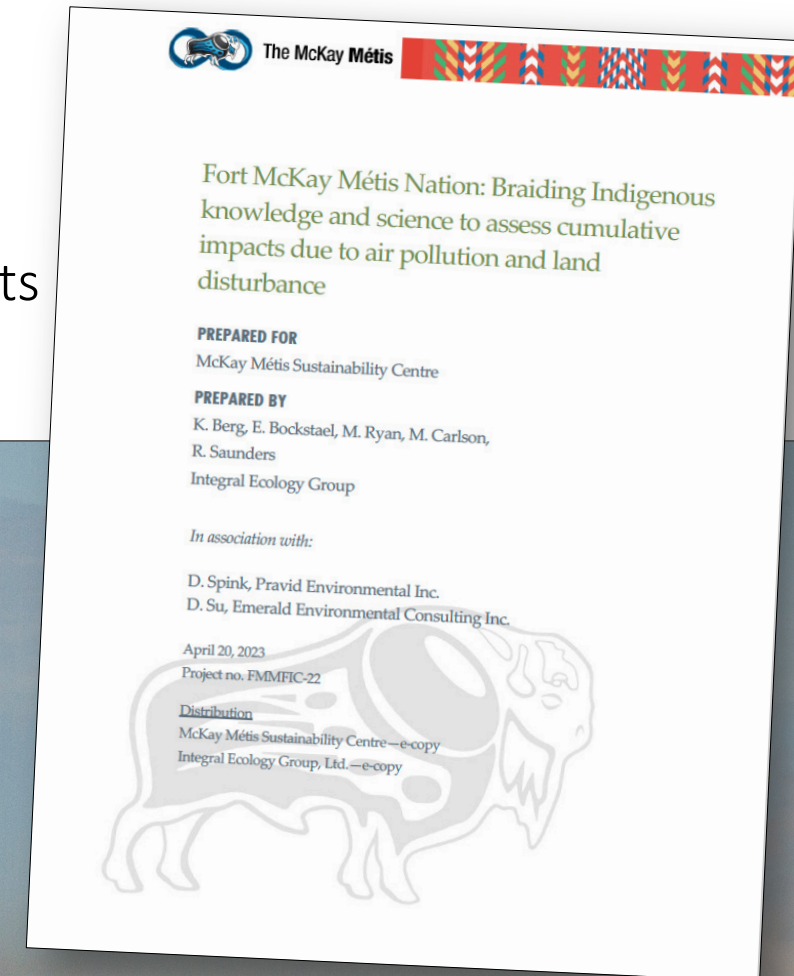




Description of program

Cumulative-effects assessments

1. Strategic community-based monitoring (CBM) framework
2. Assessment of cumulative effects focusing on air and land
3. Assessment of cumulative effects focusing on impacts to rights
4. Assessment of cumulative effects focusing on water and land





Challenges and impacts

Key challenges	Related effects	Impacts on members
1. Increased industrial emissions and dust	<ul style="list-style-type: none">- reduced quality of air, water, soil, and harvested resources (water, meat, berries, plant medicines)	<ul style="list-style-type: none">- increased rates of human health ailments
2. Increased physical disturbances	<ul style="list-style-type: none">- land clearing and fragmentation leads to loss of harvesting areas and other cultural sites- loss of habitat leads to decreased plant and animal abundance- increased development and contamination leads to reduced quality and quantity of plants, animals, and water	<ul style="list-style-type: none">- travel on the land is more dangerous and unpredictable- negative experiences on the land and reduced enjoyment- reduced hunting and harvesting opportunities
3. Increased sensory disturbances	<ul style="list-style-type: none">- noise, traffic, odours, and light pollution affect wildlife habitat and behaviour, resulting in reduced wildlife abundance	<ul style="list-style-type: none">- increased avoidance of harvesting areas and activities
4. Changes to access	<ul style="list-style-type: none">- development and fencing of industrial projects reduces access to harvesting areas and trails- new roads lead to increased public access and resource competition from recreational users	<ul style="list-style-type: none">- members must travel further and spend more to achieve harvesting success



Goal and research questions

- To bring together Indigenous knowledge and scientific information to examine impacts from cumulative development on opportunities for members to access the land, exercise their rights, practice their culture, and maintain their way of life.
- How much land is available and accessible to community members?
- How has the quality and quantity of certain resources changed?





Approach and methods

Approach

- community-driven and participatory
- braiding knowledge
- information sharing and protection

