



# Systematic Conservation Planning Project

A holistic and proactive approach to inform land use decisions in the Territory



**Project Purpose** - The purpose of this project is to develop a set of maps that help prioritize lands for conservation to assist both day-to-day and longer-term land use decision-making. This process is called *systematic conservation planning* and identifies ecologically valuable areas by combining information from a variety of sources into computer mapping software.

**Elements** - I am including data on representative and rare wildlife, landscapes, and habitats. I'll also consider the potential effects of climate change and how well-connected intact portions of the Territory are. Finally, I will look to use Traditional Ecological Knowledge provided by the Nation whenever possible to ensure an inclusive outcome.



**Specific Features** - As part of my analysis I am including species such as caribou, grizzly bear, and moose, as well as landscape and ecosystem components like old forests, unique terrain, and special features like wetlands (among many others!).



**About Chris** - This project is a collaboration between Tsay Keh Dene's Lands, Resources & Treaty Operations Office, Chu Cho Environmental, and University of Northern British Columbia graduate student Christopher Morgan (me!). I live in Prince George and come to BC from Minnesota and Wisconsin in the US. I studied physical geography for my bachelor's degree at the University of Wisconsin, and enjoy canoeing and basketball.

Stay tuned for more updates on my systematic conservation planning project!



# Systematic Conservation Planning Project: Caribou

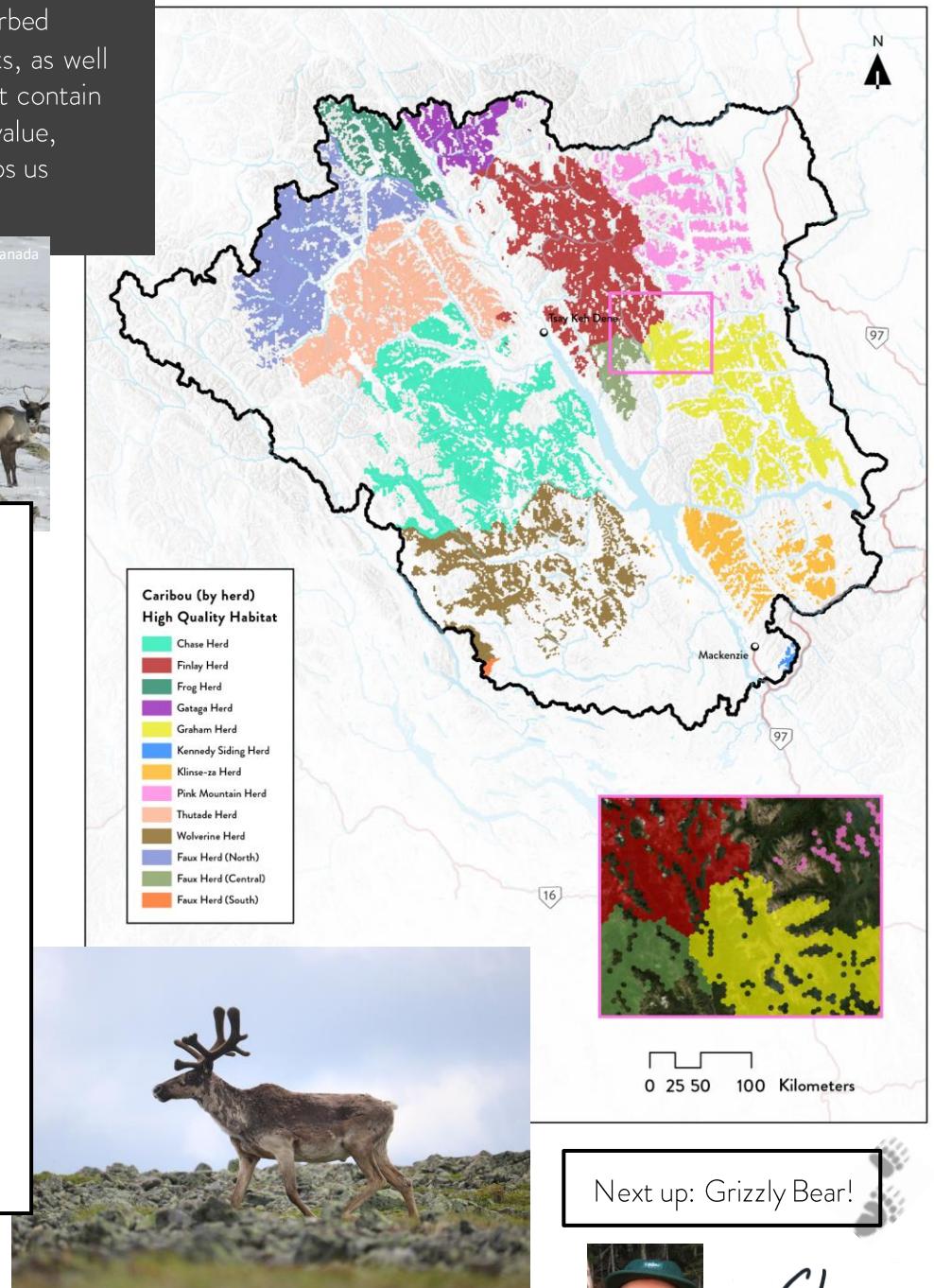
A culturally important species that also represents large, intact landscapes

