

# **Potential Cumulative Impacts of Uranium Exploration & Development on the Beverly and Qamanirjuaq Caribou Herds**

**Presentation to: Nunavut Planning Commission  
Uranium Workshop  
6 June 2007, Baker Lake NU**

**Submitted by: Beverly & Qamanirjuaq  
Caribou Management Board**

# Presentation Overview (1)

- 1) The BQCMB & the caribou herds
- 2) Ongoing and potential uranium exploration on the caribou ranges
  - Why the BQCMB is concerned about cumulative effects
  - Specific concerns about uranium development



## Presentation Overview (2)

- 3) Key issues regarding cumulative effects, uranium development and caribou
- 4) Recommendations for NU communities and IPGs (NPC, NWMB, NIRB, NWB)



# 1) BQCMB: Beverly & Qamanirjuaq Caribou Management Board

[www.arctic-caribou.com](http://www.arctic-caribou.com)





# The BQCMB perspective

The BQCMB brings a broad perspective to assessment of development projects.



# The BQCMB perspective

The BQCMB is *not* against mining

The BQCMB believes that we should *work together* to protect the caribou herds and their ranges.



# BQCMB Goal: Caribou for the future

## Value of barren-ground caribou

- indicator of overall ecosystem health
- economic, social, cultural
- essential for traditional way of life
- **NOT** only an “environmental issue”



