

# Project and Cumulative Effects Assessment :

## Industry Needs

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# Overview

- Controversial Projects(?)
- Caribou/Industry Interactions
- Perspectives on Conservation
- Environmental and Cumulative Effects Assessment

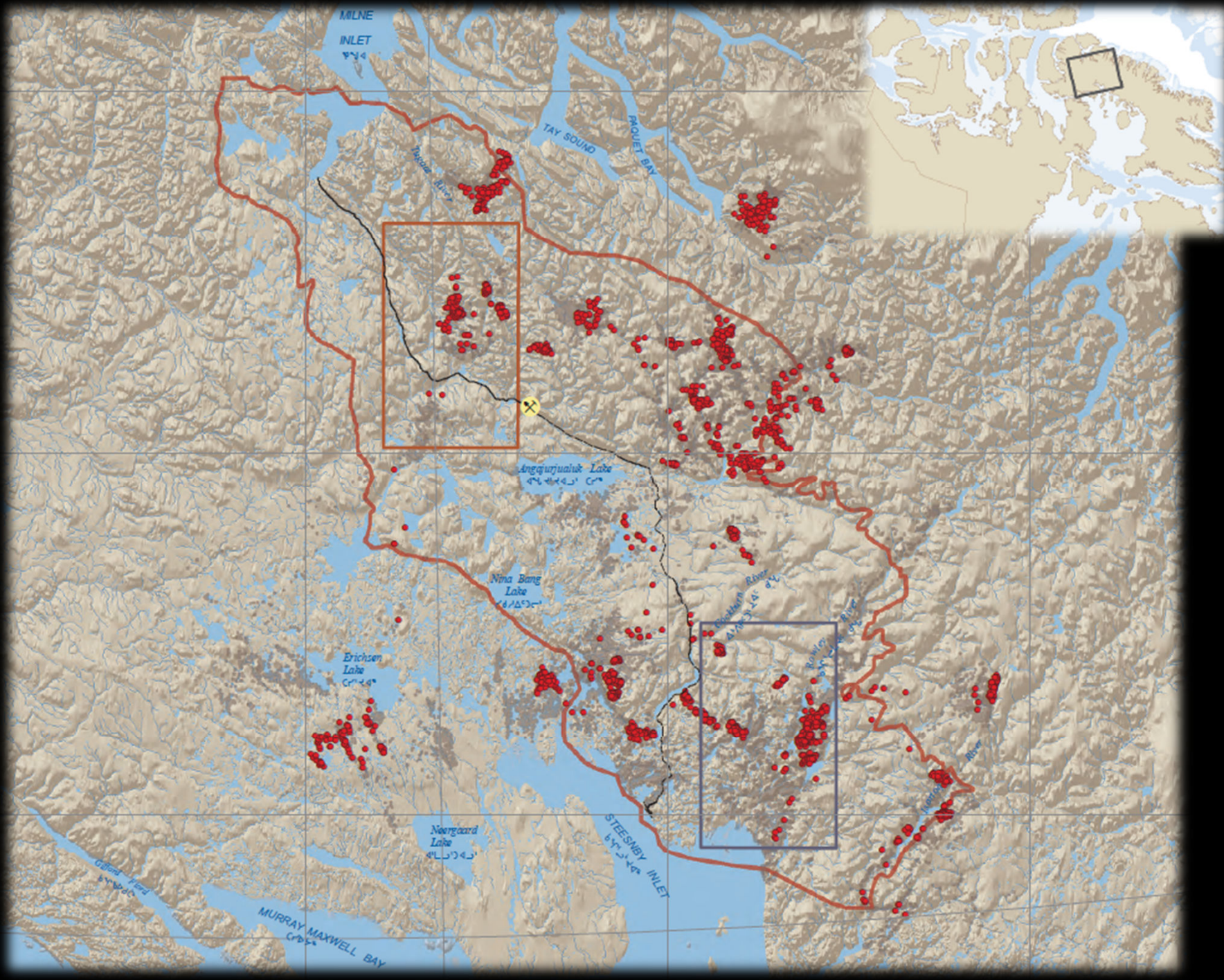


# Example Projects and Caribou

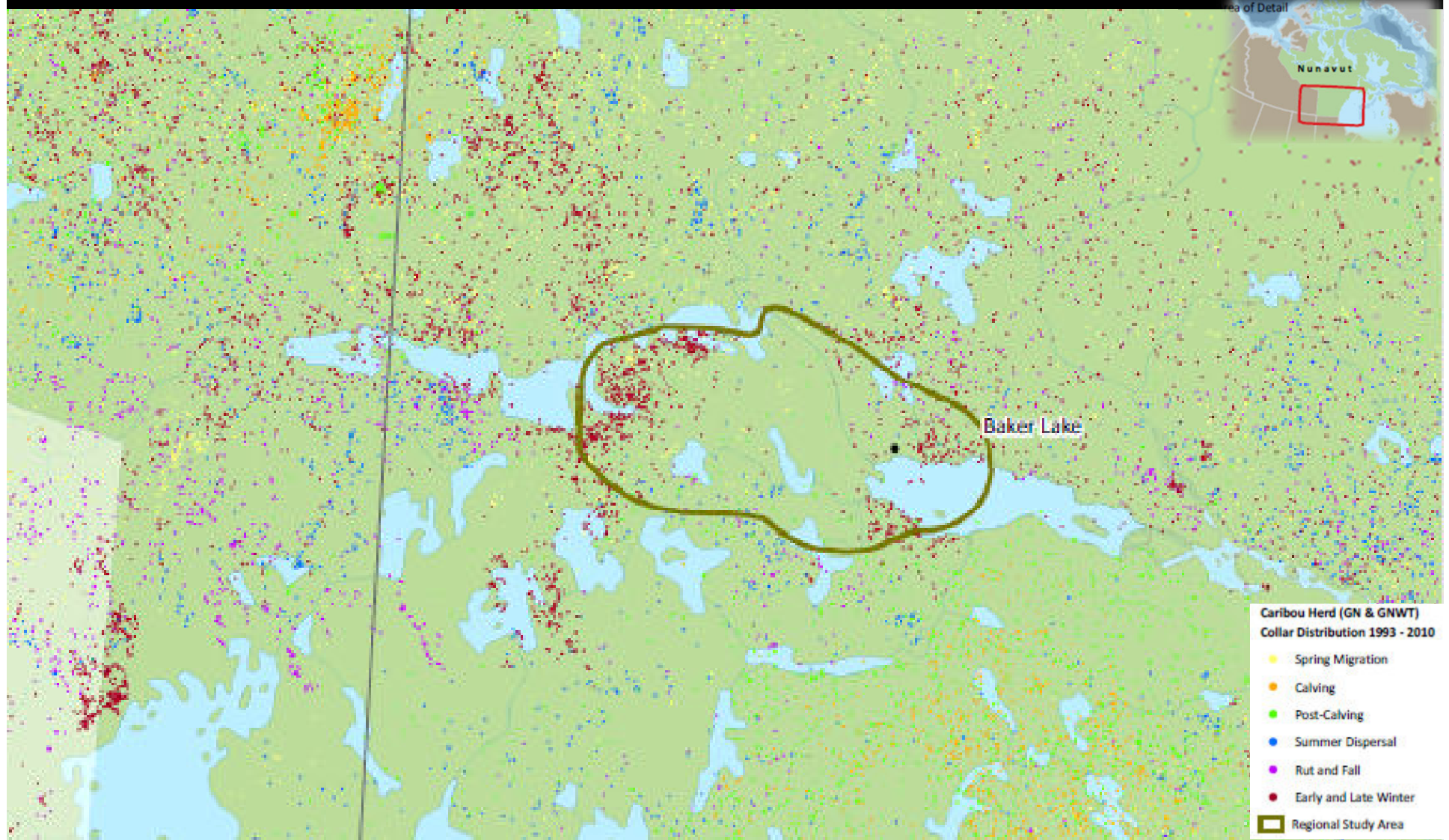
Project	Location	Caribou Issue
Mary River Iron Mine	Baffin Island, eastern Nunavut	North Baffin: Low in 70 year <u>cycle</u> ; railway effects on <u>movement</u>
Kiggavik Uranium Mine	Baker Lake, central Nunavut	Multiple herds: New <u>road</u> access through summer habitat, increased <u>harvest</u> pressure
Izok Corridor Zinc Mine	Western mainland Nunavut	Bathurst: Road at edge of traditional <u>calving ground</u> Dolphin Union: Road in <u>winter range</u>
Casino Copper/Zinc	Central Yukon	Klaza caribou: road access through winter range
Various Oil and Gas and Mining	NE British Columbia	Multiple herds: core winter ranges