**About** - Caribou represent undisturbed alpine and subalpine parkland habitats, as well as old, mid-elevation tree stands that contain lichen. In addition to their inherent value, including caribou in this analysis helps us protect these broader habitats.



## Habitat Data -

- I used caribou habitat data from several academic and government sources to cover the greater territory study area
- Tsay Keh Dene Traditional Ecological Knowledge was also included in my analysis but was not shown in any maps out of respect for the sacred and sensitive nature of this data
- I divided the habitat data by herd to ensure that habitat for each herd is considered for conservation purposes
- I included three “faux” herds where no herds exist, but caribou habitat is present



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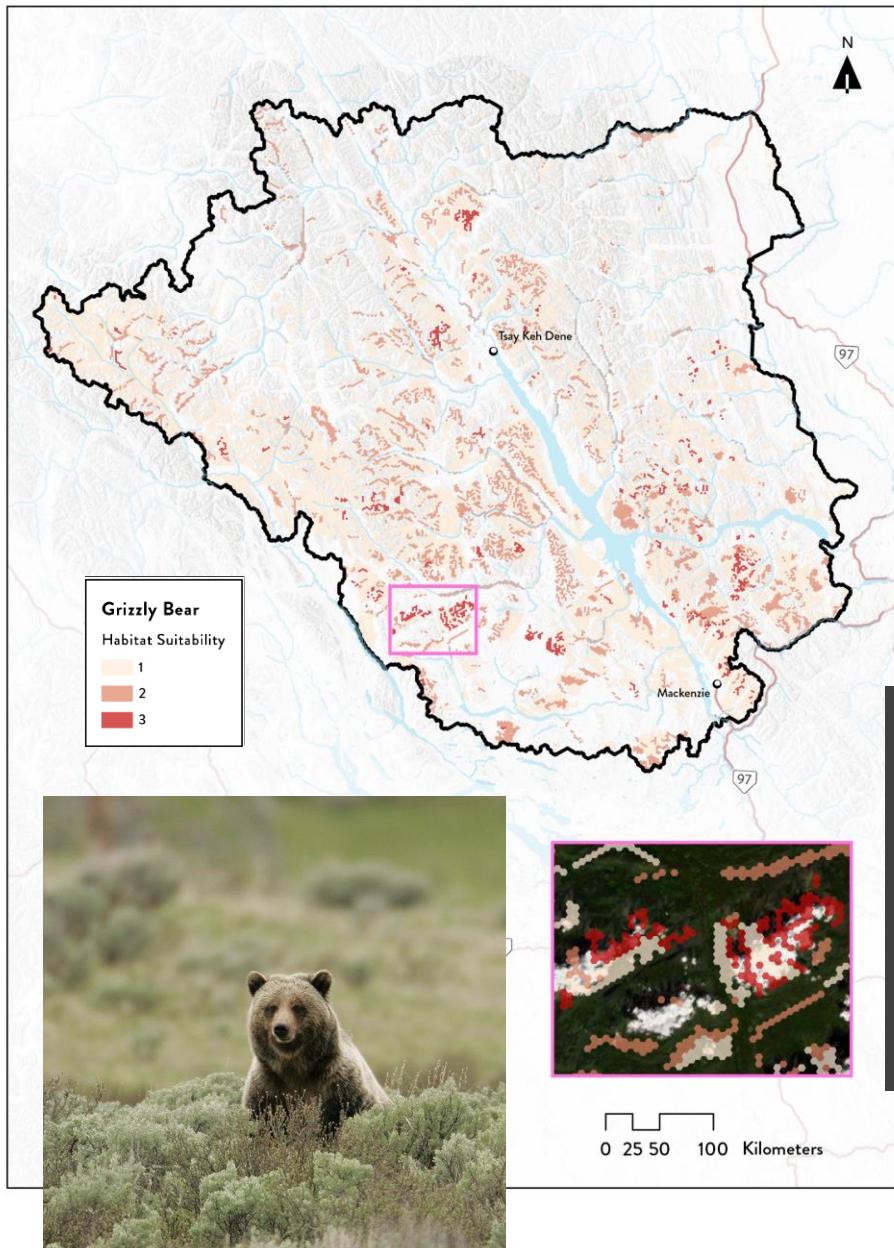


