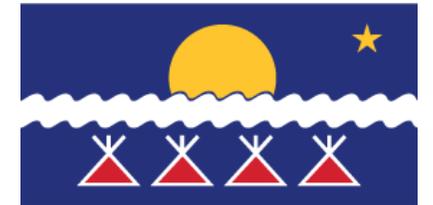


Caribou and the Changing Climate

Tłıchọ Ndek'áowo



Tłıchọ Government

Tłıchọ Government
Tłegóhtı 2024 Public Listening Session
February 20-22, 2024

Ekwò̘ Nàxoèhdee K'è Tłı̄chọ Caribou Guardian Program

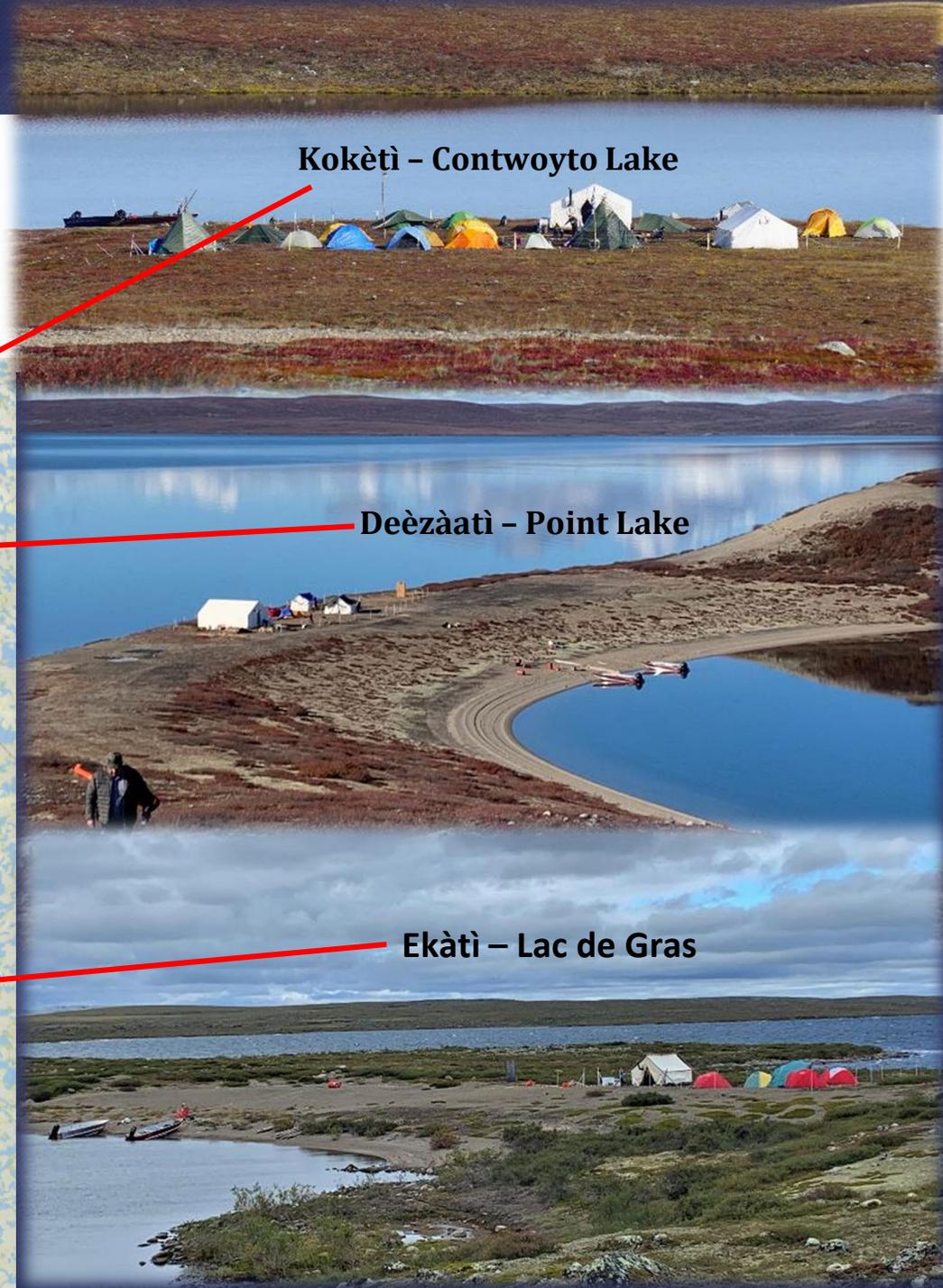
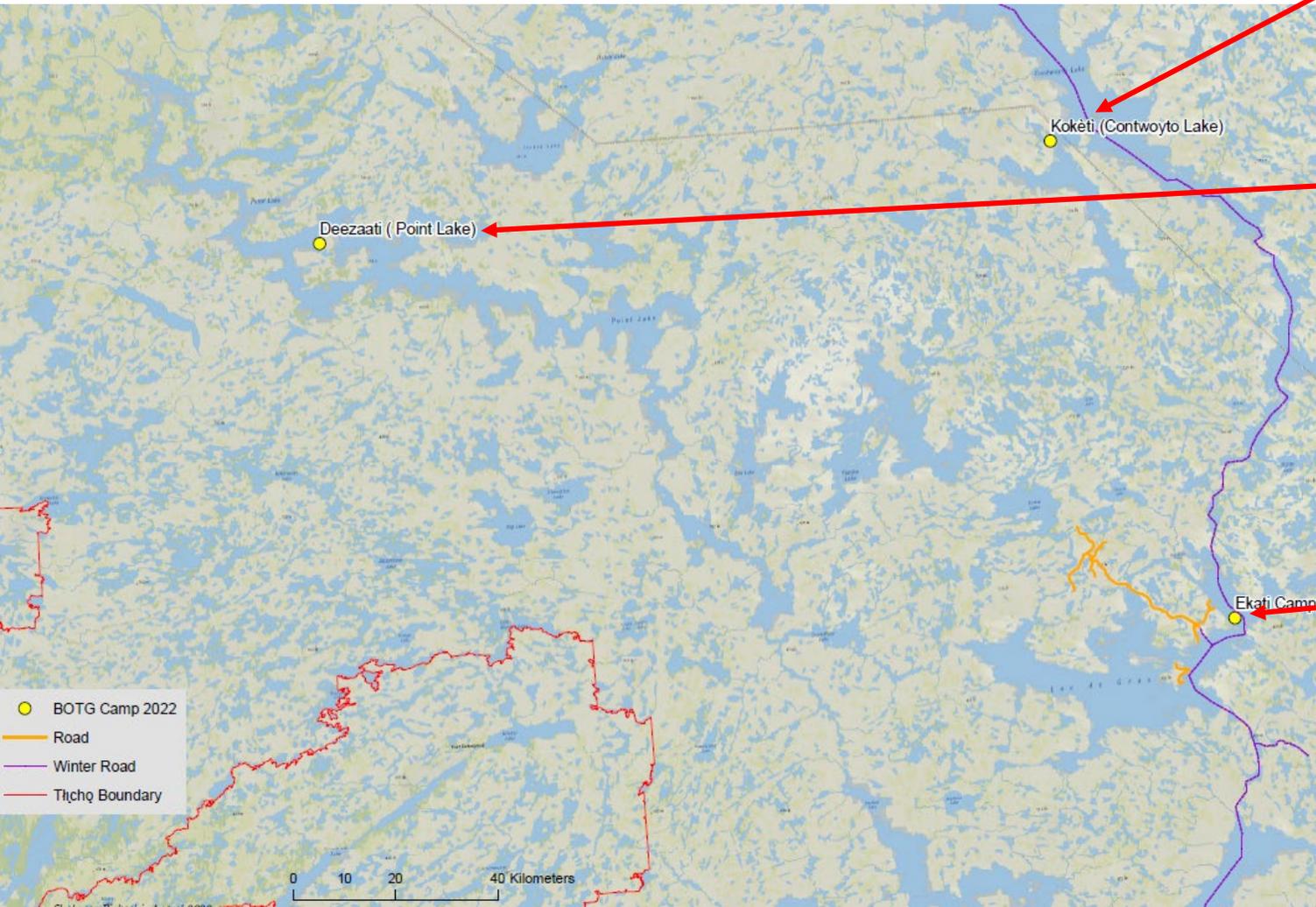
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Ekwò Nàxoèhdee K'è Tìchq̄ Caribou Guardian Camps