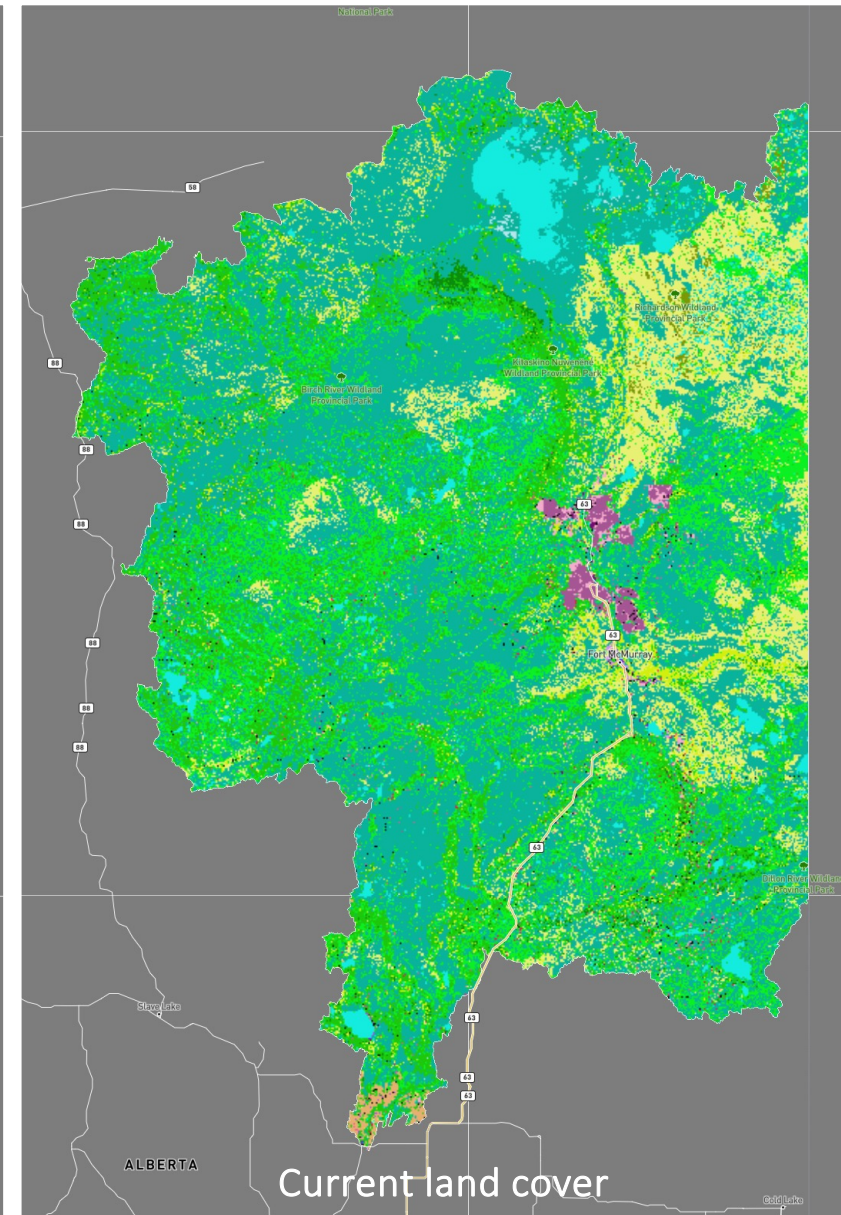
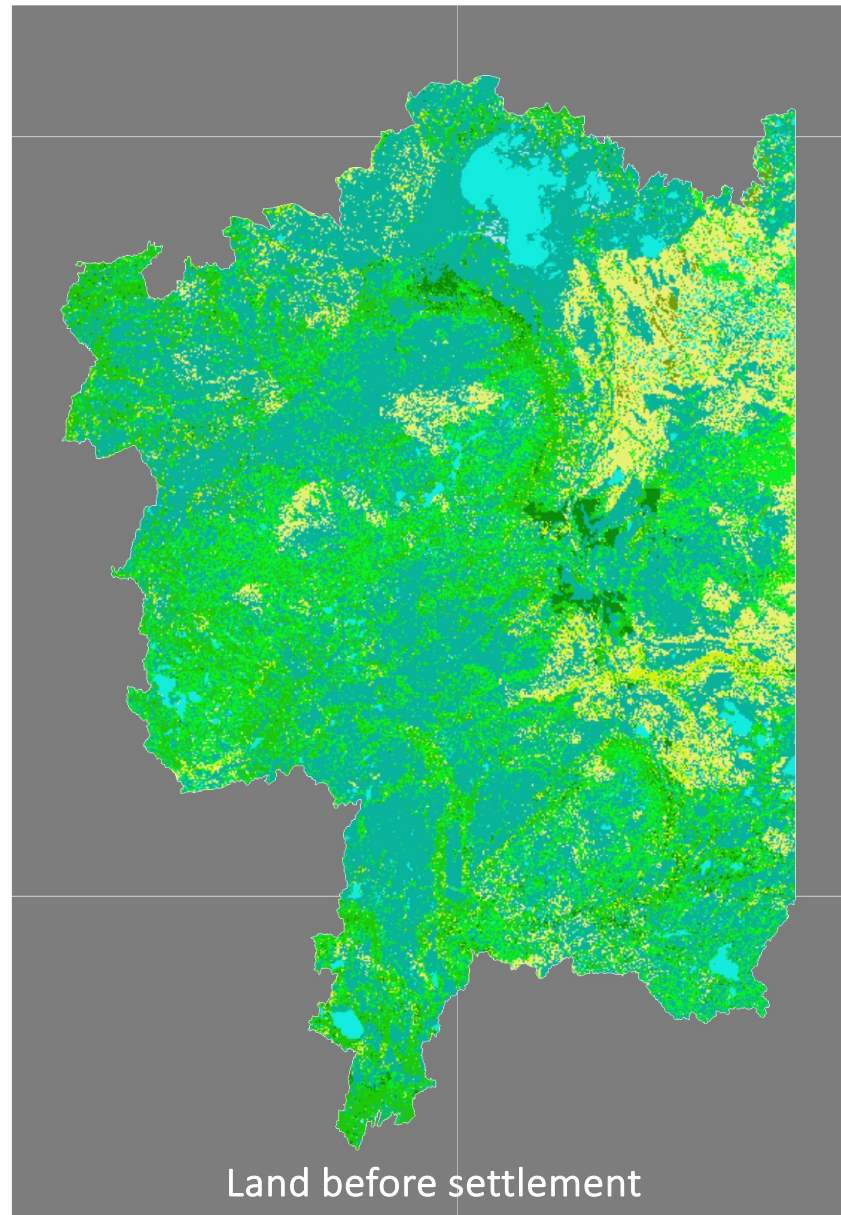
Methods

- Document and data review
- Focus group meetings and interviews
- Field visit
- Qualitative analysis
- Simulation modeling using ALCES Flow
- Verification meeting