-Chris

# Systematic Conservation Planning Project:

# Grizzly Bear

An iconic species that represents the needs of many other animals



**About** - Grizzly bears were included because they represent open canopy forests and avalanche chutes, and provide umbrella representation for many other species. Like caribou, grizzlies also represent large, intact landscapes; protecting their habitat preserves both their inherent value and broader ecosystems.



## Habitat Data –

- I used grizzly bear habitat data from the provincial government to cover the greater territory study area
- Tsay Keh Dene Traditional Ecological Knowledge was also included in my analysis but was not shown in any maps out of respect for the sacred and sensitive nature of this data

Next up: Moose!



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# Systematic Conservation Planning Project:

# Moose

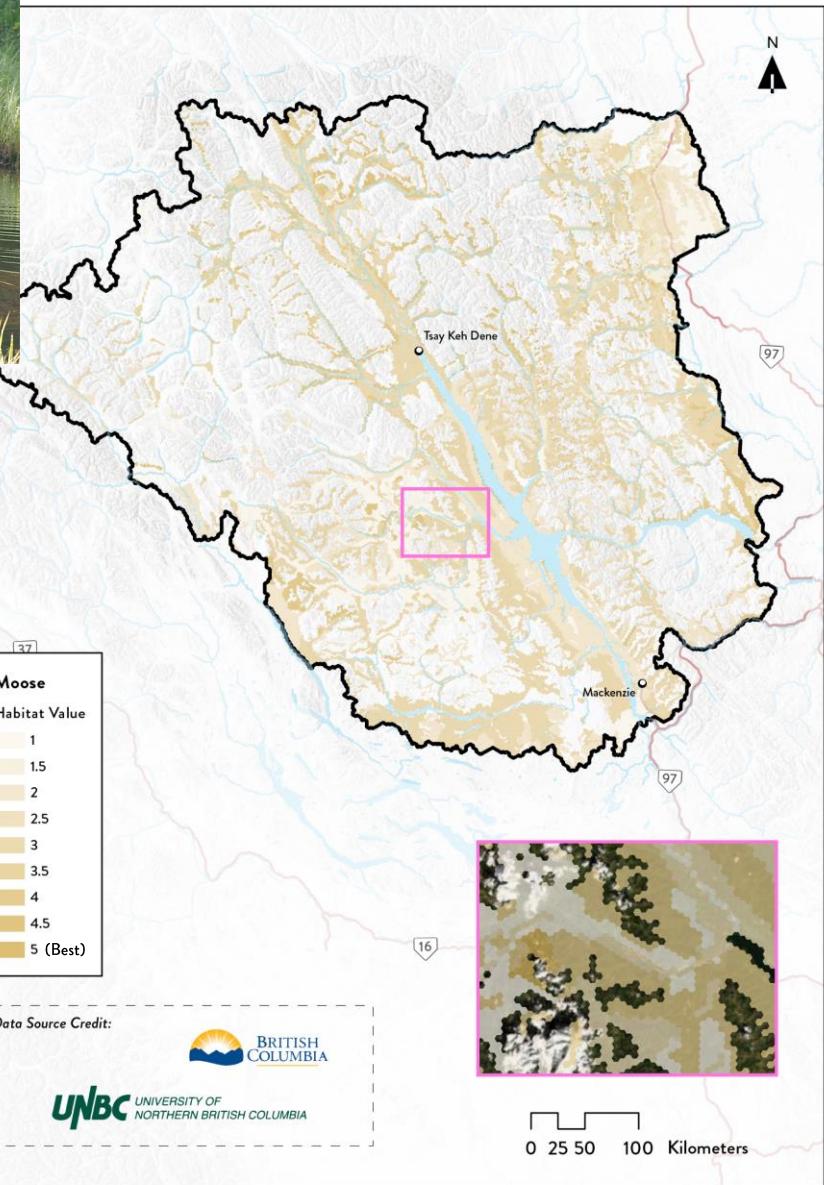
A vital subsistence species that represents productive wetlands and forests



**About** - Moose represent a unique collection of ecosystems, including young deciduous (or mixed-wood) forests, productive lakeshores and wetlands, and dense, mature/old forests.