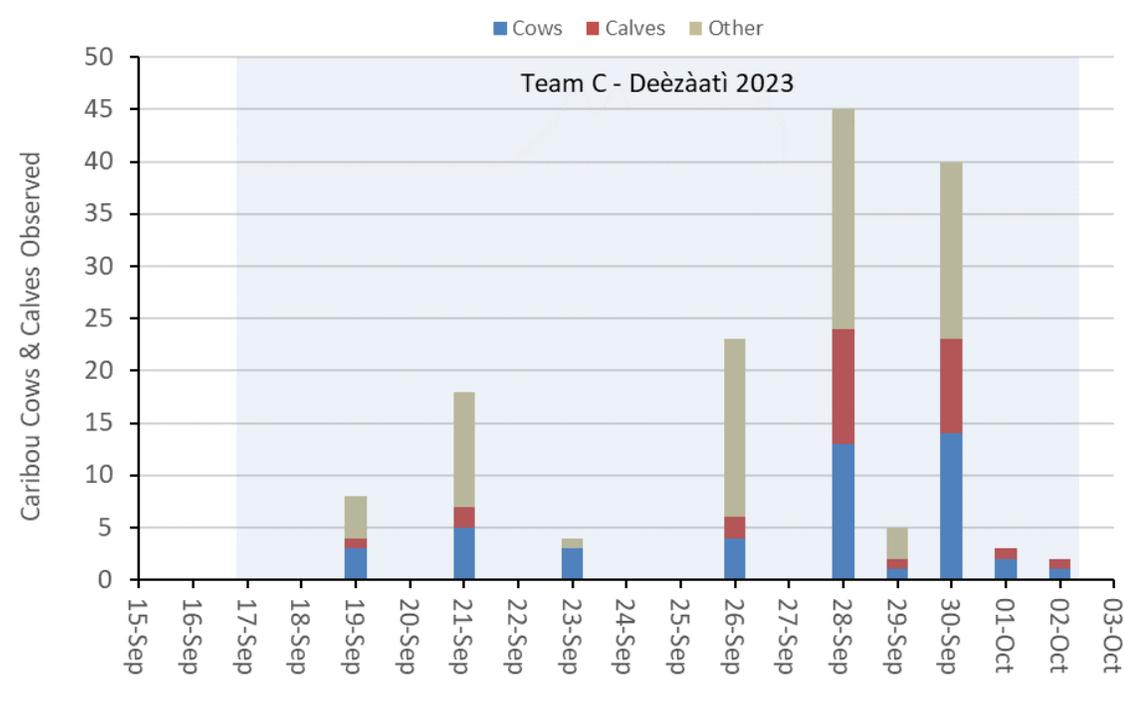
Deèzàatì - a Cultural Landscape

In 2020, we travelled 1700km and documented over 25 archeological sites



Sahtì Ekwò - Deèzàatì

- One team at Deèzàatì (Point Lake) September 15 - October 4
- Total of 238 caribou were observed in 32 groups. Most groups were small, no larger herds.
- From this small sample, we estimated an average calf: cow ratio of 60 calves per 100 cows (± 10 SE).
- This ratio in the fall suggests high calf survival through spring and summer.
- Likely not representative of the herd due to small sample of caribou groups: based on 46 cows and 28 calves.



Often challenging to differentiate calf from yearlings as calves have large bodies & long antlers:

- indicates that calves born in June have been growing well and are healthy.



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Sahtì Ekwò - Deèzàatì

- In 2022, we saw a high proportion of tsidaa and yagoo (young bull & young cows).
- In September 2023, we continued to see many young caribou
- Good sign to see high proportion of young caribou: *yagoo and yagoo*. Indicate that most calves and yearlings survive overwinter
- In 2022 we saw many fat and healthy bulls; with big antlers and big bellies.
- In 2023, did not see any large bulls around Deèzàatì



"You can tell all caribou around here are young, because of the way they are moving.