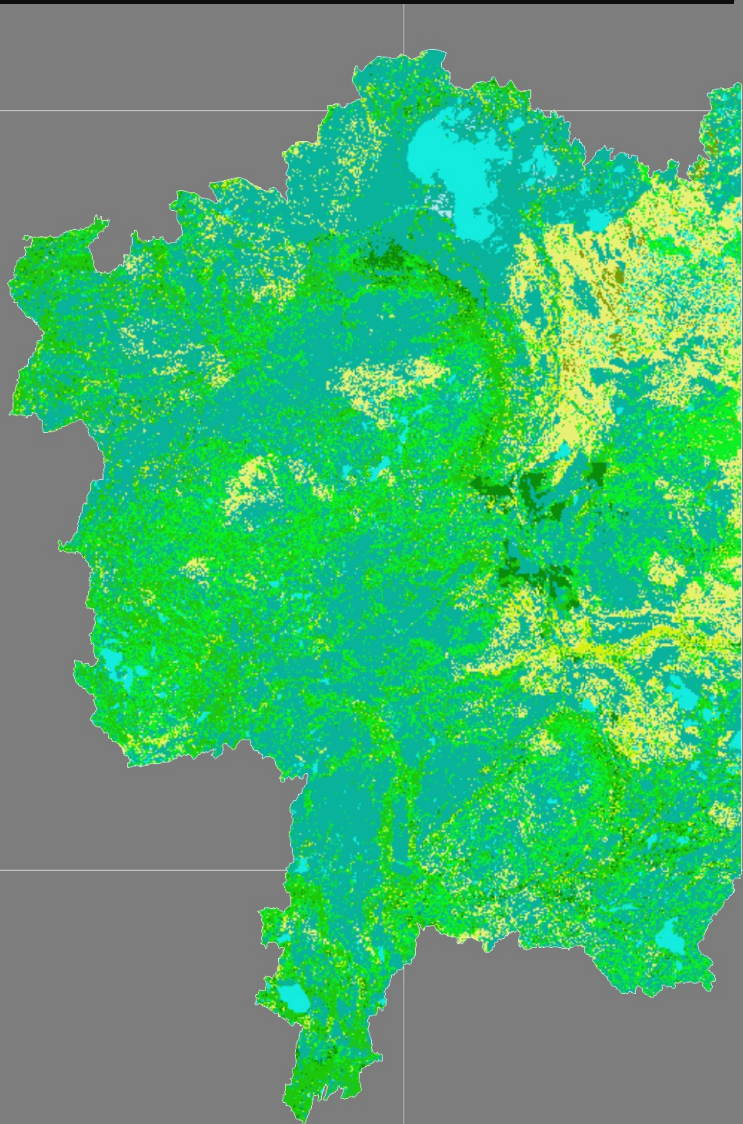


Results

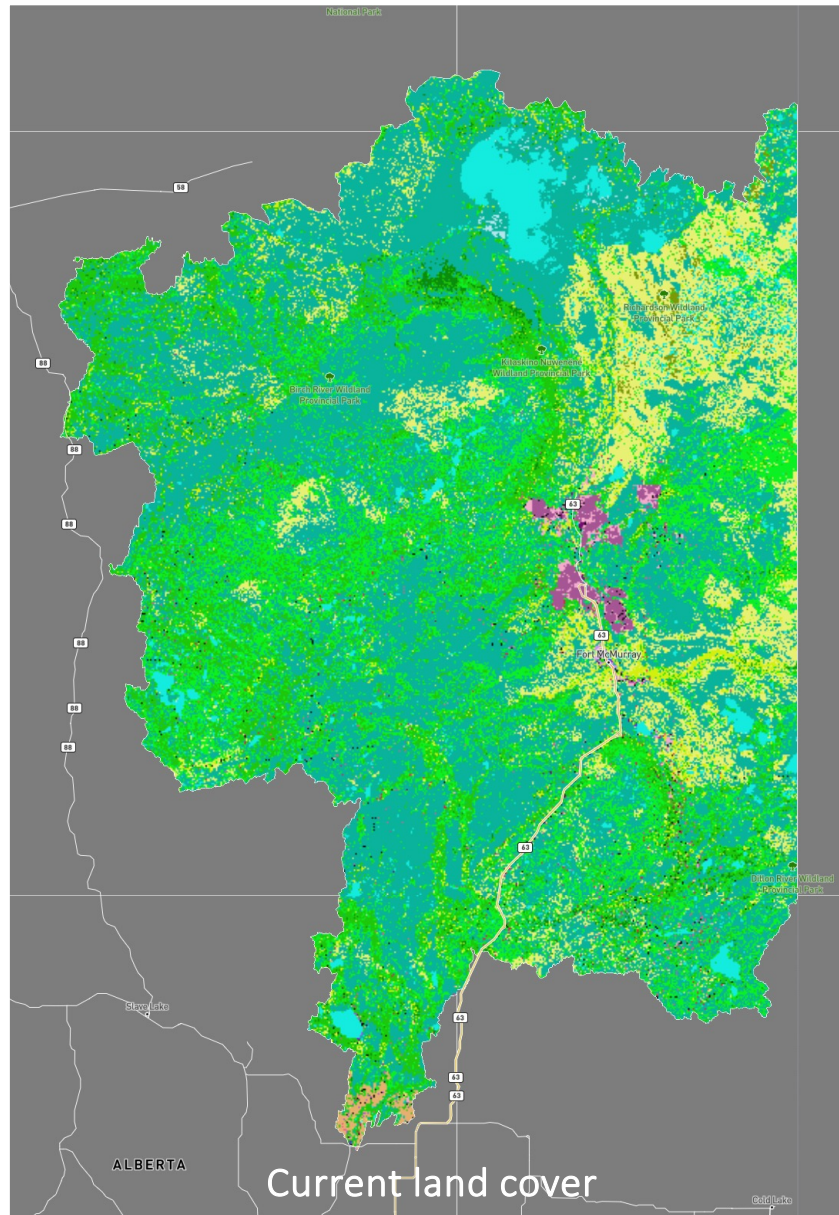