**Habitat Data** - This layer was built with data from the BC government, UNBC researchers, and Tsay Keh Dene Traditional Ecological Knowledge (which is not shown in the map given its sacred nature). It takes both summer and winter habitat into account to produce a year-round map.



Next up: Elevational Diversity!



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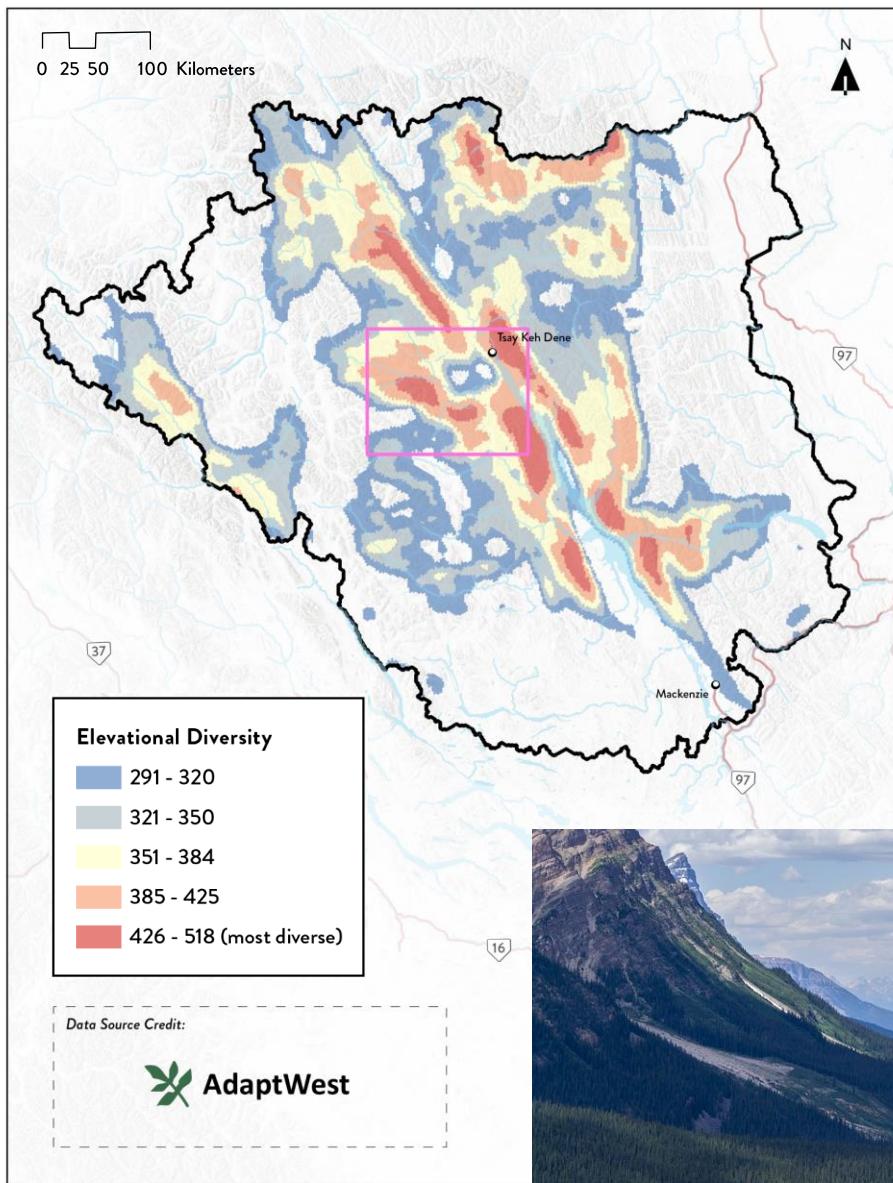
-Chris