They are moving fast – bouncing & trotting"

-Joe Zoe

Body Condition & Health – September 2023

Teams assessed body conditions as fat, good or skinny:

- Of 238 caribou, we assessed body condition on 68 caribou (29% of the total).
- Of 25 bulls in 10 groups observed; all the bulls (100%) were scored as fat, no bulls as skinny.
- Of 27 cows in 12 groups; 89% were fat, and 7% in good condition. 1 skinny cow was noted.
- Of 16 calves in 9 groups; 44% were fat, and 56% in good condition. No thin calves were seen.

“Caribou eat a lot in the fall to get fat for the winter. When they get fat this time of year they are in good shape for the winter”- Joe Zoe

Injured BNE caribou at Deèzàatì - October 2023

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- One cow had an injured back left hoof.
- She had taken refuge by the shoreline by herself. When we approached by boat, the cow was limping slowly and carefully only a few meters away, then stopped.
- The foot was very swollen, and she did not put any weight on the hoof.
- The animal had likely been injured for a long time; she was skinny, and her tail was down, even though she was afraid of us.



Diga - Wolves

No wolf activity observed at Koketi and Deèzàatì, although numerous caribou herds around

Kokètì

2023- 3 wolves observed (recorded by Ryan Danby)

- Two known wolf dens were unoccupied

2022 – 14 wolves observed

- Continuous wolf activity around camp 2021
– we observed 13 wolves
- Wolves observed killing a calf



Wolf by camp: Aug 2021

Deèzàatì

2023- No predators or tracks observed

- 2022- no predators observed,
 - tracks of three wolves on sand beach

Both years, numerous caribou herds around but no predators observed

Summer Drought

Overall, this summer and fall was very **hot and dry**;

- Summer heat, drought and lack of rain, resulted in drought-stressed plants
 - None or few mushrooms
 - **Fewer & smaller berries**; ripe earlier
- The low water levels are also creating rocky shorelines for the caribou to travel on:
 - Rocky edging can cause injuries for the caribou; the caribou are at risk of getting their hooves stuck between the rocks and get injured in the exposed rocks.

“When you walk on the ground it sounds like potato chips”