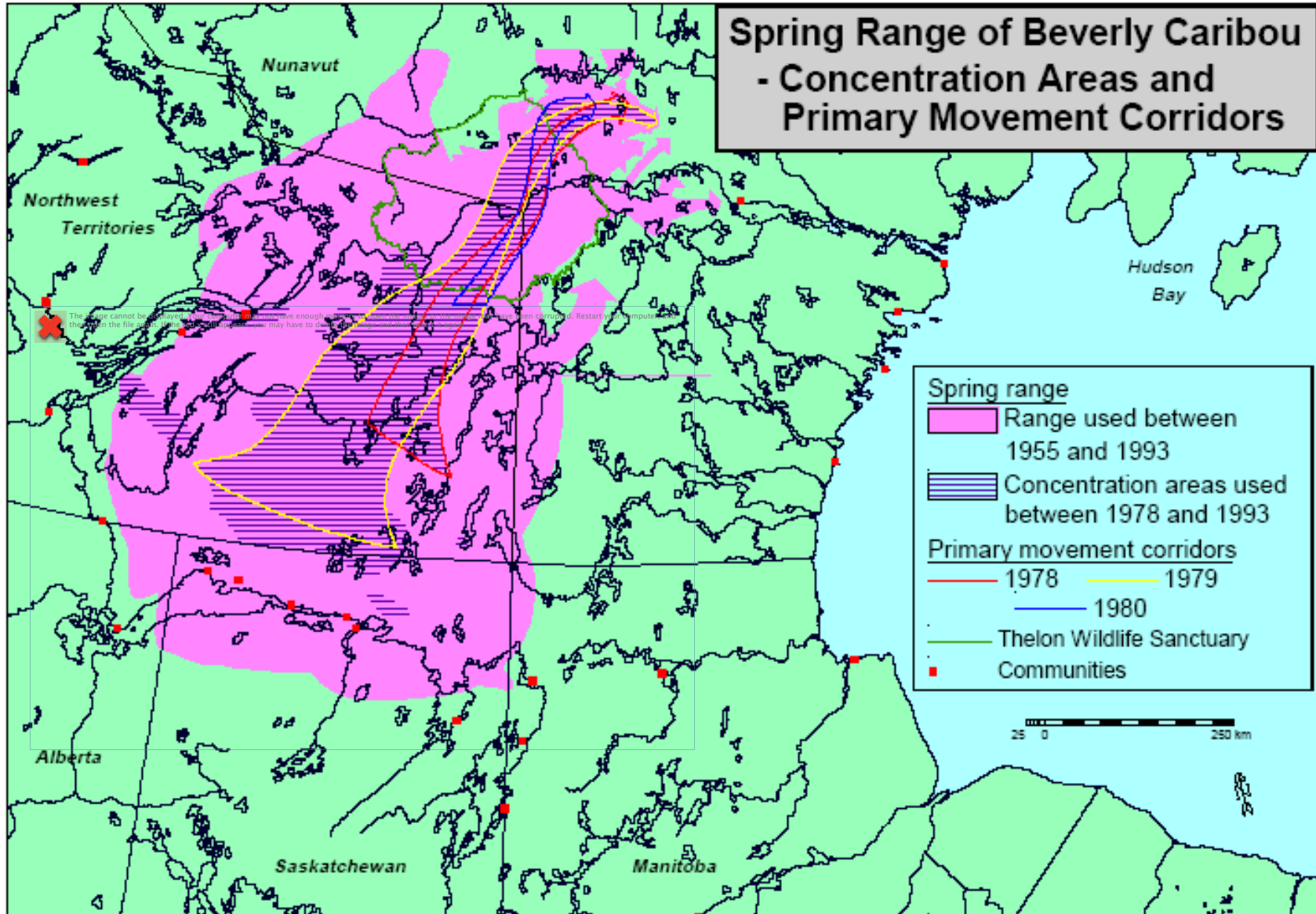


# Caribou use of the Thelon watershed

*How do biologists know about caribou use of the Thelon watershed?*

- Surveys (1955-1993)
- Data from collared caribou (1995-2007)
- Traditional knowledge

