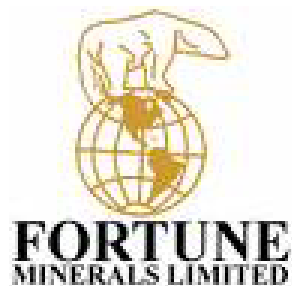


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Fortune Minerals – NICO Project

# Caribou





# Caribou Presentation Outline



## Caribou

- Importance of caribou
- Woodland caribou
- Barren-ground (Bathurst) caribou

## Cumulative Effects Assessment

- Human and natural impacts across the range
- Look at the impact of the effects over time

## Results

- Changes to harvesting opportunities
- Management and mitigation



## Importance of Caribou



- Fortune understands the importance of caribou to the Tłıchǫ, Yellowknives, and Métis.
- Fortune recognizes the impact of caribou harvest reductions to the Tłıchǫ way of life, to traditional and cultural use and economies.
- Fortune is aware of these issues, and intends to proceed in the most respectful manner.



## Woodland Caribou



- The NICO Project is on the eastern edge of the woodland caribou range in the NWT.
- Woodland caribou space themselves out, this strategy makes it hard to find and monitor them.
- Baseline studies did not indicate woodland caribou presence near NICO
- From traditional and local knowledge in the Tłıchǫ:
  - there has been traditional hunting of woodland caribou in the region; and
  - woodland caribou are more common to the west of NICO Project area, beyond Whatì.



## Woodland Caribou



- Assessment of potential impacts to caribou were primarily based on habitat loss.
- “The density of boreal (woodland) caribou in the region is low, 1.4 caribou/100 km<sup>2</sup>, for an estimated 650 caribou within Wek’èezhìi.” (WRRB 2012).
  - The NICO Mine footprint covers 4.9 km<sup>2</sup>
  - The NPAR is 27 km long.
- The predominant disturbance factor on the range of woodland caribou is fire which accounts for 99% (WRRB 2012) of all disturbances (natural and human).