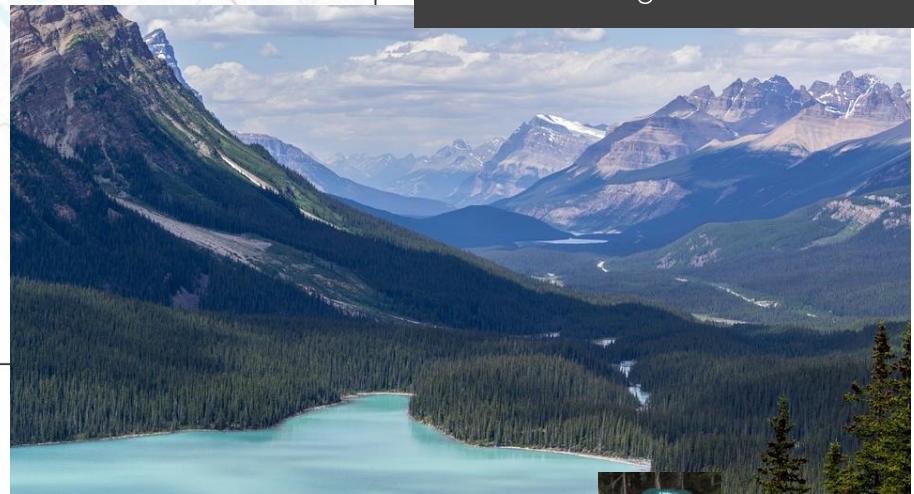
# Systematic Conservation Planning Project:

# Elevational Diversity

Protecting diverse habitats and potential climate safe havens



**About** – Elevational diversity is a way of measuring which areas have many different elevations clustered together. Areas that have low elevation river valleys, moderate elevation forests, and high elevation mountains all close to one another provide many habitats and can potentially serve as safe havens as the climate changes.



Next up: Cool Headwater Refugia!



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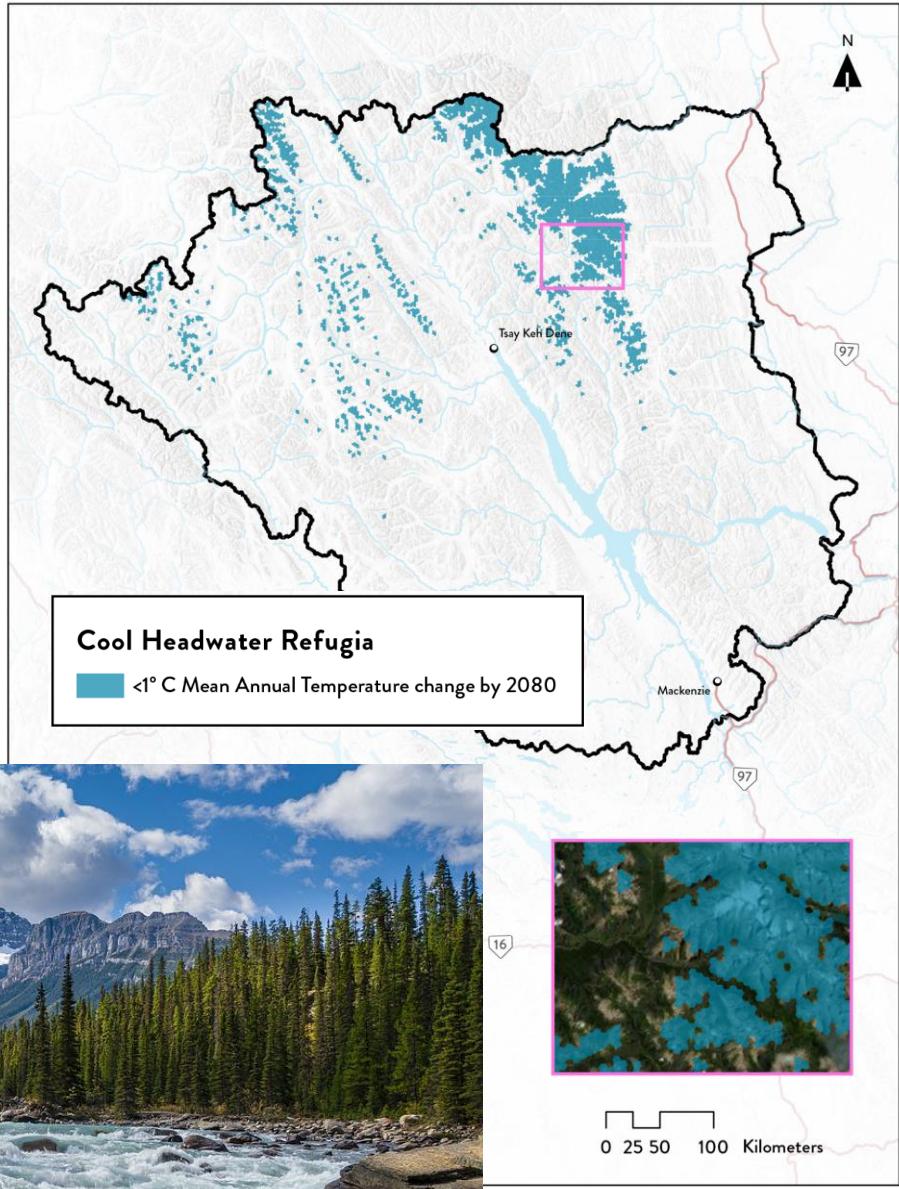
# Systematic Conservation Planning Project:

# Cool Headwater Refugia

Safeguarding areas that will remain cool as the climate warms



**About** – Cool headwater refugia are important areas at the source of rivers that hold high ecological value. These areas will remain relatively cool in the future and have the potential to serve as habitat safe havens for wildlife. I included areas that are predicted to warm by less than 1° Celsius by the year 2080.



Next up: Human Footprint!



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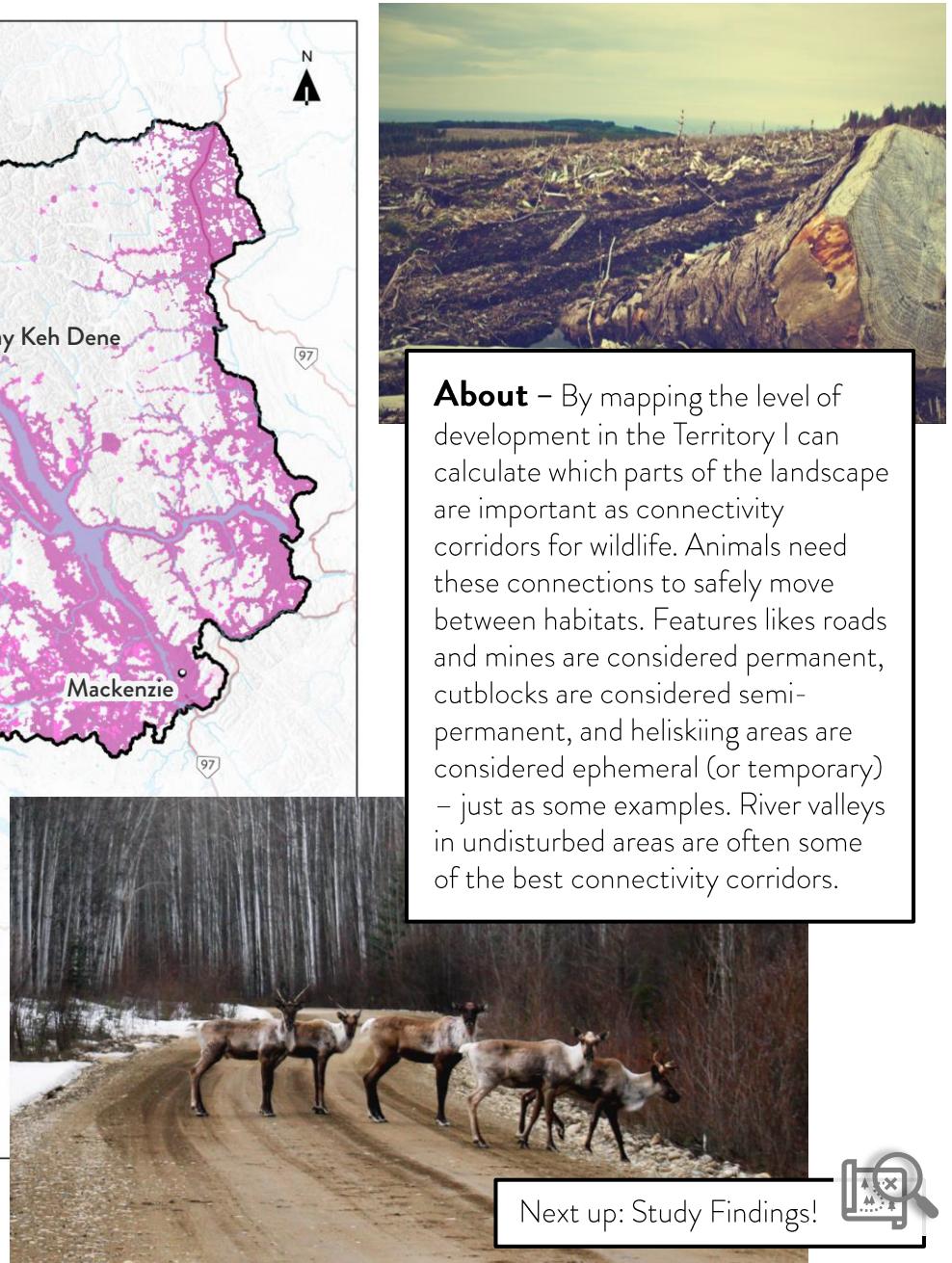
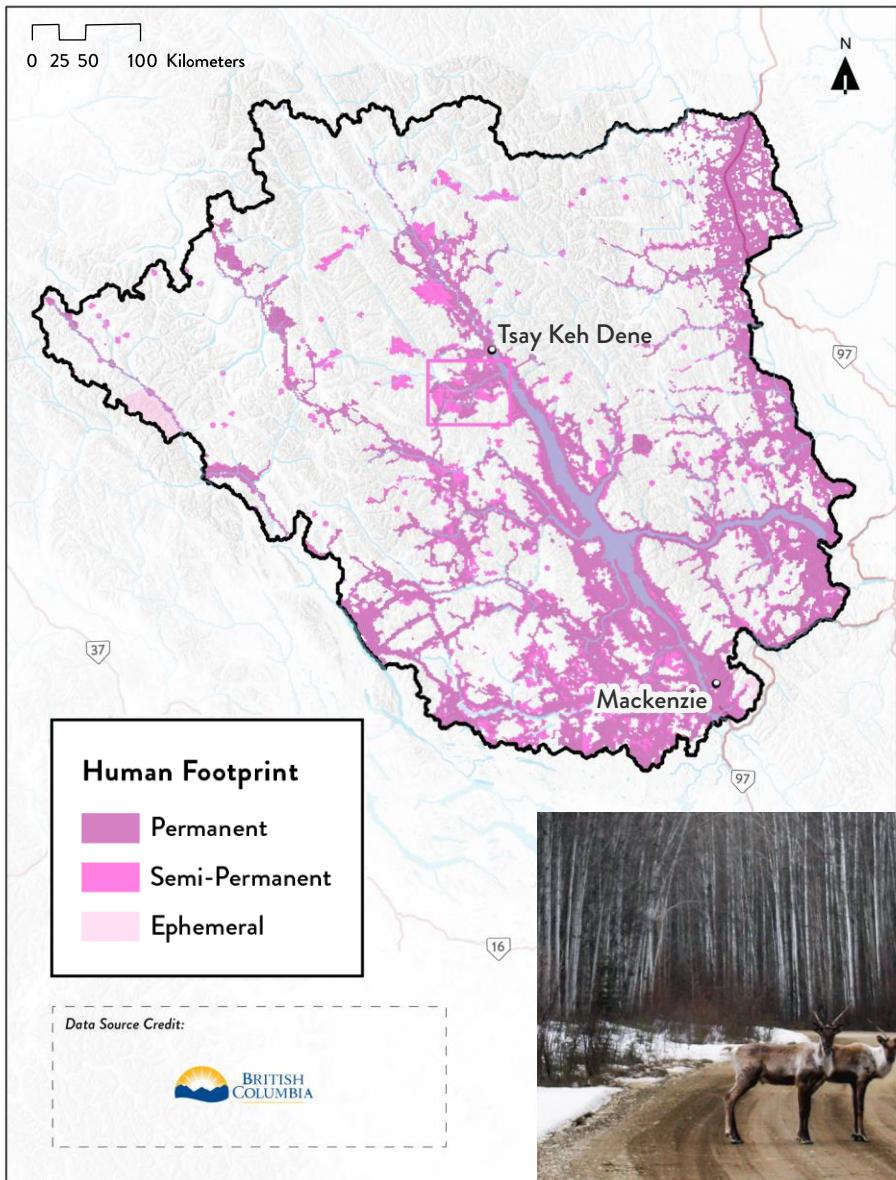
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# Systematic Conservation Planning Project: Human Footprint