# Information from surveys

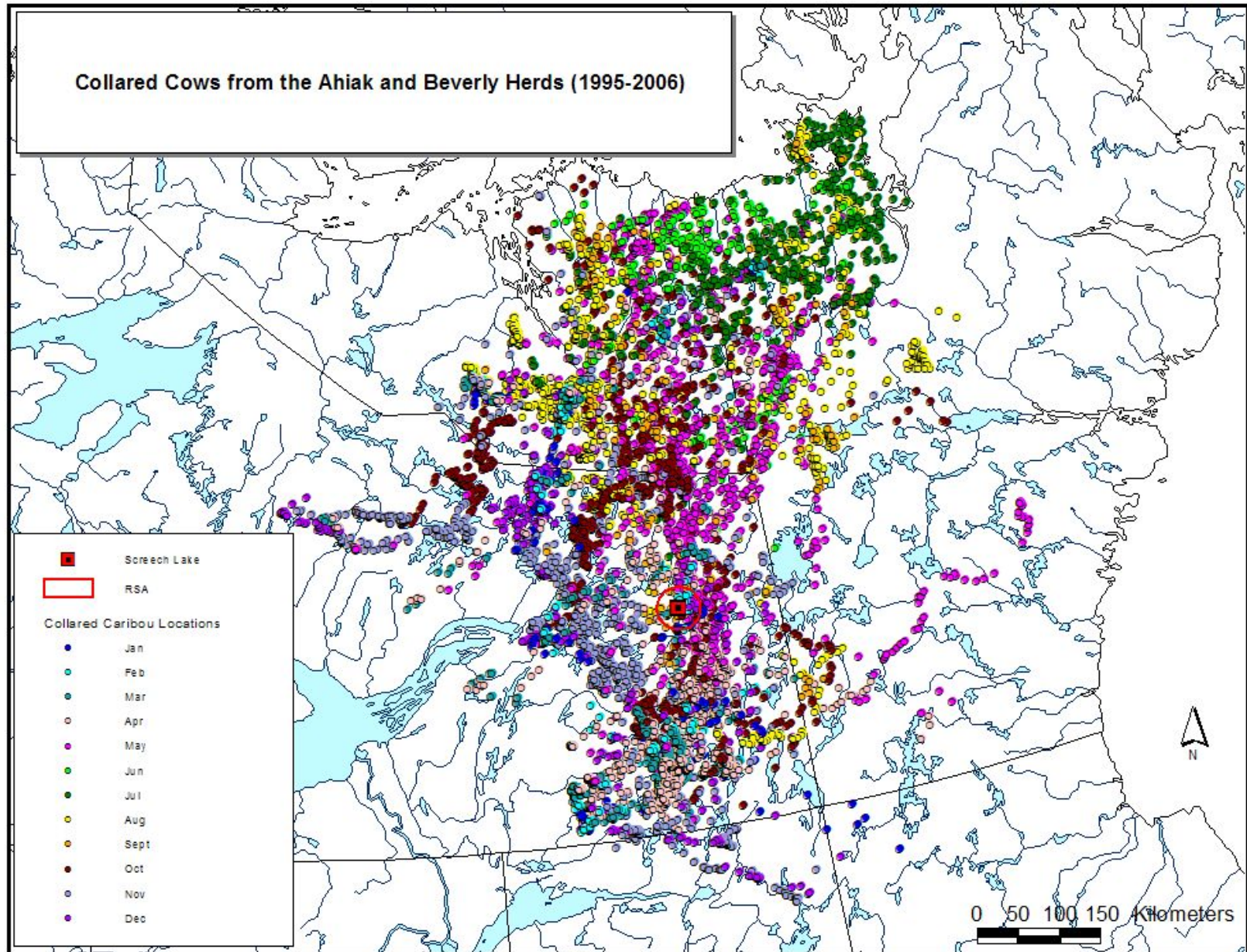


# Information from collared caribou

- Thelon watershed is used most frequently by **Beverly** cows, also by the Ahiak herd
- Area is used much less by other caribou herds