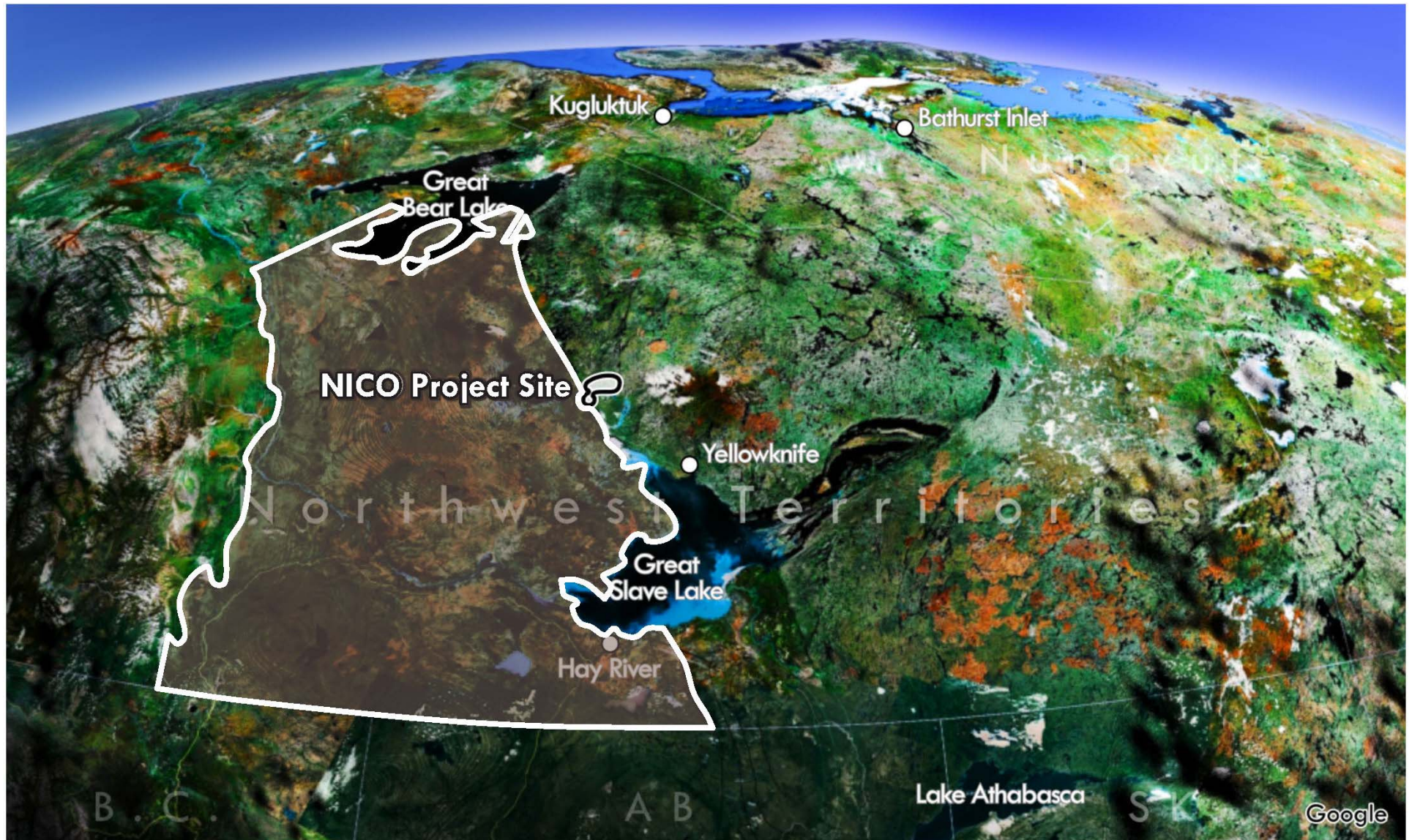
## Woodland Caribou



- To maintain a safe work environment, Fortune will not permit hunting of woodland caribou or any other wildlife within the NICO Project lease
- Fortune proposes that the NPAR be made a “no hunting corridor” for two reasons:
  - No hunting along the NPAR will mitigate impacts to woodland caribou and other wildlife; and
  - No hunting will mitigate potential safety concerns of firearm discharge along the road route.



# Woodland Caribou Range





## Conclusion



Changes to people's  
opportunity for  
traditional use of  
woodland caribou  
from the NICO  
Project will be  
negligible.