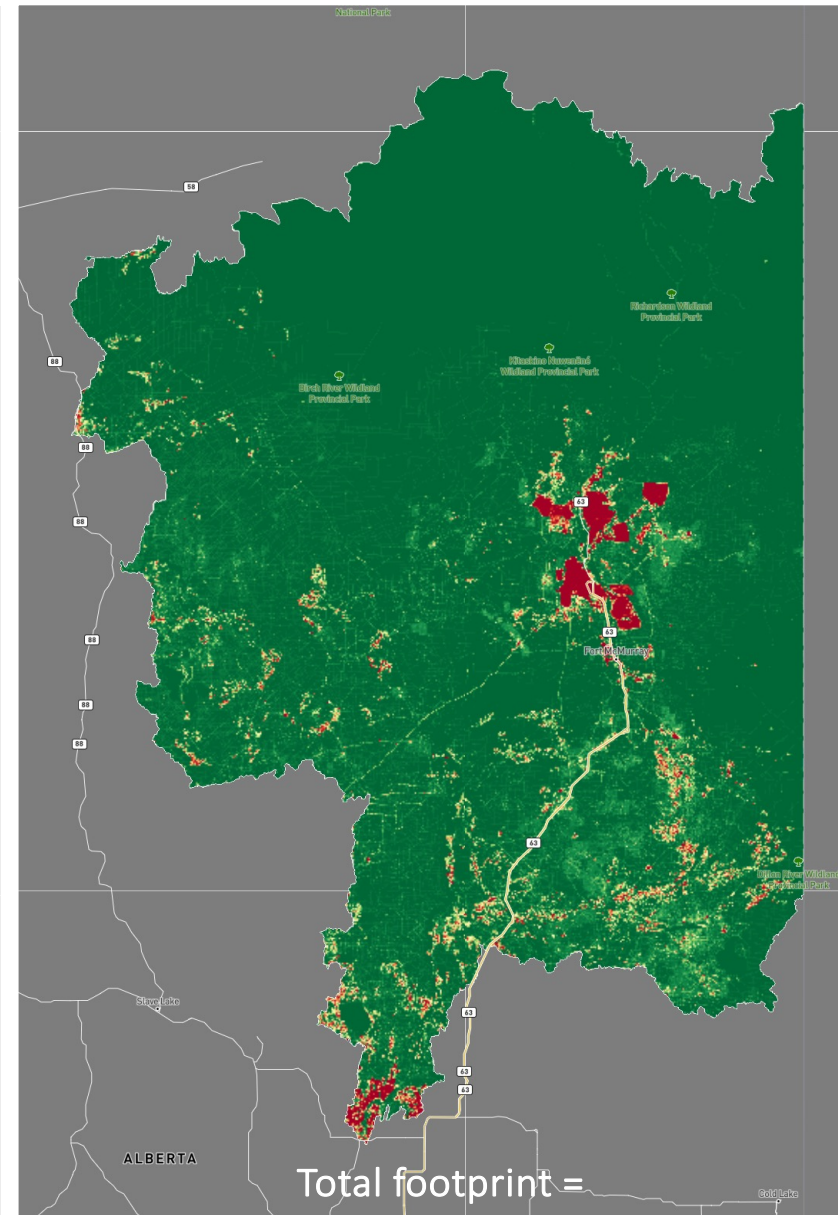
Results



Land before settlement



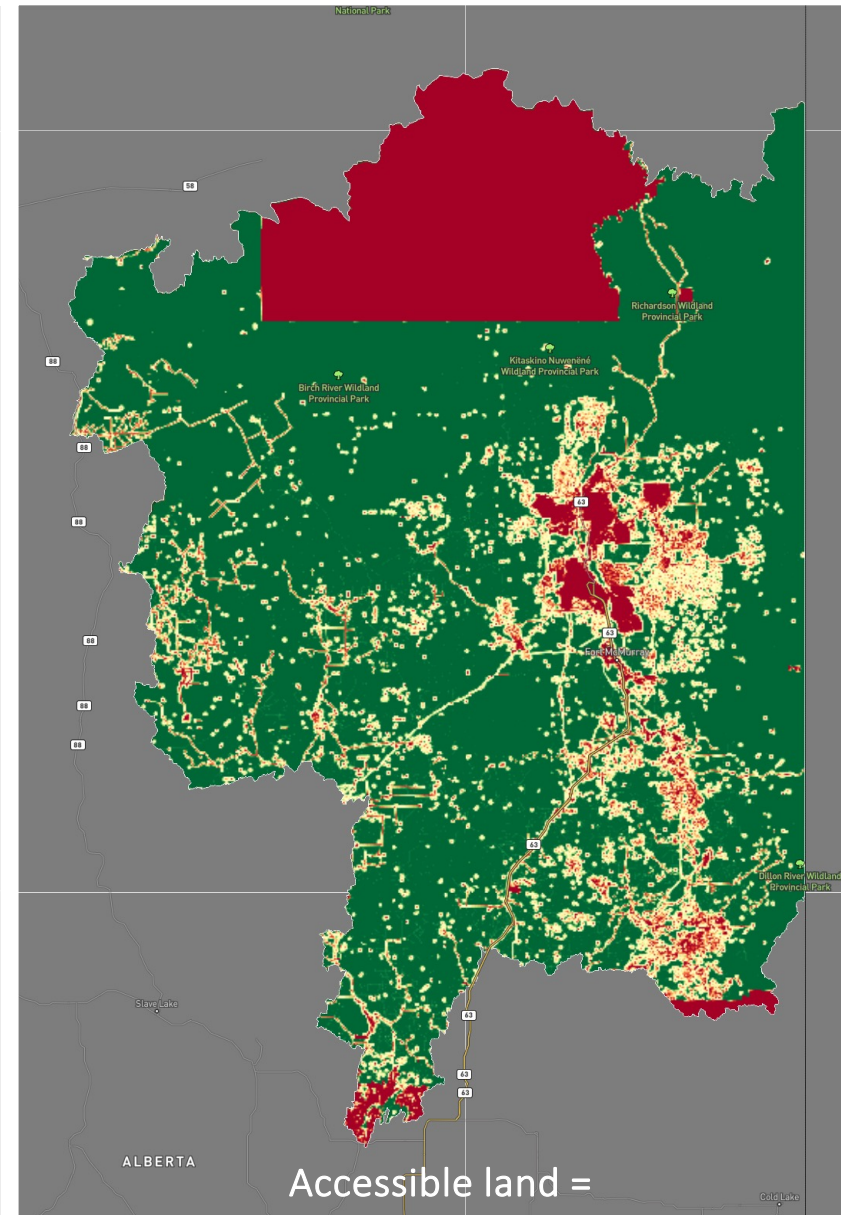