# Monthly locations of collared caribou



# **Importance of the Thelon watershed to caribou**

**Spring migration routes**

**Traditional calving area**

**Post-calving area**

**Undisturbed water crossings**



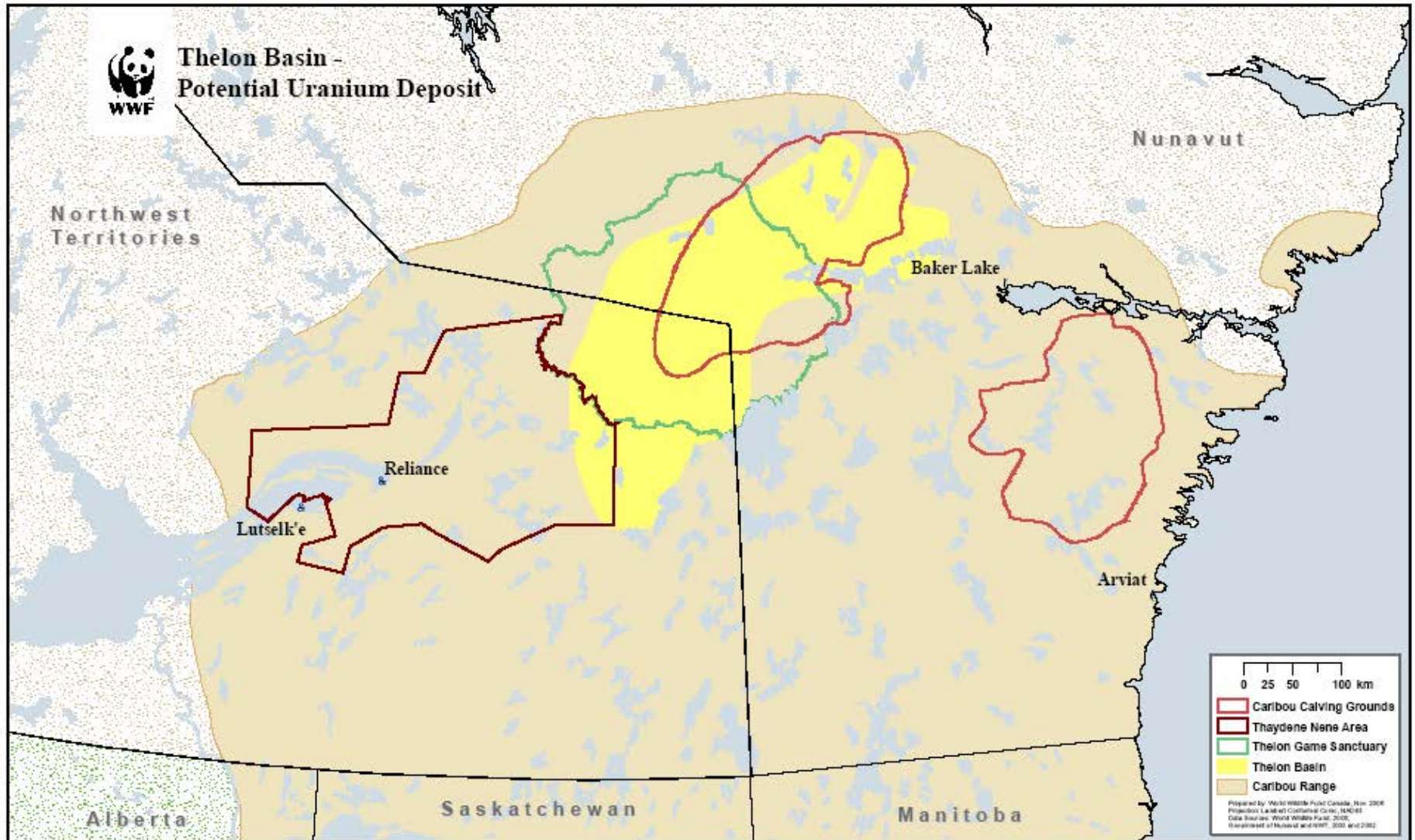
## 2) Mineral Exploration in the Thelon Watershed