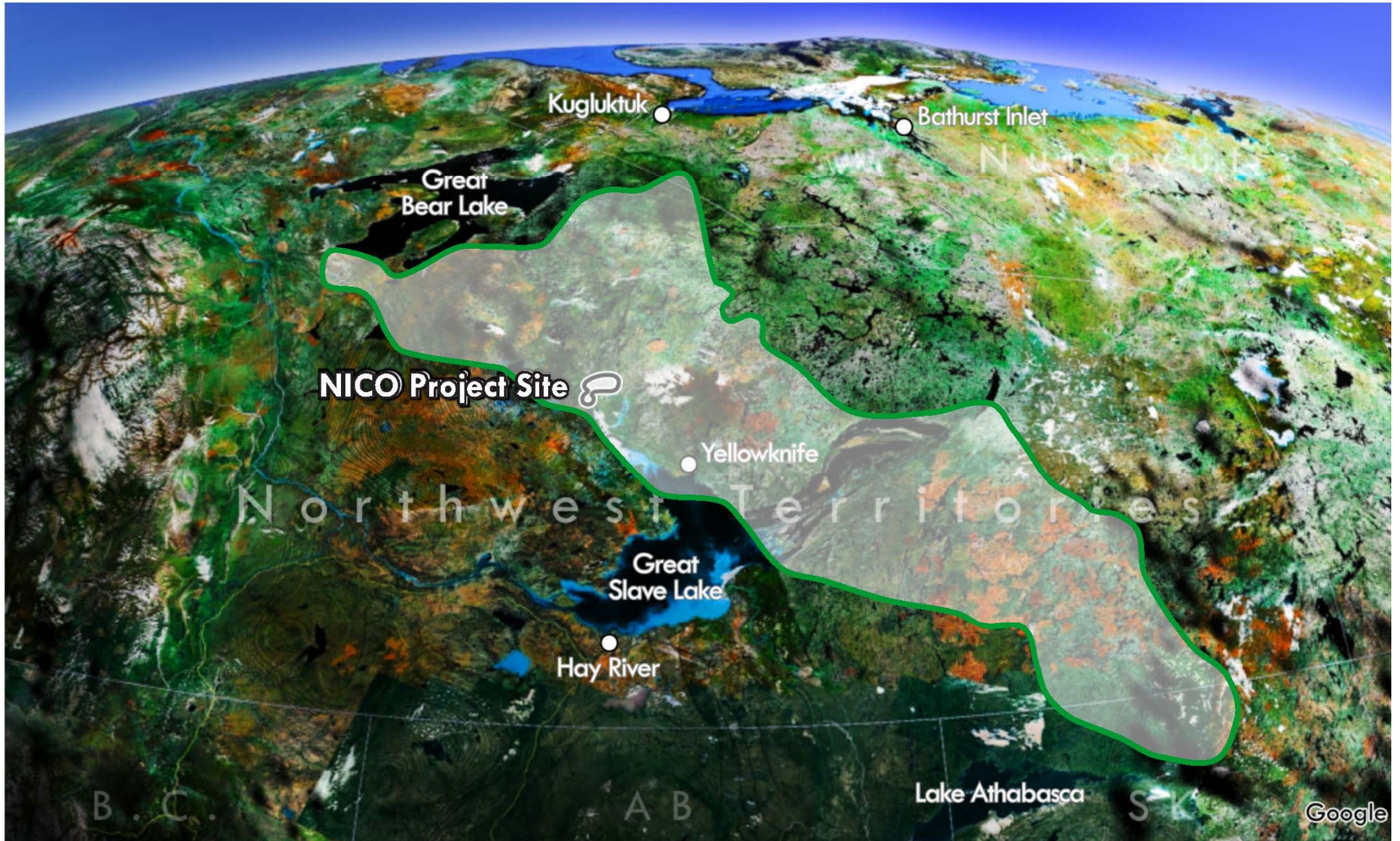


## Bathurst Caribou



- Assessment of potential impacts to caribou were primarily based on habitat loss.
- Annual and seasonal ranges for each caribou herd were calculated using satellite and collar data.
- NICO Project is not near barren-ground caribou calving and post-calving grounds.
- The NICO Project is within the winter range of the Bathurst caribou herd.