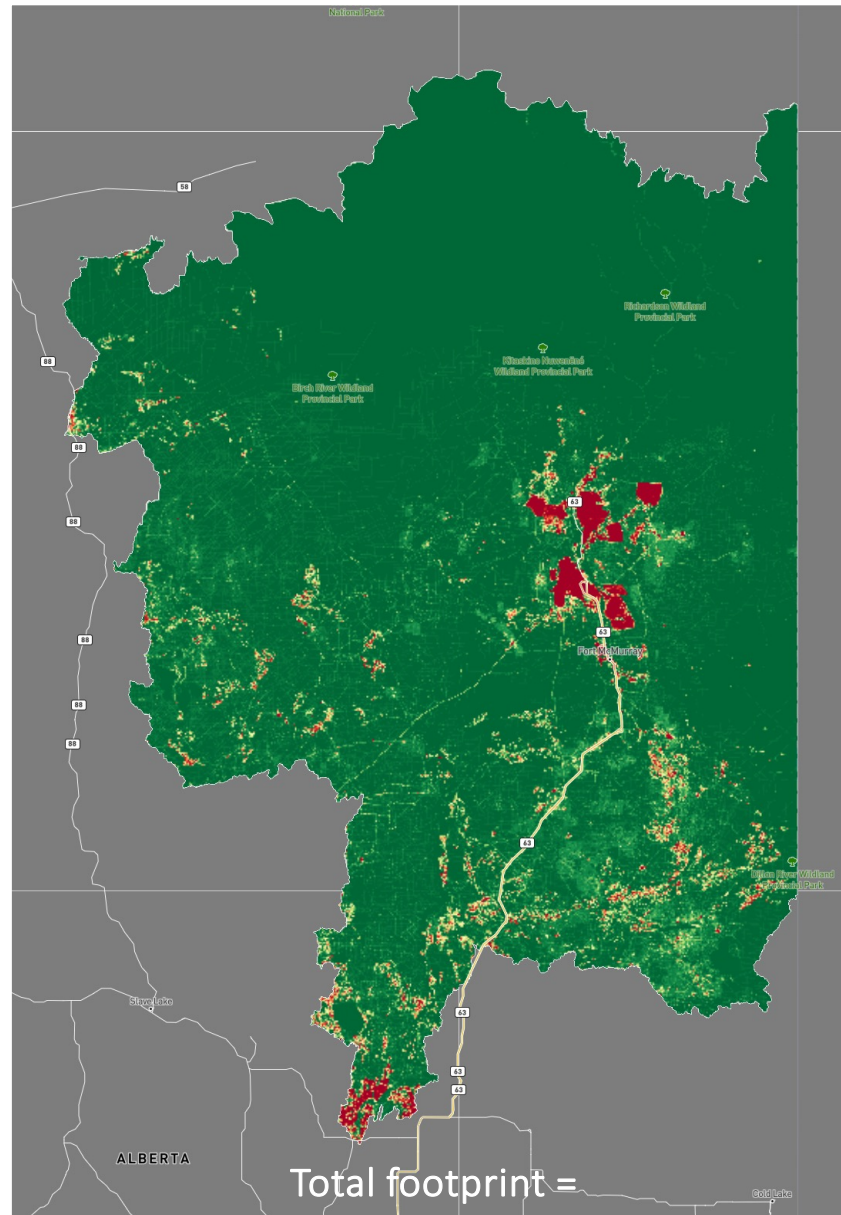
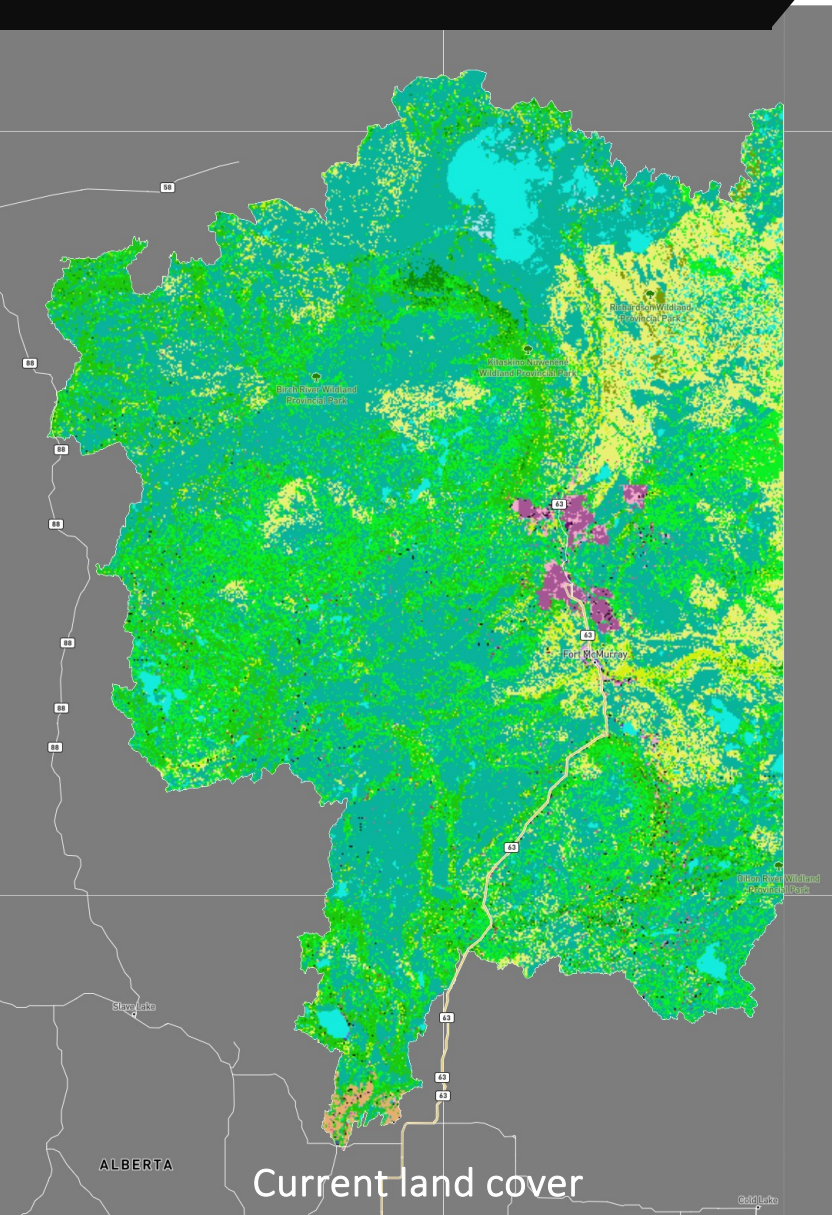
Current land cover