A quick description of ongoing activities, from south to north:

- a) Athabasca region of northern SK  
(See wall map)

## b) Thelon geological formation



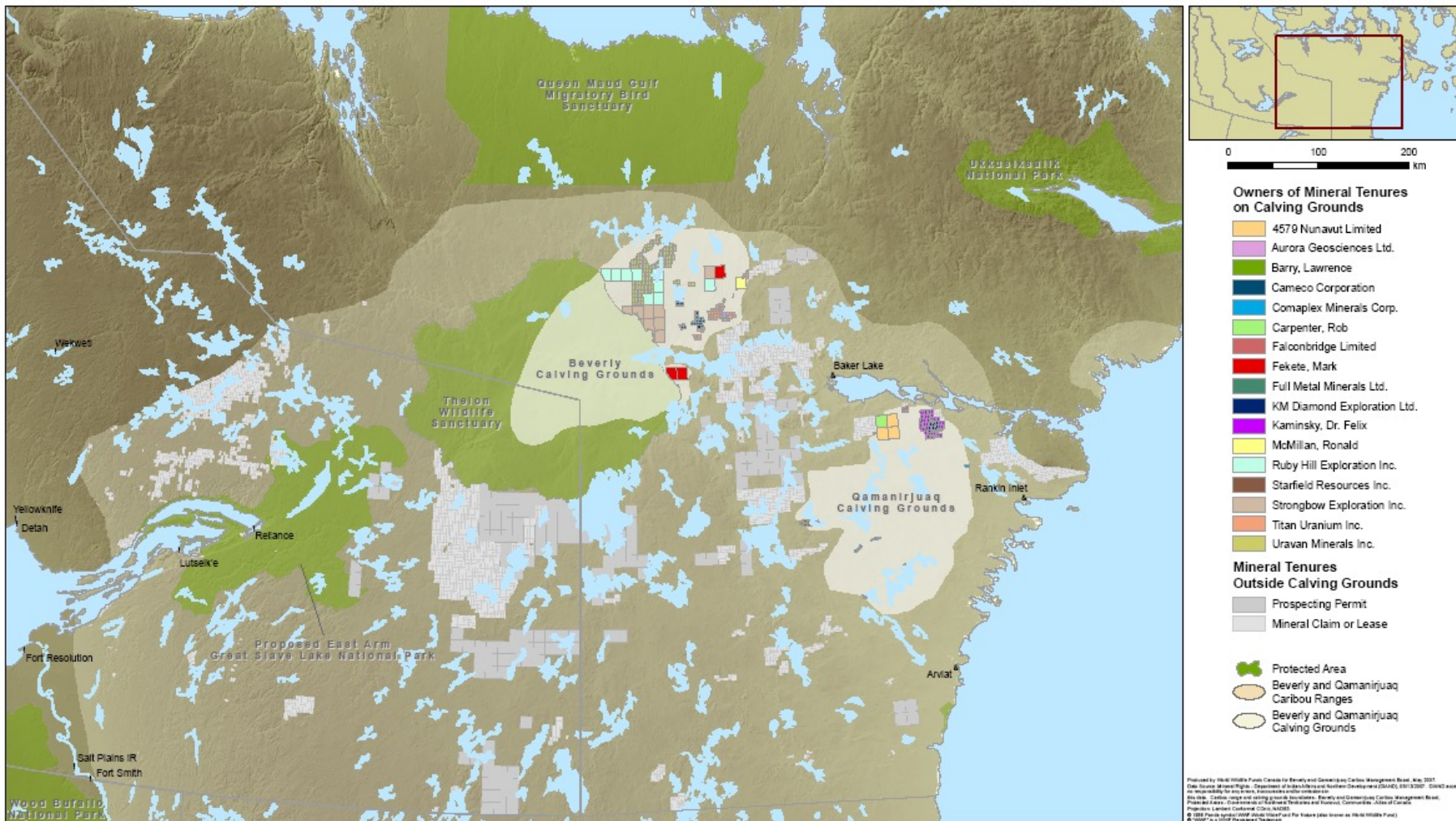
# c) Mineral exploration on calving and post-calving areas



