

# Systematic Conservation Planning in Tsay Keh Dene Territory: Incorporating Climate Change and Bridging Traditional Ecological Knowledge



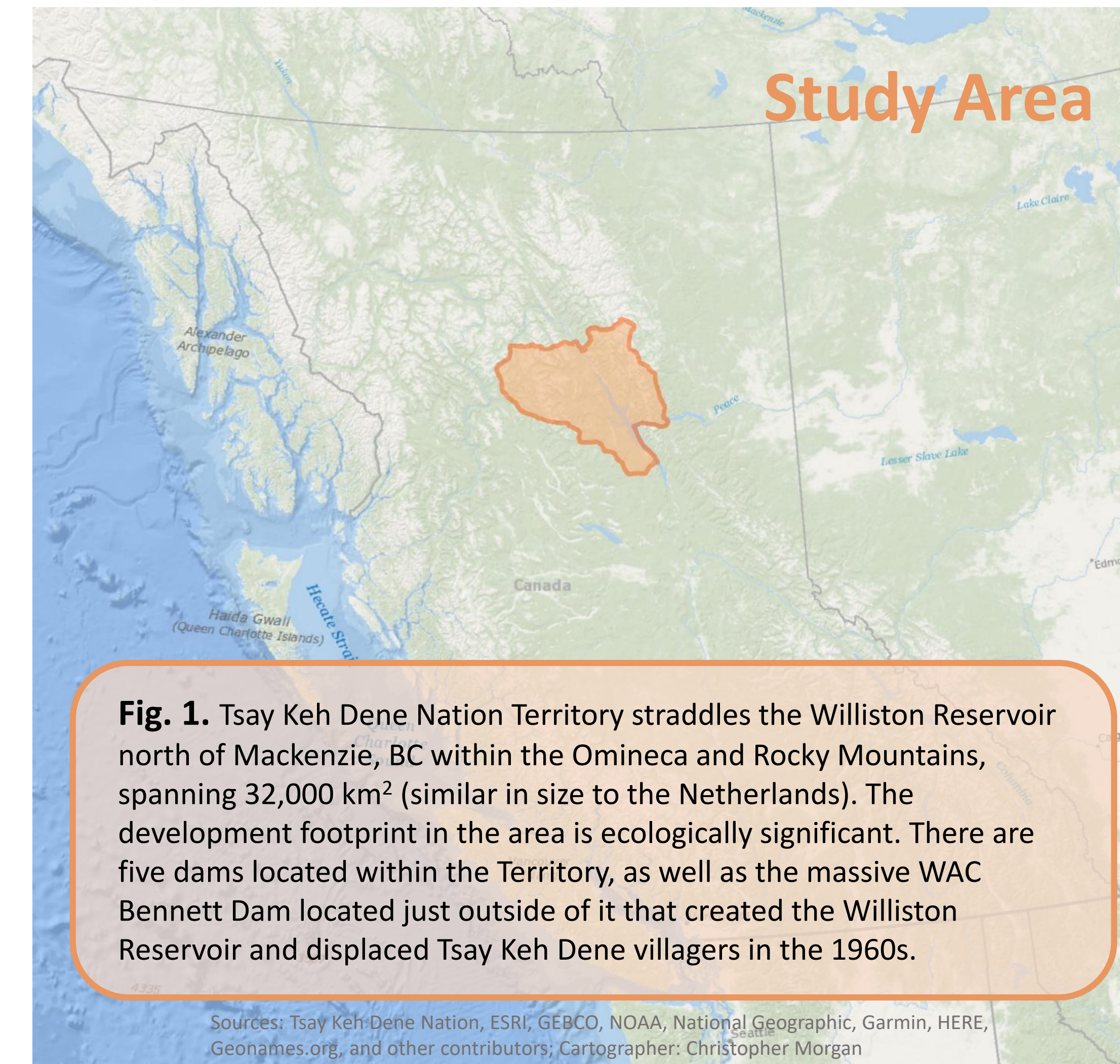
## Introduction

Systematic Conservation Planning (SCP) asserts that the practice of protecting lands should be considered on a broad scale and be holistic in nature. Available areas of land with conservation potential should be examined critically for whether they fit into a larger ecological network – either as a link between existing protected areas, or as an area that is ecologically significant on its own.<sup>3</sup> This proactive, rather than reactive mindset sets it apart from historical protected areas creation.<sup>4</sup>

This project applies SCP principles and tools to a specific geography – the Tsay Keh Dene Nation Territory in north-central British Columbia, Canada. The research is in cooperation with the Nation, while its wholly-owned environmental consulting firm, Chu Cho Environmental, is providing technical assistance.<sup>5</sup>

## Methods

- Coordinate with the Nation to gather a set of conservation features for geospatial analysis, including:
  - Umbrella species
  - Significant ecosystem characteristics
  - Land facet diversity and rarity<sup>Δ</sup>
- Identify goals and targets for each conservation feature based on ecological best practices
- Review existing network of protected areas in the region
- Use Marxan-ILP software to prioritize lands for conservation
- Explore climate change impacts on conservation by comparing which lands are worth conserving:
  - Today
  - 30 years from now
  - 60 years from now
- Explore bridging Traditional Ecological Knowledge with the SCP framework