Total footprint =

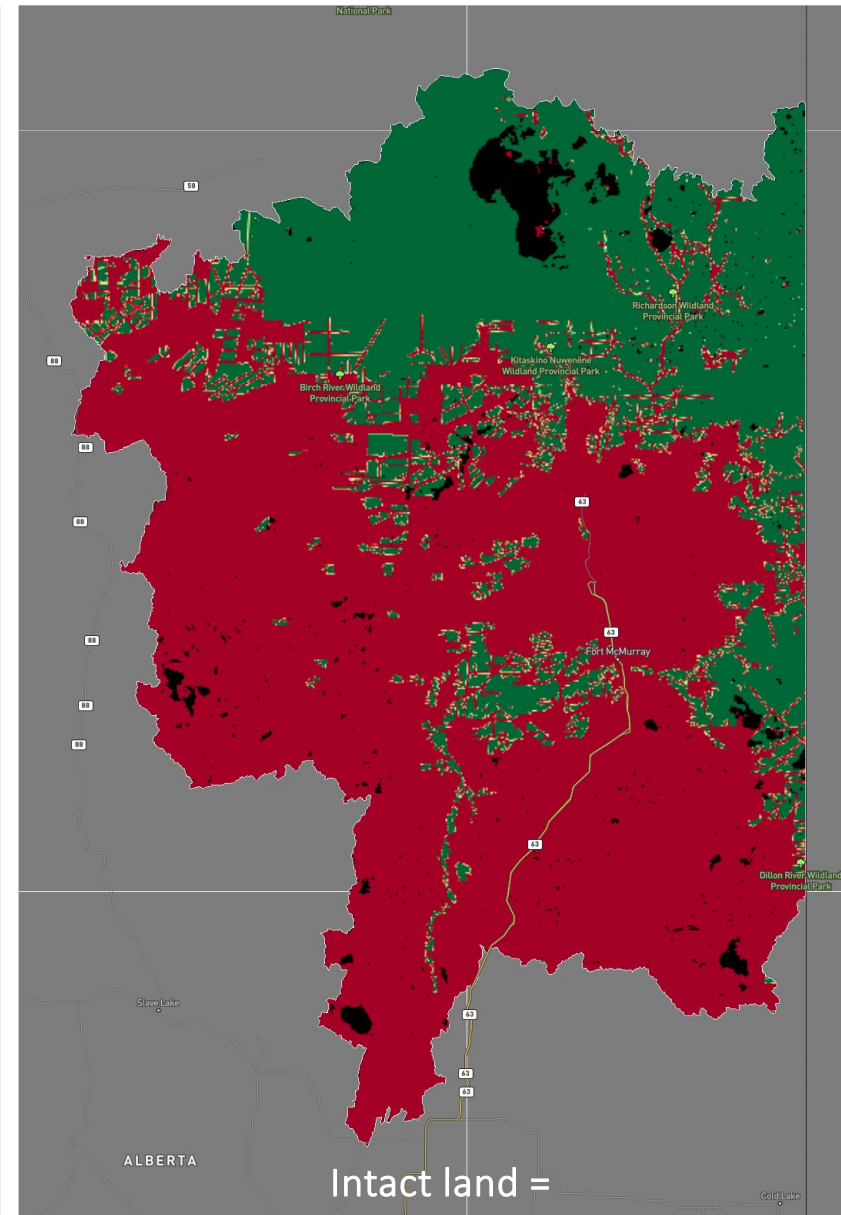
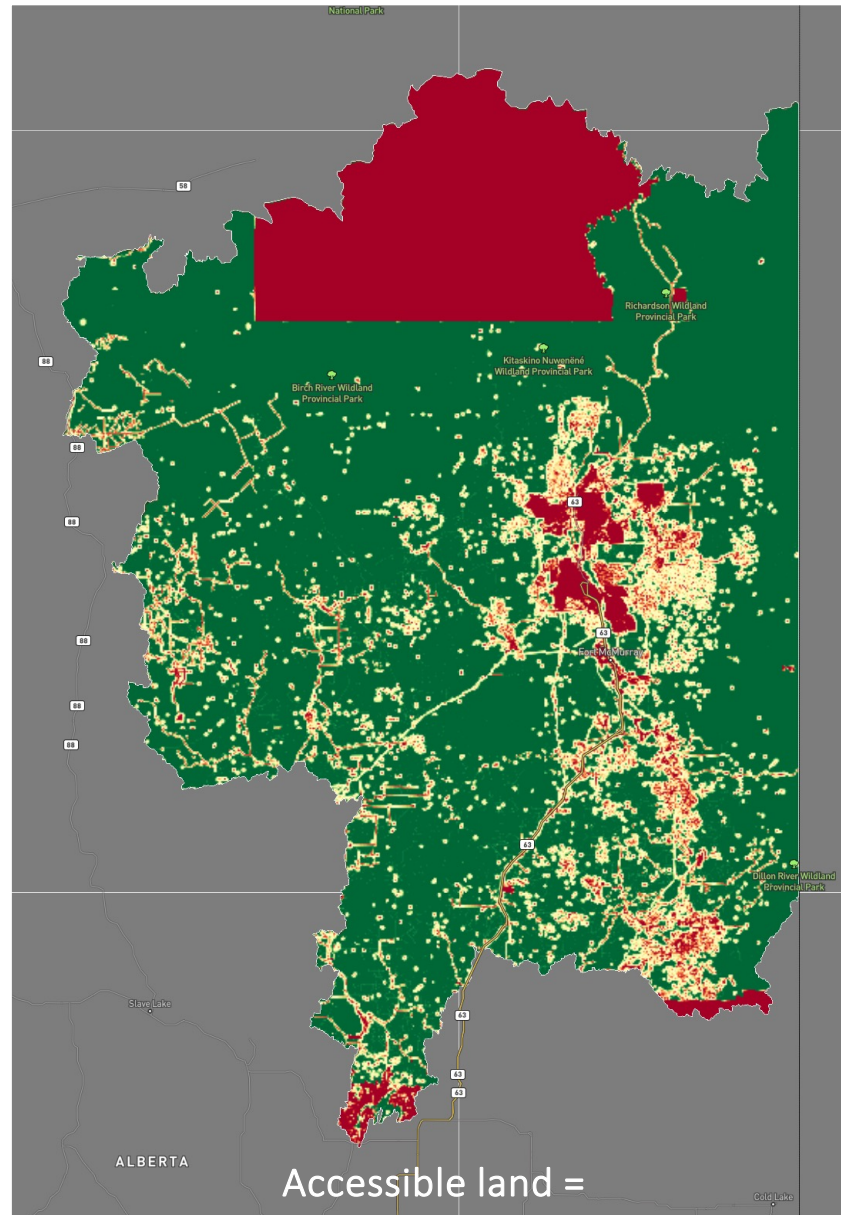
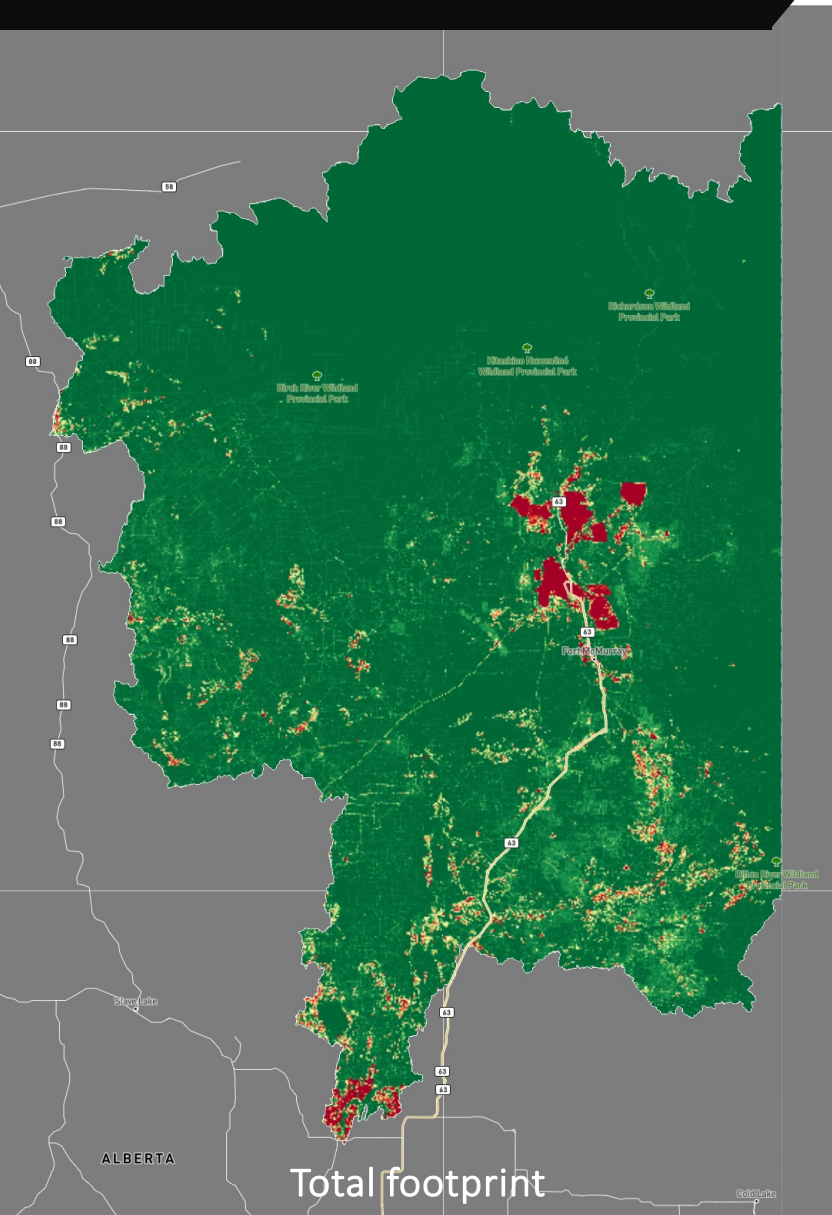