## Companies with Mineral Rights on Beverly and Qamanirjuaq Caribou Calving Grounds (May 2007)



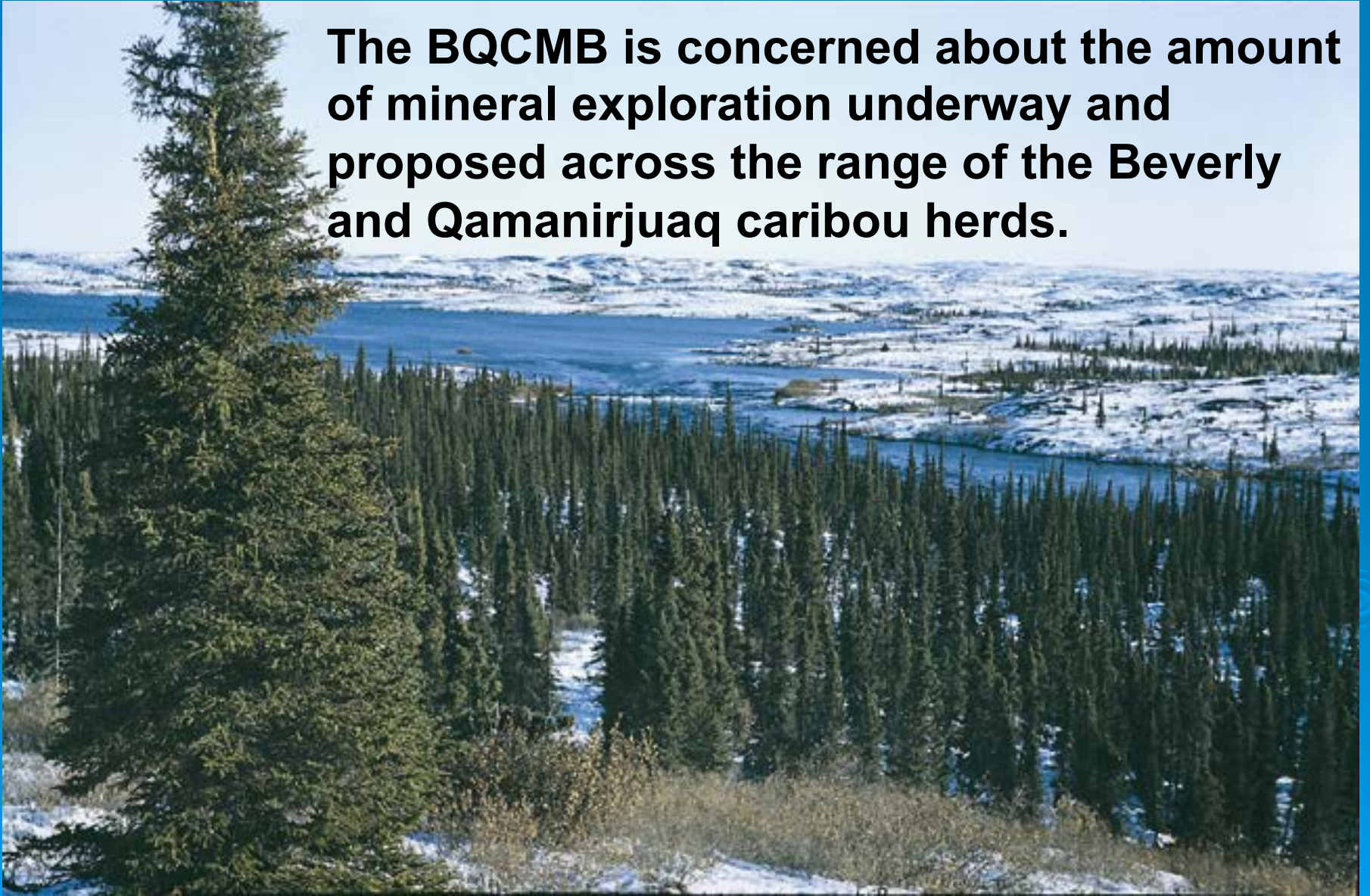
Beverly and Qamanirjuaq  
Caribou Management Board





# Cumulative Effects and Caribou:

**The BQCMB is concerned about the amount of mineral exploration underway and proposed across the range of the Beverly and Qamanirjuaq caribou herds.**



# Cumulative effects of proposed development on caribou

*What do we mean by “cumulative impacts”?*

- **Combined** environmental impacts from a series of similar or related activities that **accumulate over time and space**.
- **Effects add up**.



# Why are we concerned about cumulative impacts on caribou?

- Barren-ground caribou are **wide ranging**.
- All impacts collectively influence the health of caribou and their **ability to cope** with stress and disturbance.
- Although the stress and disturbance from each land use activity may seem to be minor, **the combined effect of many impacts can be serious.**

# Potential impacts of uranium exploration & development on caribou

## ➤ Types of impacts:

- Disturbance
- Habitat loss (direct and indirect)
- Contamination (food or water)



# ***How seriously will individual caribou be affected?***

- **Added stress to the cows may harm the health of the cow**
- **Stress to cows could decrease calf production or survival**



# ***Why are we worried that impacts on individual animals will harm the herds?***

## **a) Herd declines in the NWT**

- Porcupine, Cape Bathurst, Bluenose West, Bluenose East and Bathurst herds
- likely Ahiak and Beverly; if so, then less able to cope with increased disturbance

## **b) Importance of calf survival**

- low calf survival could contribute to population decrease, intensify a decline, slow down recovery from decline