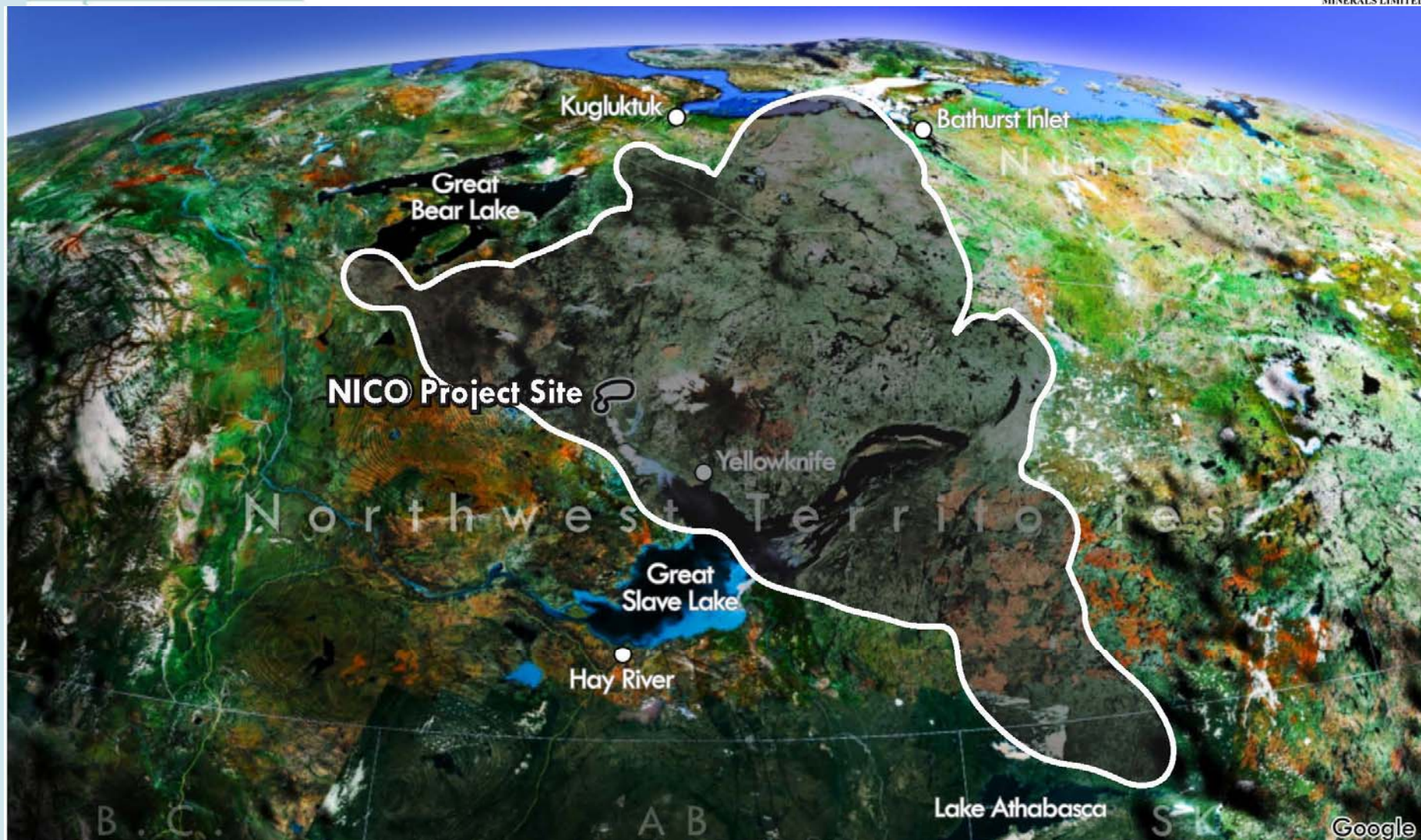
# Bathurst Herd Winter Range







# Bathurst Herd Annual Range





## Bathurst Herd Caribou Assessment

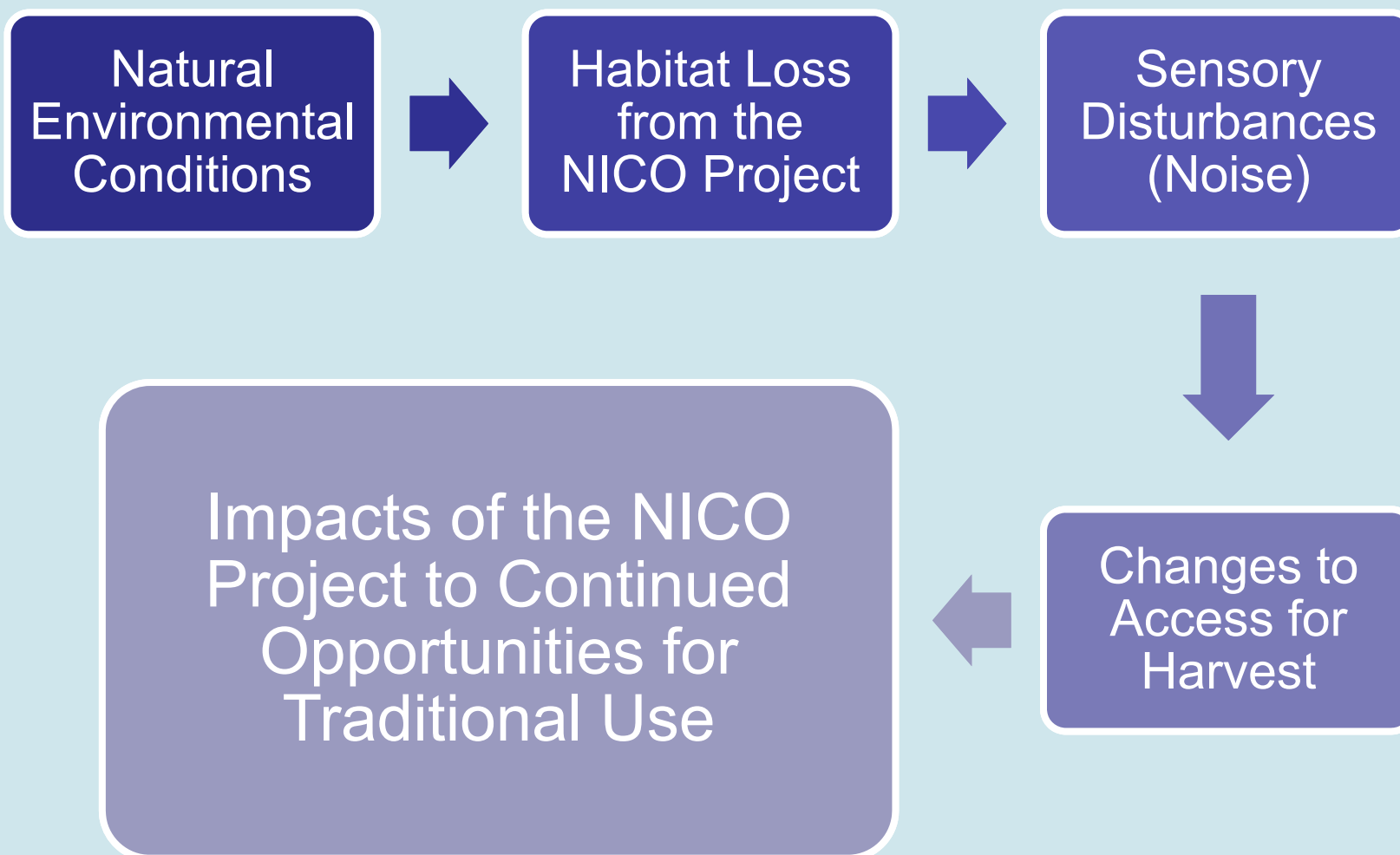


- The assessment included:
  - Potential effects of the NICO Project on:
    - Habitat for winter and annual range
    - Movements and behaviour in winter
    - Increased access (for harvesting)
    - Health effects
  - Construction, operation, and closure and reclamation of the NICO Project.





## Cumulative Effects Assessment





## Cumulative Effects Assessment – Disturbances in Caribou Study Area



- Baseline Case
  - Communities
  - Exploration camps and operating mines
  - Existing winter roads
  - Historic remediated and non-remediated sites
- Application Case
  - Starts for year of construction for NICO Project
  - All NICO Project infrastructure, including NICO Project Access Road
- Future Case
  - Proposed Tłıchq Road Route
  - Taltson Expansion Project
  - Nechalacho Project
  - Gahcho Kue Project
  - Bathurst Inlet Port and Road Project
  - Proposed new mines



# Caribou Assessment



## Considered natural factors that impact caribou

- Spring is a critical time for caribou calving success and survival
- Spring conditions can vary (snow, ice and timing of green-up)
- Late green-up means extra energy needed to walk in snow and dig in the snow for food
- Spending extra energy leads to female body mass loss
- The females losing weight mean less calves survive.



## Caribou Assessment - Habitat



### NICO Project Mine and NPAR Footprint

- Direct loss of habitat will be negligible
- <0.1% of the winter range
- Project site will be reclaimed

### Project Sensory Disturbance (Includes Noise)

- Creates a “Zone of Influence”
- Where caribou reduce their use of habitat around the footprint (up to 15 km)
- Temporary loss of habitat

### Cumulative Effects from NICO Project, Plus Existing and Foreseeable Developments

- Direct impacts will be negligible across the range
- Combined direct and indirect impacts will be low in magnitude

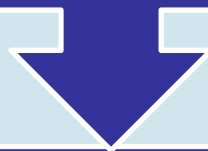




## Effects on Caribou



NICO Project will have minimal to no effect on caribou survival

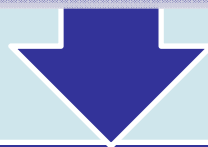


Caribou are highly unlikely to die as a direct result of mine operations.