Mapping human development to understand landscape connectivity



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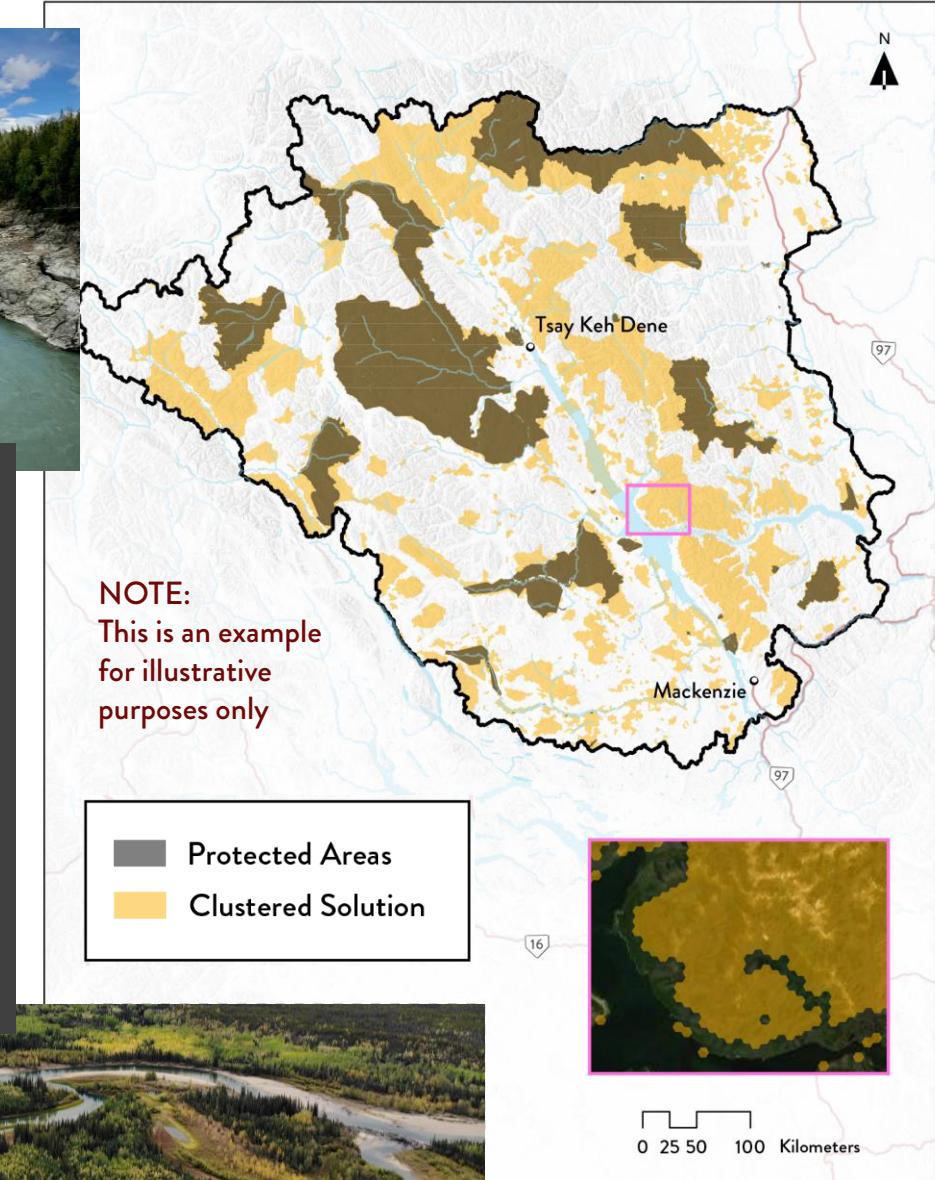


# Systematic Conservation Planning Project: Findings

A mapping tool to inform conservation decisions in the Territory



**About** – The final product of this project is a mapping tool that allows TKDN and Chu Cho staff to plan for each of the species, ecosystems, and landscapes covered in the previous posters. The planning tool shows which portions of the region are important to protect to safeguard these features. This information will help inform decisions on forestry and mining activity in the Territory, as well as identify areas for conservation efforts.



That's all! Thanks for reading ☺



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