# Specific concerns about uranium exploration

- **Effects from exposure to radioactive uranium** *in addition to* potential effects of other types of mineral exploration
- **Lichen-caribou-human food chain interactions:**
  - Caribou can eat lichens, dust and soil that have accumulated radioactive substances
  - Caribou can absorb radioactive substances consumed into their organs

# Specific concerns about uranium exploration

**Lack of information** to address concerns about uranium exploration:

- Many concerns raised
- No conclusive studies
- Concerns remain





# Why the BQCMB is concerned

## *Four main reasons re: mineral exploration*

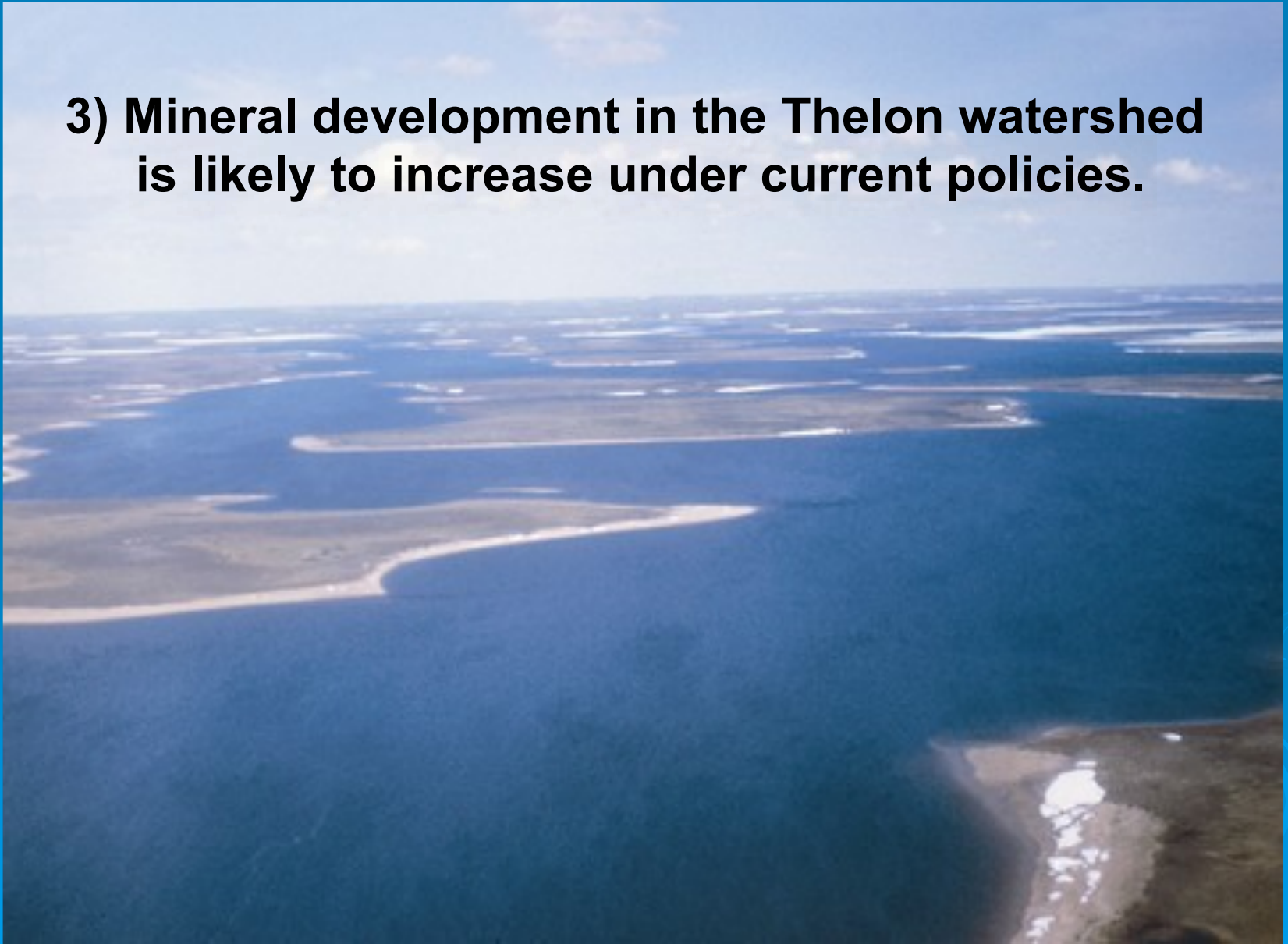
- 1) Certain areas and landscape features are very important