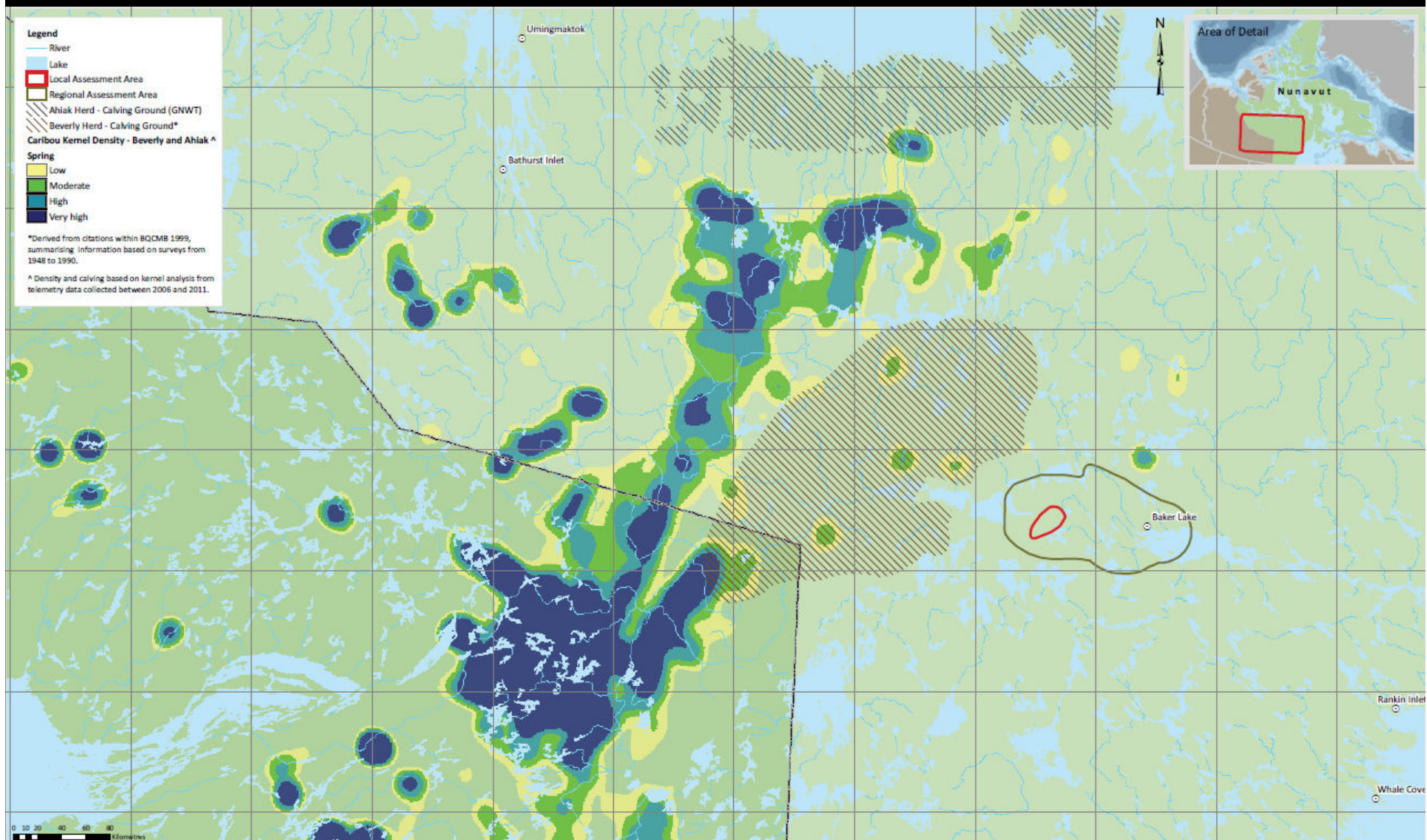




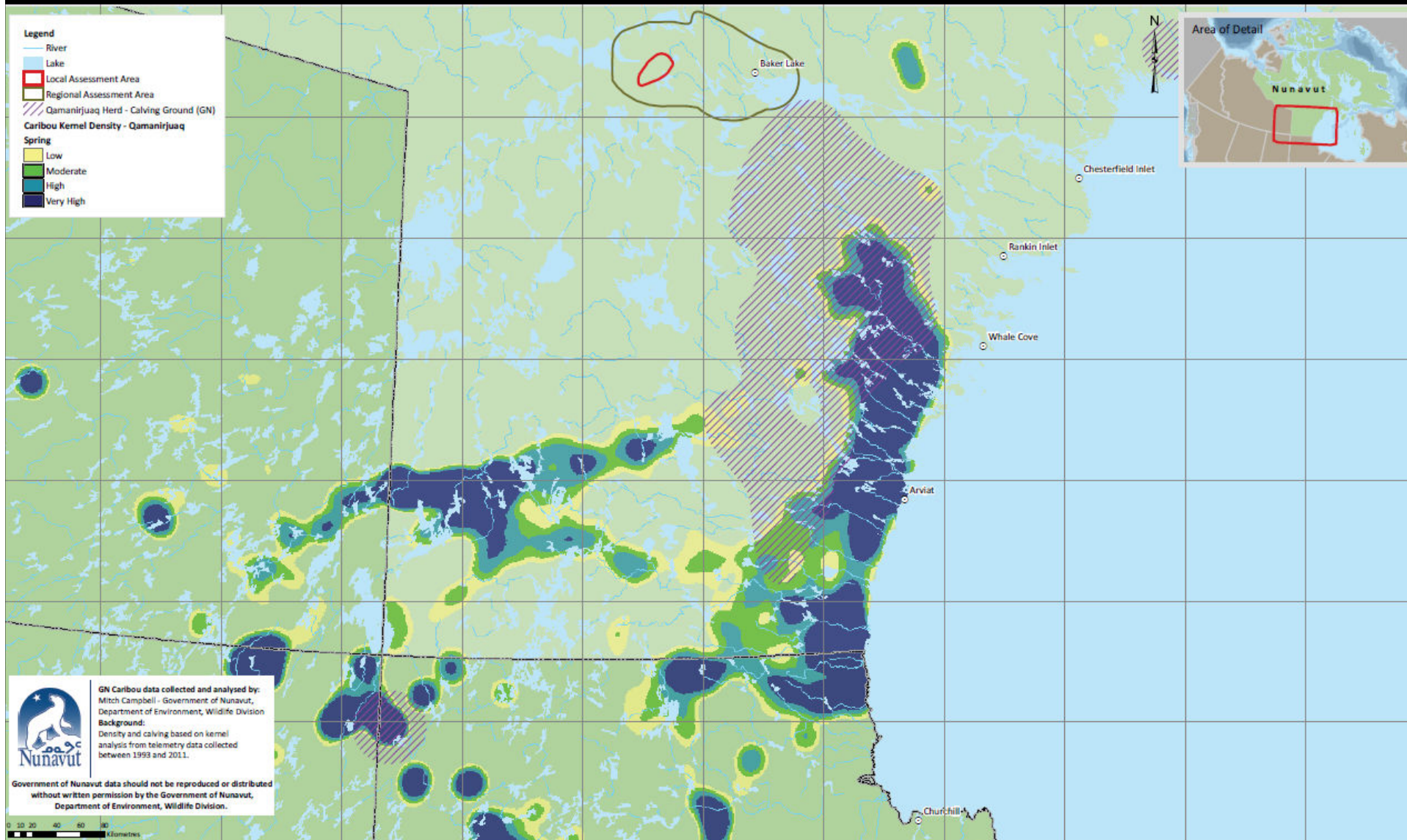




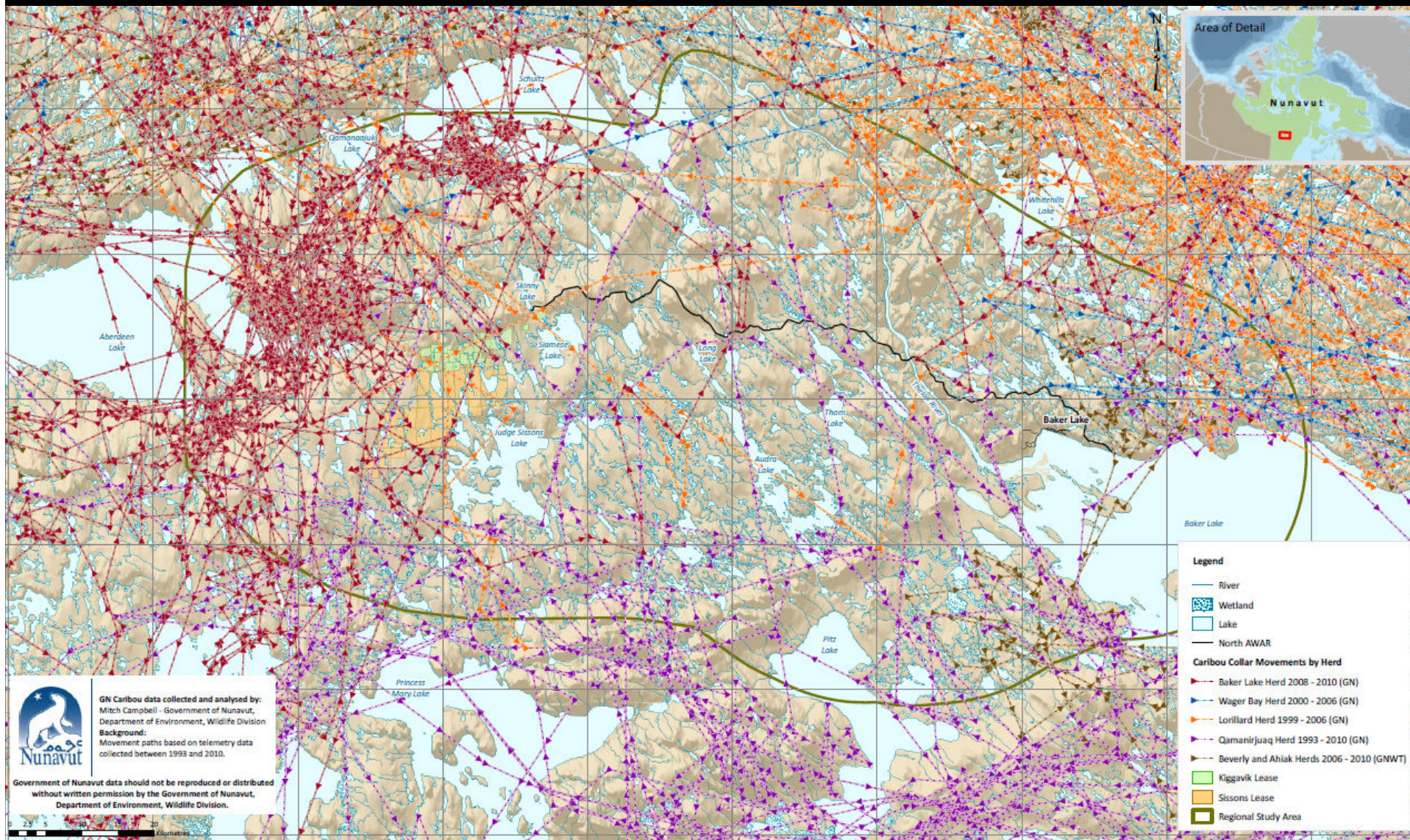




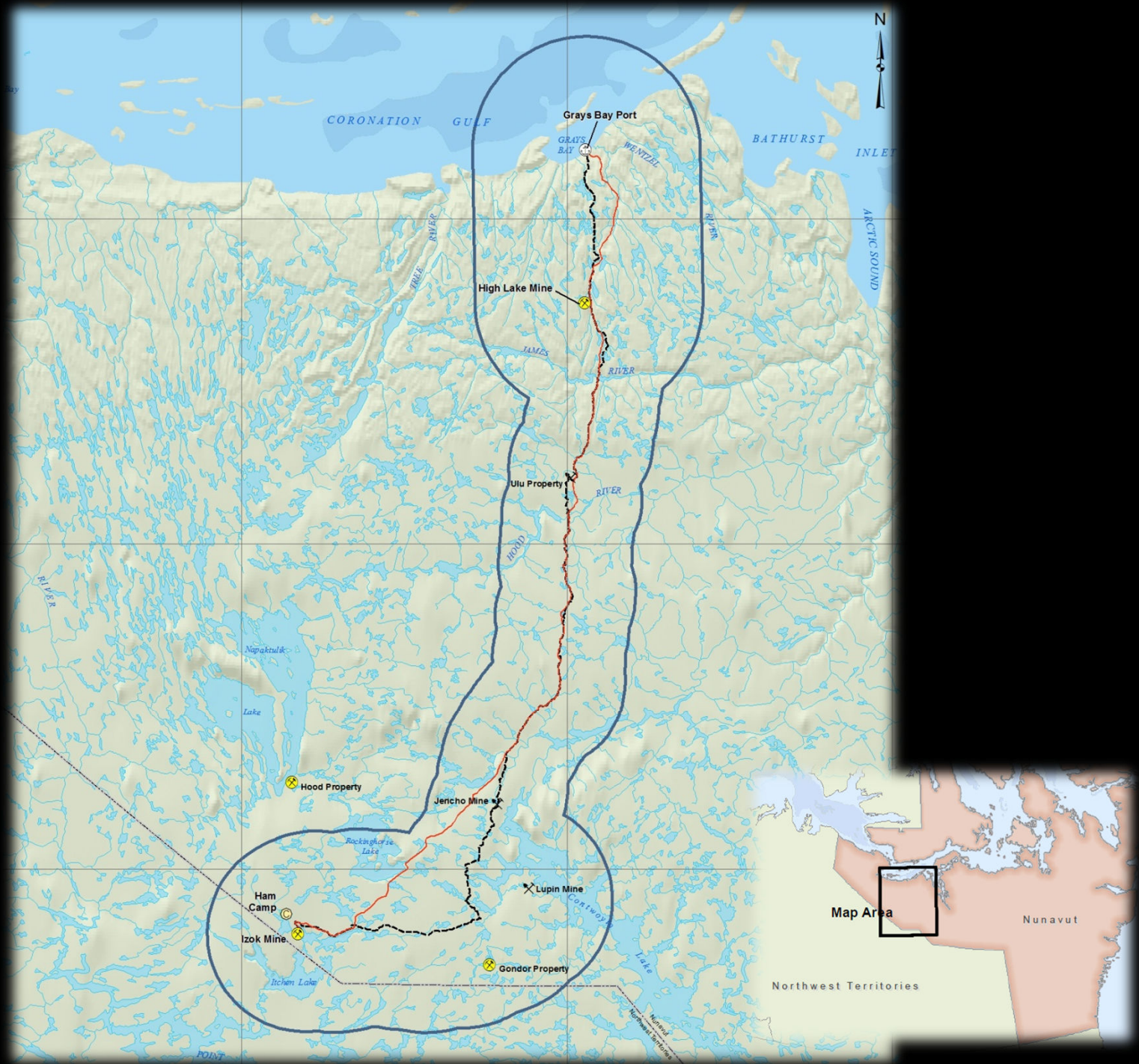




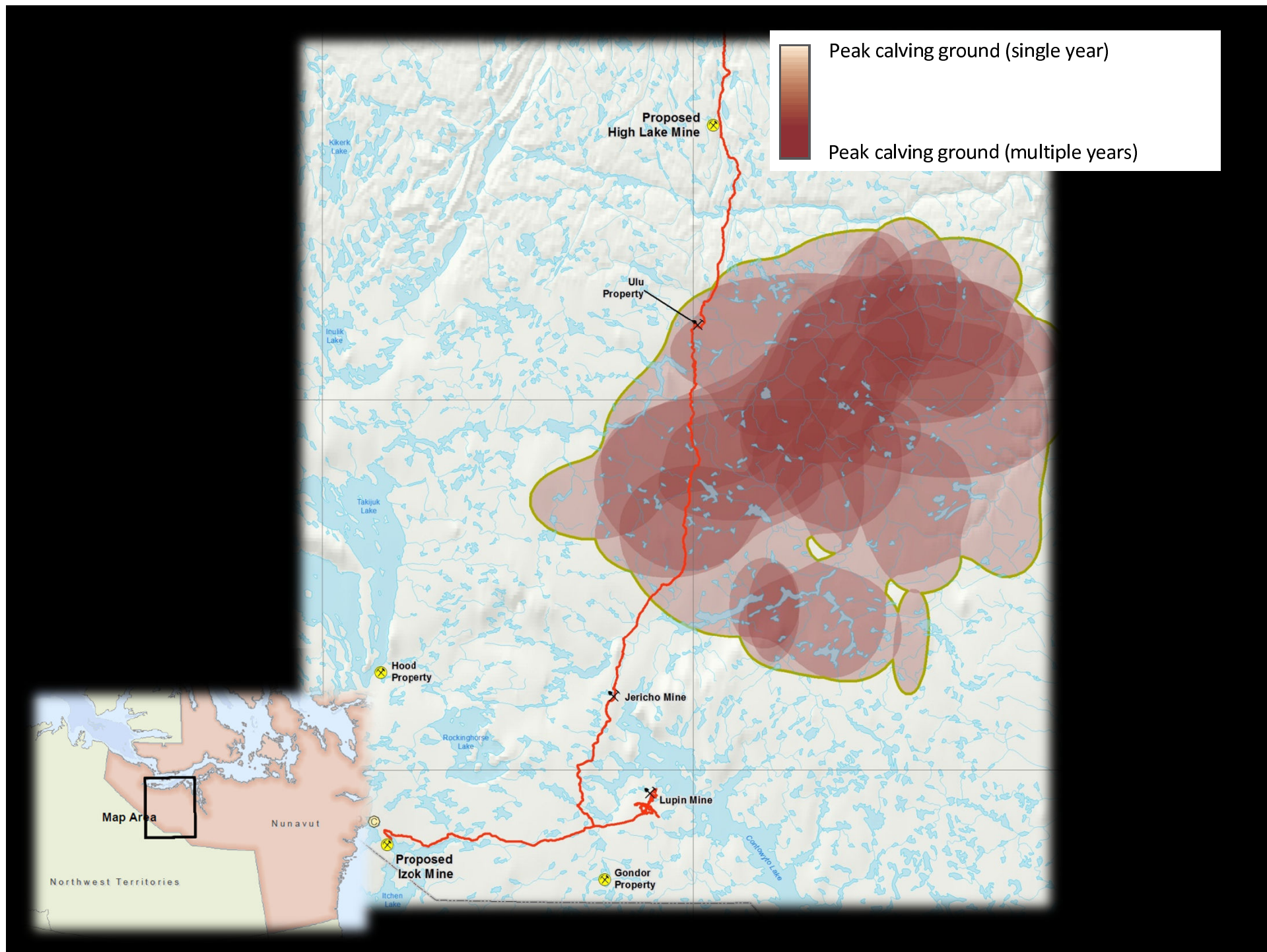




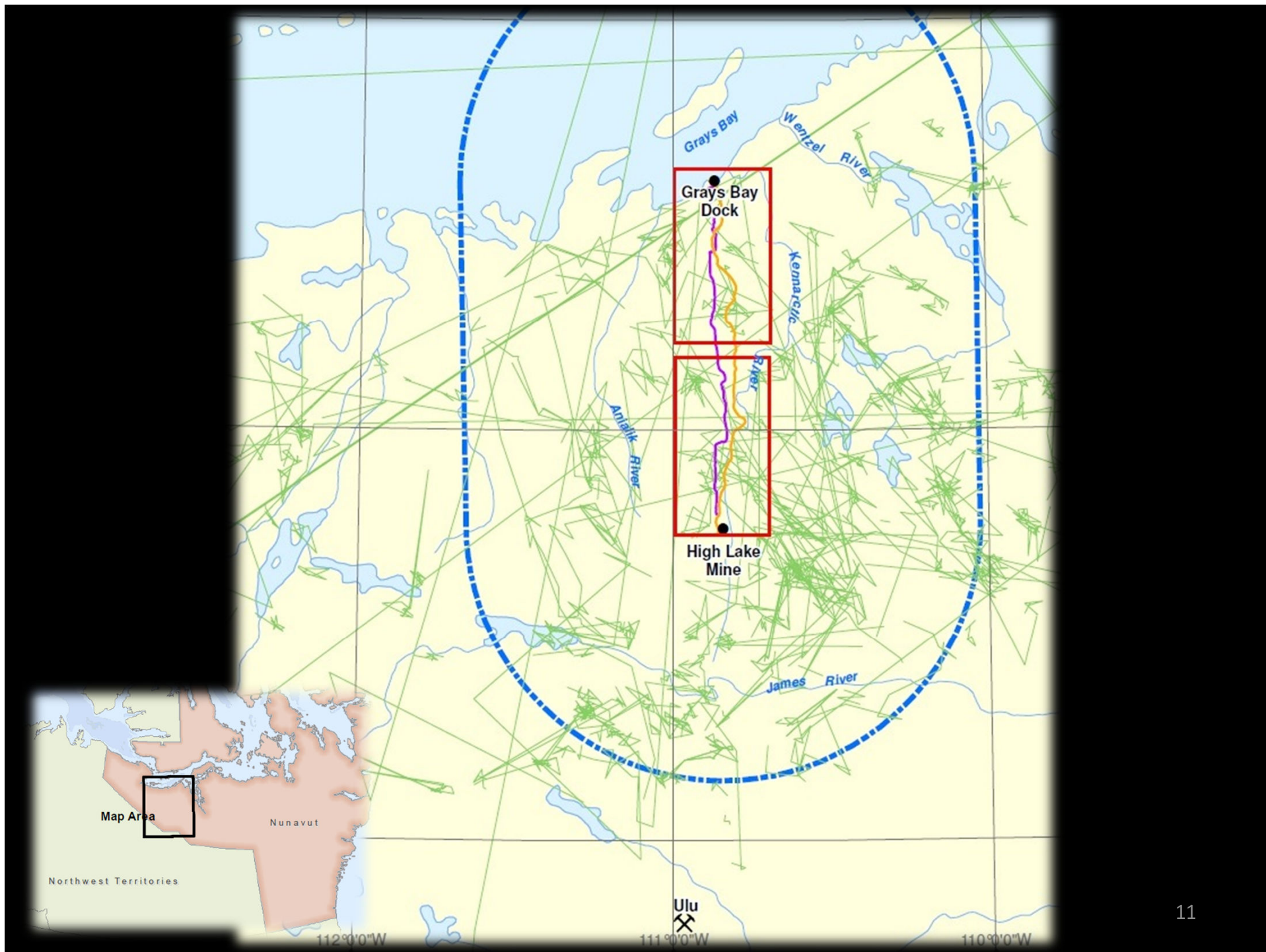




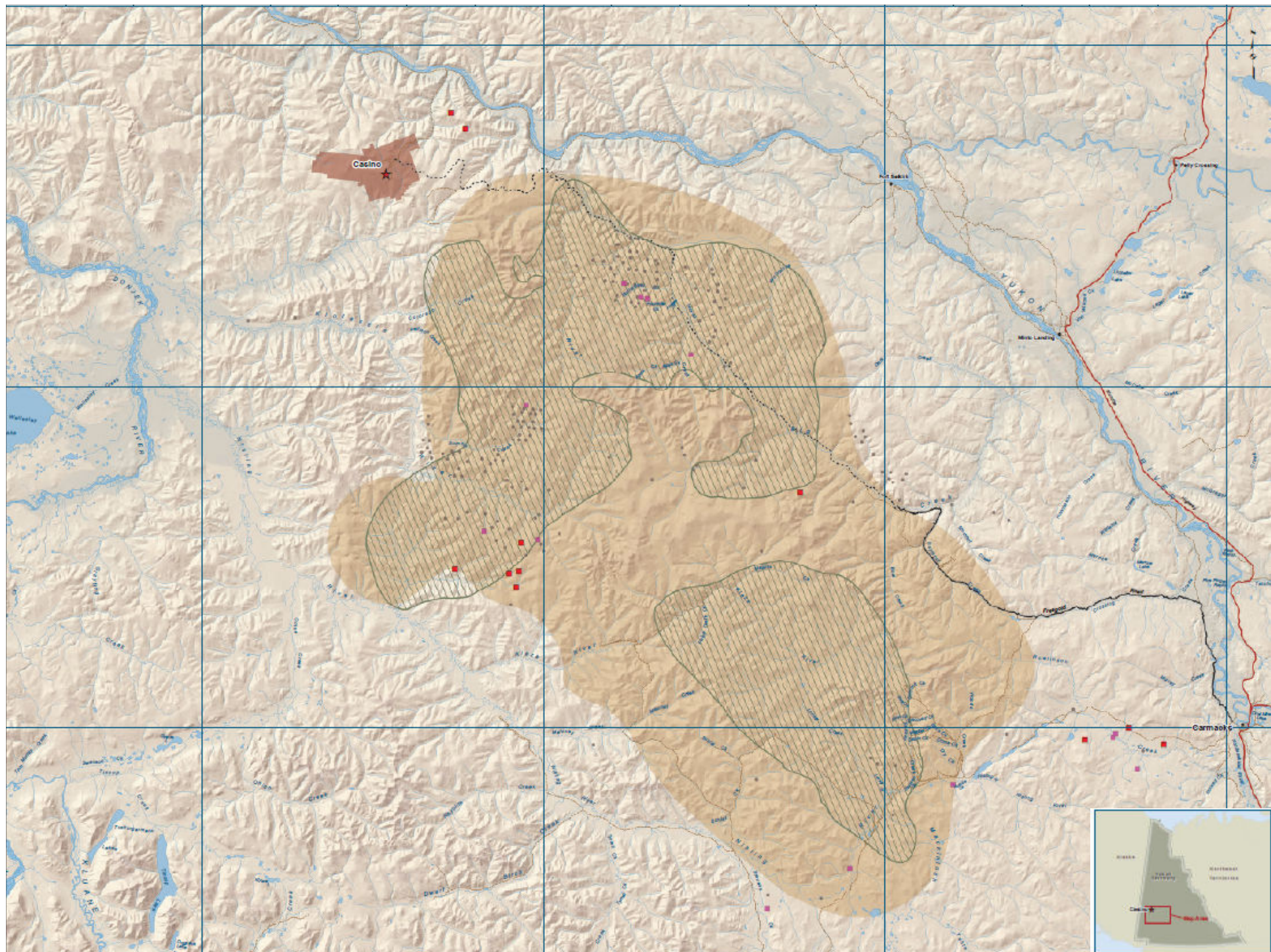














# Environmental Assessment is...

A protection tool, a methodology and a regulatory requirement.

- ... a process to *predict* the environmental effects of proposed activities before they are carried out.
- ... a *planning tool* whose main purpose is to give the environment its due place in the decision-making process... by evaluating environmental consequences before action is taken.
- ... a tool for identifying and predicting the impacts of projects and investigating and proposing means for *management of impacts*.

# Regulator's (Biologist) Perspective...

- Precautionary
- Conservative
- Focus on potential negative effects
- Low tolerance for risk





# Nunavut Land Claims Agreement – Principles of Conservation

## *Conservation*

- 5.1.4 The principles of conservation will be interpreted and applied giving full regard to the principles and objectives ...
- (a) the maintenance of the natural balance of ecological systems within the Nunavut Settlement Area;
  - (b) the protection of wildlife habitat;
  - (c) the maintenance of vital, healthy, wildlife populations capable of sustaining harvesting needs...
  - (d) the restoration and revitalization of depleted populations of wildlife and wildlife habitat.