Results



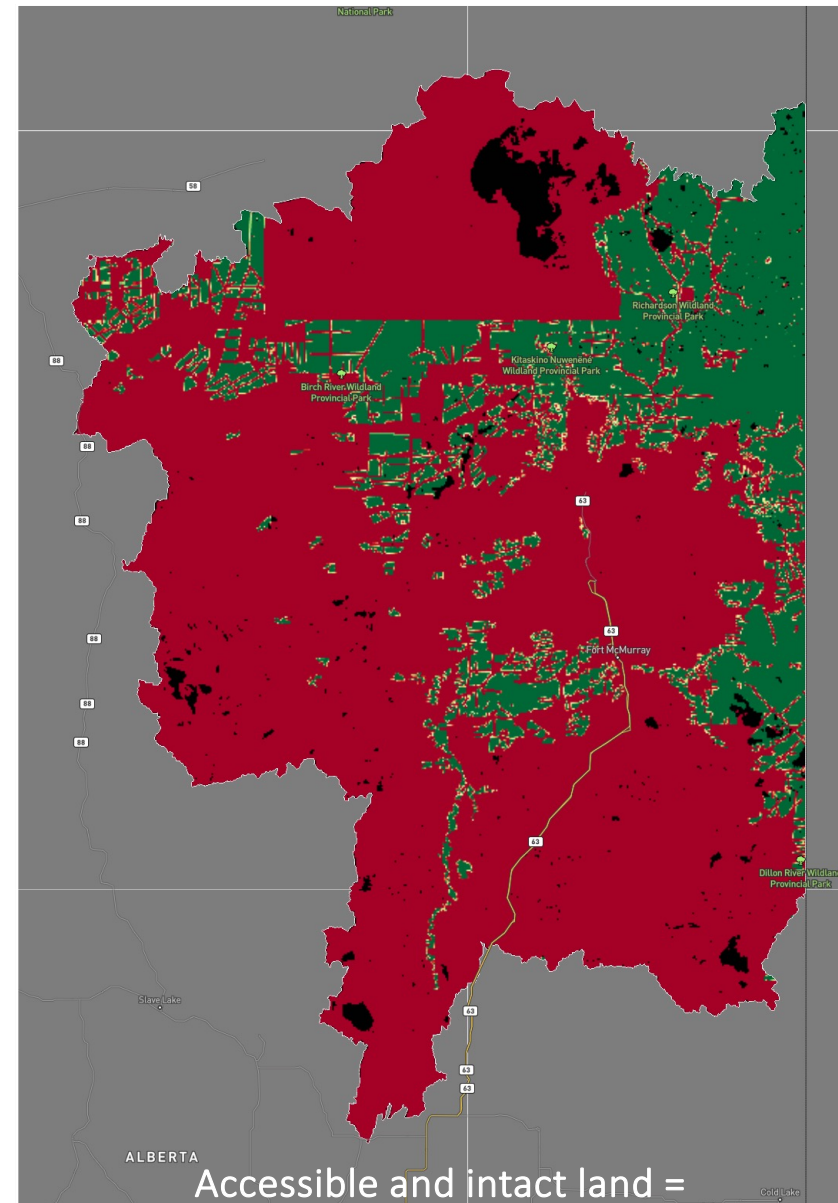
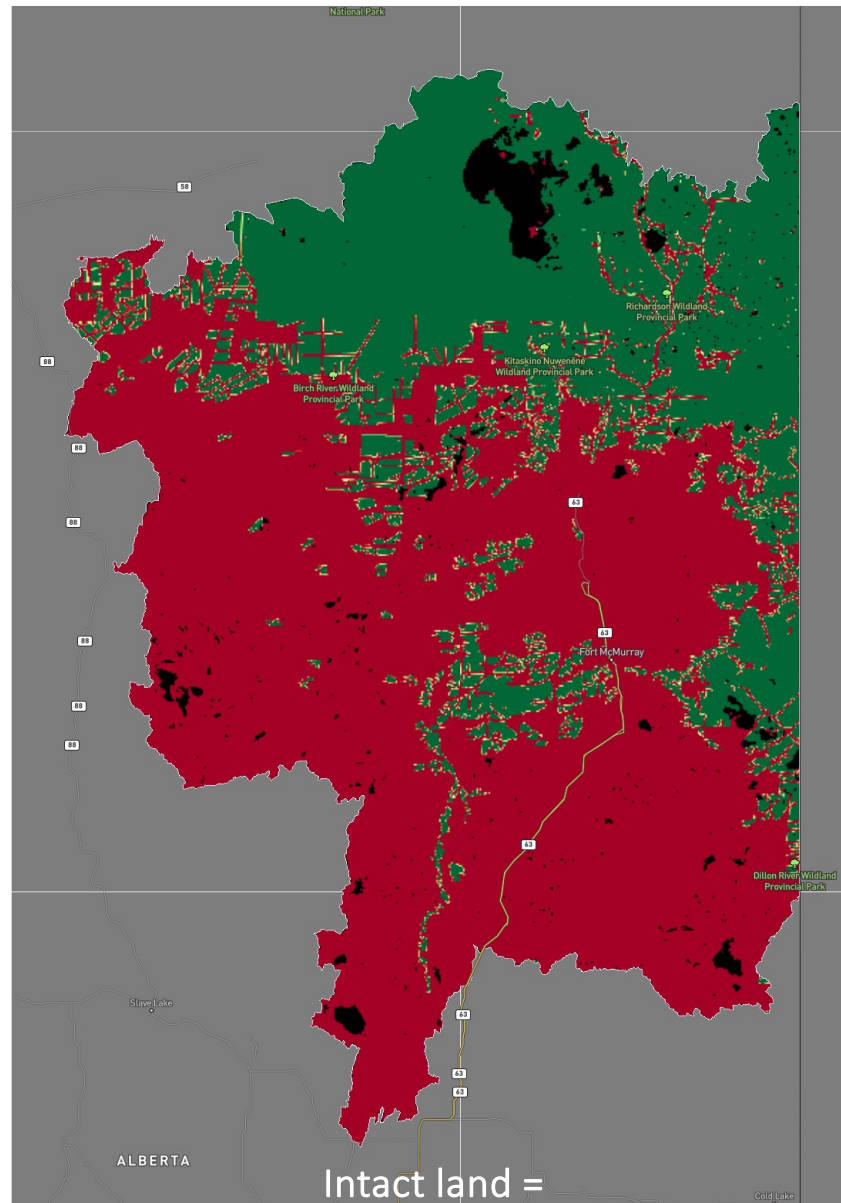
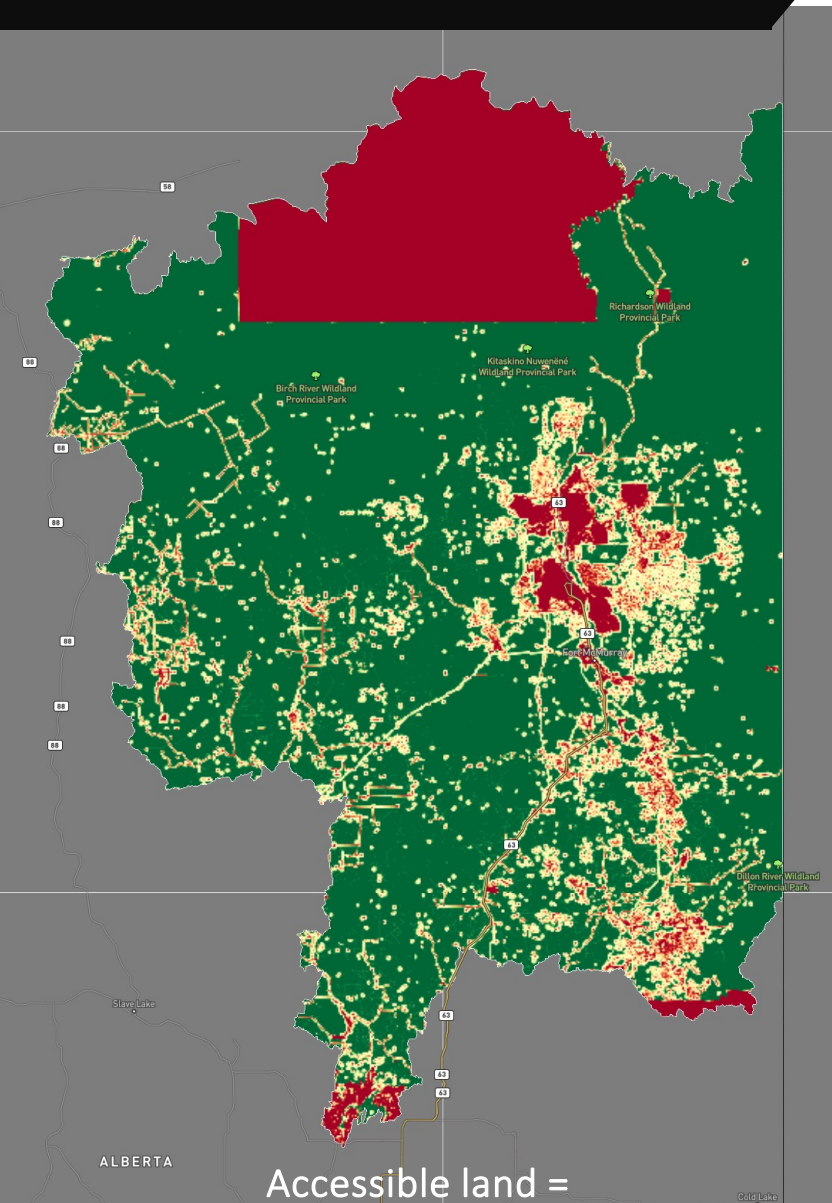


Results





Results





Conclusions

- Members are no longer able to confidently and consistently hunt, fish, trap, and harvest near their community or within a reasonable distance.
- People have less confidence in the quality and quantity of resources on the land, which in turn leads to avoidance of harvesting and being on the land.
- to continue to use and protect the land is contingent on understanding and addressing cumulative effects and safeguarding remaining intact landscapes.





Acknowledgements

We would like to acknowledge the community members and staff from FMMN who have shared their time and expertise. This research would not be possible without you.

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- Indigenous Centre for Cumulative Effects
- Impact Assessment Agency of Canada

Thank you!



Let's continue the conversation!

Post questions and comments in the IAIA24 app.



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