- 2) Caribou can be vulnerable to disturbance at certain times

# Why the BQCMB is concerned

**3) Mineral development in the Thelon watershed is likely to increase under current policies.**



# Why the BQCMB is concerned

*Similar situations with increasing cumulative effects have occurred elsewhere in the North.*

Two examples:

- i. Athabasca Basin of northern Saskatchewan (uranium)*
- ii. Alaska's North Slope (oil & gas)*



# Why the BQCMB is concerned

- 4) Much remains unknown about Beverly and Qamanirjuaq (and Ahiak) caribou
- This prevents us from being able to predict the cumulative effects of mineral development and other human activities across the caribou range

***We don't even have the most basic information about these herds.***

### **3) Summary of key caribou issues**

- a) Caribou = valuable and irreplaceable resource**
- b) Potential for significant impacts to caribou at specific times in certain important habitats**



# Summary of key caribou issues

c) Considerable **uncertainty** regarding cumulative effects, because we don't know enough about:

- caribou and their habitat requirements
- the impacts of human land use activities on caribou (e.g., disturbance, habitat loss, contamination)
- how these impacts will affect caribou in combination with other factors (predation, climate change, disease, forest fires)

# Summary of key caribou issues

***If uranium and other mineral exploration continues to proceed across the caribou ranges:***

- the BQCMB is very concerned about the potential **environmental and social costs**, including impacts on:
  - a) barren-ground caribou
  - b) caribou range
  - c) communities with traditional lifestyles based on caribou and other wildlife resources.

# Cumulative Effects and Caribou

- *The potential for cumulative impacts on Beverly and Qamanirjuaq caribou must be assessed with **consideration of all development activities across the caribou range.***
- **Assessing developments one project at a time will not be adequate to protect caribou.**



## 4) Recommendations for Nunavut communities and IPGs (NPC, NWMB, NIRB, NWB)

a) Due to uncertainty, a ***precautionary approach*** must be applied.

➤ **New permits for uranium exploration work in the Thelon watershed should *not* be issued** until substantial work has been undertaken to allow NWT & NU regulatory agencies to make informed decisions.

# Recommendations

- b) Research and modelling for caribou should be conducted**
- by territorial and provincial governments (NU, NWT, SK, MB) and other appropriate partners.



# Recommendations

- c) **Cumulative effects impact analysis and modelling** for proposed developments on barren-ground caribou should be conducted on the entire range of the caribou herds rather than individual project study areas
- by agencies responsible for cumulative impact assessment *in collaboration with* industry, communities and other relevant organizations

# Recommendations

- d) **Regional land use planning** that includes consideration of the value of caribou and caribou habitat should be initiated
- in each jurisdiction (in Kivalliq region of NU, NWT, Athabasca region of SK, MB)
  - in conjunction with ongoing protected areas planning and regulatory frameworks, and work on cumulative effects assessment

# Recommendations

- e) **A range-wide system of conservation planning** should be established to safeguard the caribou herds over the long-term across all seasonal ranges
  - by the Nunavut Planning Commission and federal, territorial and provincial governments (NWT, NU, SK, MB)

# Planning for caribou and people that depend on caribou

➤ Many of these recommendations follow from work the BQCMB has been doing for many years.

➤ The BQCMB is ready to help partners to protect caribou and habitats.



For more information:  
[www.arctic-caribou.com](http://www.arctic-caribou.com)

# Caribou for the future