## Management Implications

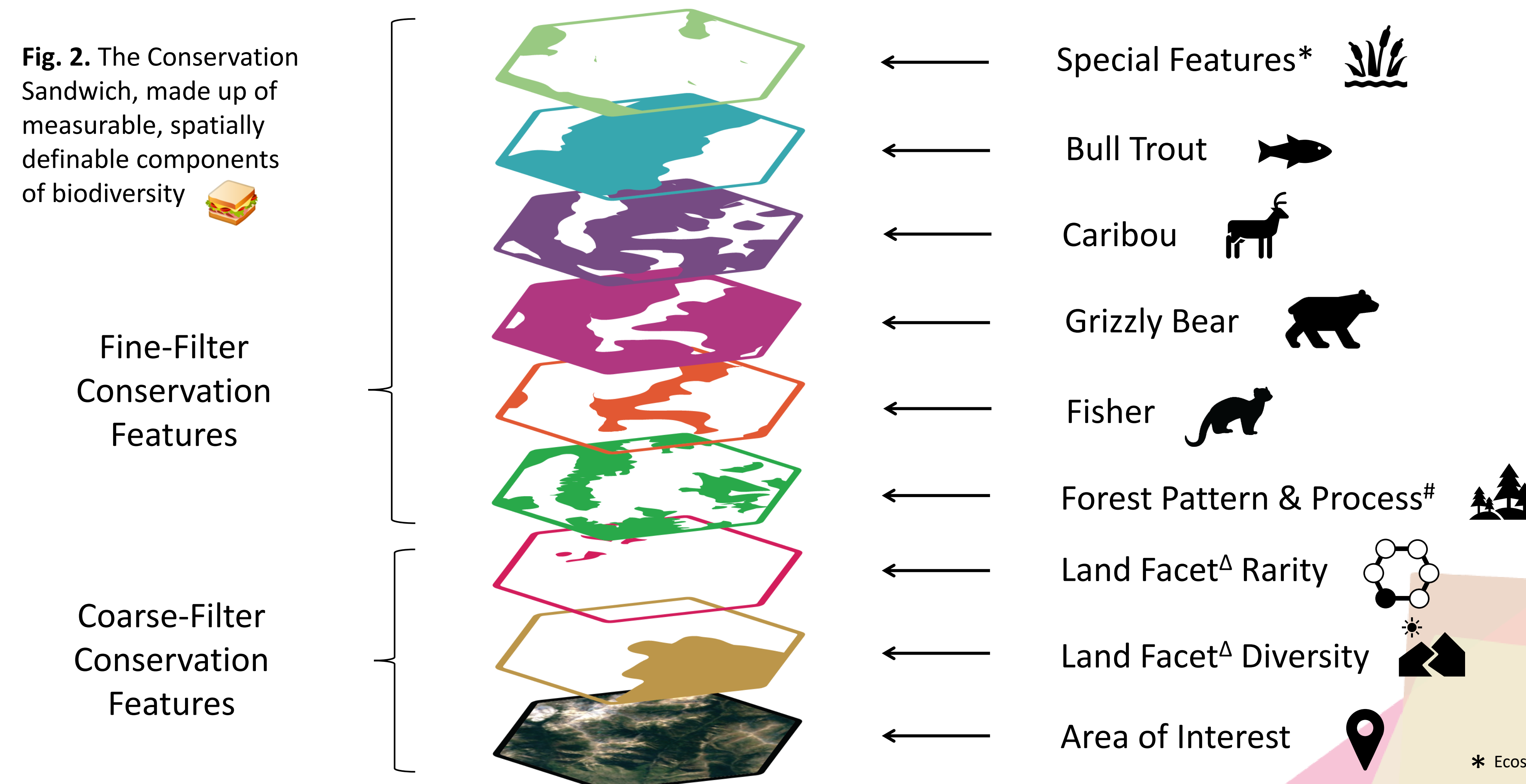
The result of this research and analysis will be a set of maps identifying the locations of key ecological, cultural, and recreational value within Tsay Keh Dene Territory. With a clear hierarchy of lands to choose from, planning and management of the Territory for cultural, ecological, or economic purposes will be made easier and more defensible with the SCP framework in place.<sup>4</sup> While other factors will certainly be considered in any land use determinations, the SCP final product will serve as a powerful decision-making tool.

## Research Questions

- Given a finite set of resources and a suite of conservation features, which portions of Tsay Keh Dene Territory should be prioritized for conservation?
- How does the extent of selected land differ when climate change is accounted for?
- How can the methodology of Systematic Conservation Planning be modified in order to effectively bridge Traditional Ecological Knowledge with this otherwise Western Science-based approach?

## Conservation Features

The collection of inputs for our conservation model is being compiled with conventional SCP methods while also looking through climate change and Indigenous lenses. The graphic below depicts these data layers:



## References

- corresponding author: [morganc0@unbc.ca](mailto:morganc0@unbc.ca)
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