Based on record at other  
operating mines in the North

Proven mitigation from  
operating mines will be applied

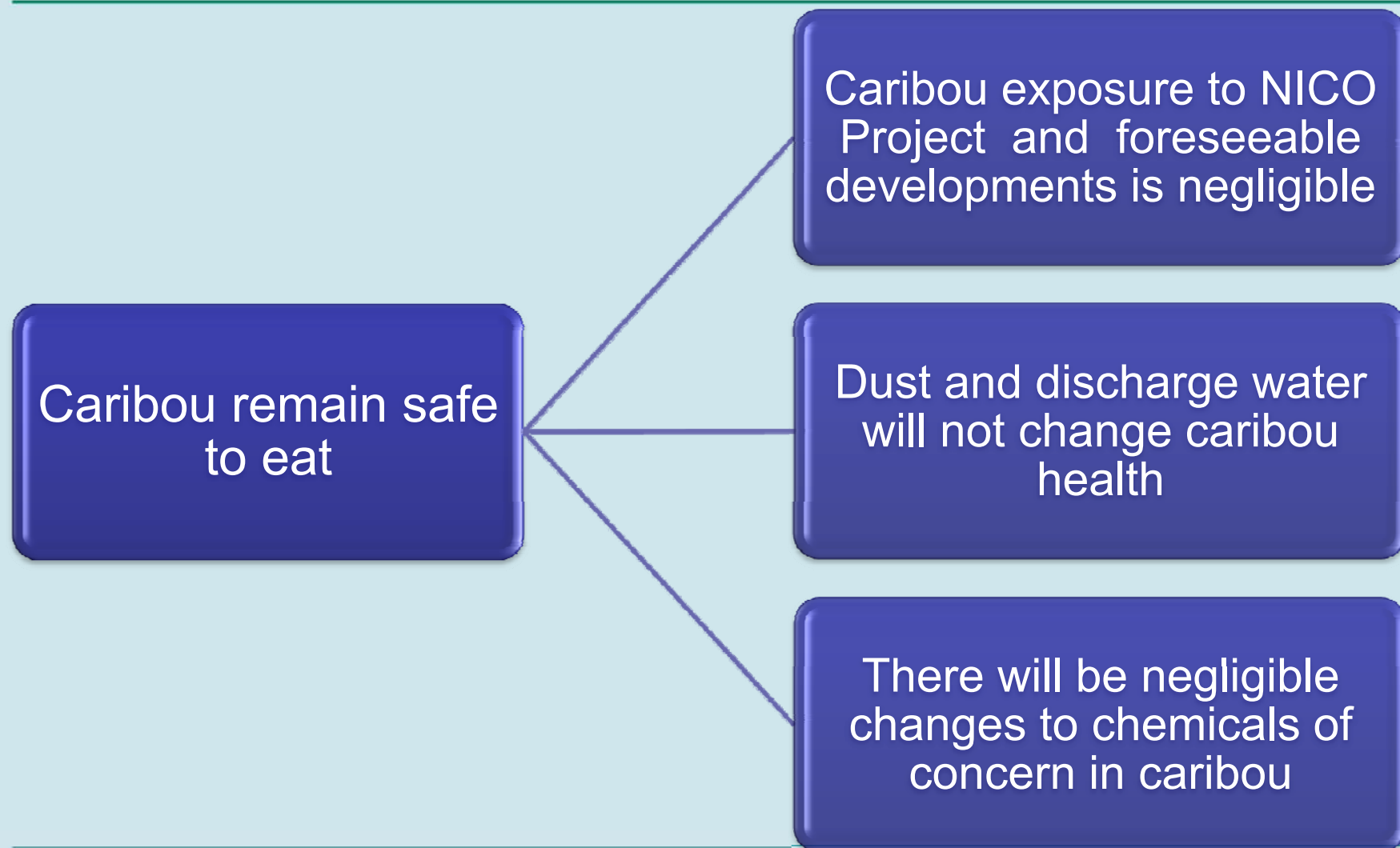
Wildlife monitoring



There are no health risks to caribou



## Effects on People's Health





## Key Mitigation Strategies



- The layout of the mine footprint will limit the area that is disturbed
- Fortune recommending a no hunting policy on the NPAR
- Watering of roads to suppress dust production
- Speed limits will be established and enforced
- Road berms will be covered with small-sized granular material
- At closure, the entire site area will be re-contoured
- A berm will be constructed around the Open Pit
- Wildlife occurrences will be monitored and communicated to site personnel
- All employees will be provided with environmental awareness training.
- A Wildlife Effects Monitoring Program will be developed for the NICO Project



## Conclusion



Changes to people's  
opportunity for  
traditional use of  
Bathurst caribou  
from the NICO  
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