# Precautionary Principle

“Whereas the Government of Canada is committed to implementing the precautionary principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

CEPA 1999

- Used
- Over-used?

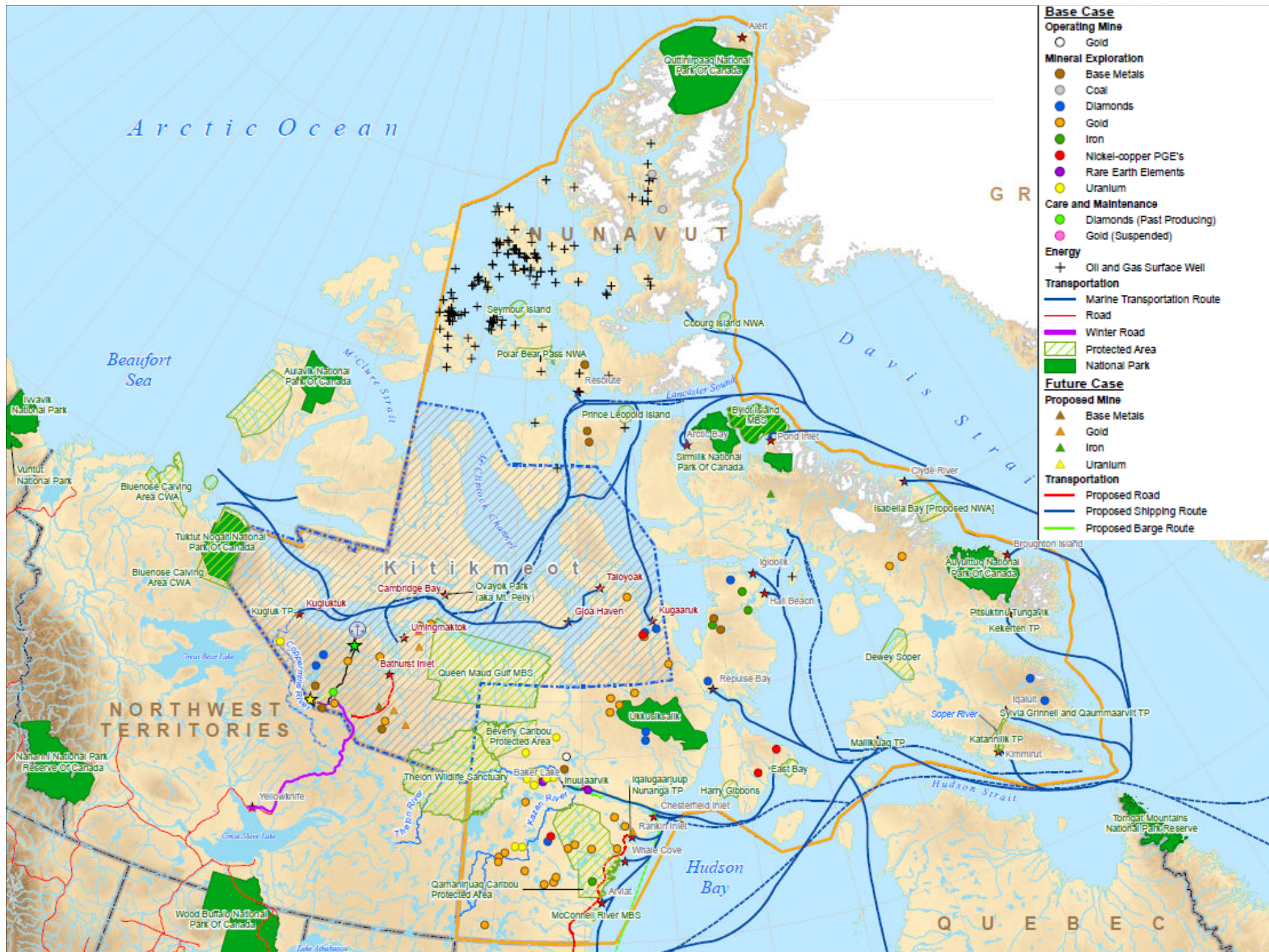




# Practitioner's (Biologist) Perspective...

- Transparent
- Understandable – multiple audiences
- Scrutinized
  - Academic – scientific rigor?
  - Regulatory
  - Public – understandable?
- Environmental Risk Management







# Environmental Assessment and Climate Change

- Assessing project interactions with climate change effects is a **key challenge** in eastern arctic environmental assessments
- The Environmental Assessment process can be adapted to encompass emerging issues as they are identified, clarified and disturbance effects and *interactions* recognized.

# What are the research gaps?

- Significance criteria
- Measurable parameters of climate change and effects criteria
- Quantified Zones of Influence
- Harvest statistics
- Caribou population delineation
- **Caribou response to disturbance – identify adverse interactions**
- Inuit and First Nation perspectives on “significance”
- Land use thresholds and updated land use plans
- Interpreting predictions of energetics models
- **Population demographics**
- Forage biomass/growth projections
- Tracking post EIS monitoring results from other northern projects
- Community-based monitoring
- Integration of traditional knowledge





# Challenges

- Cumulative effects
- Incorporating climate change interactions
- Decision making under uncertainty
- Regulator's capacity and experience
- Incomplete land use planning
- Information gaps and regulator's conservative inclination

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