– Joseph Judas



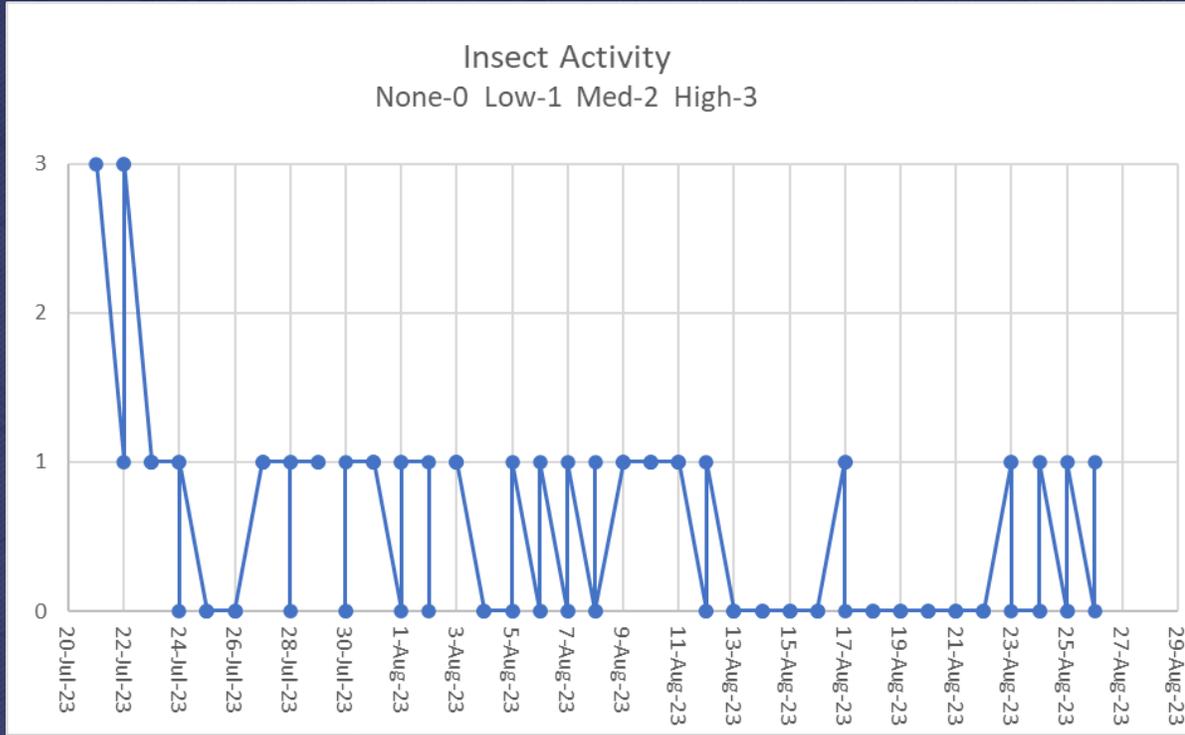
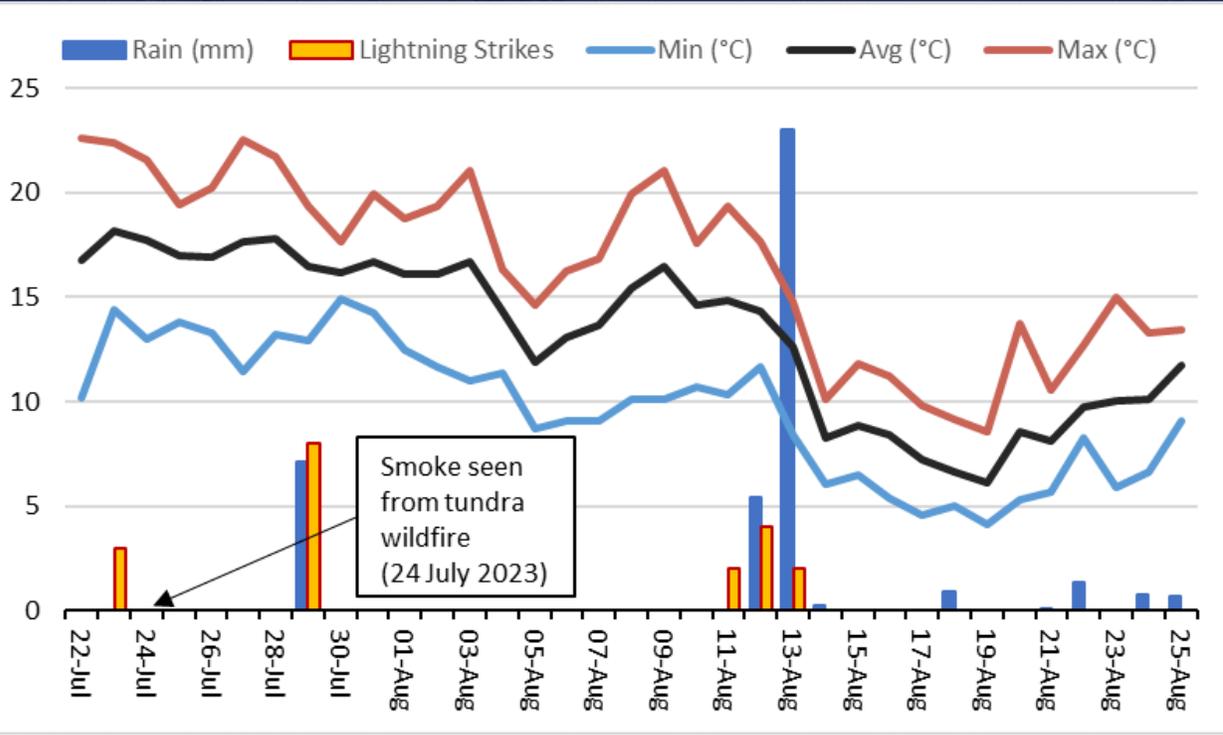
“Water levels usually come up after spring melt, but for two years now the water has not been higher after spring melt”

-Jimmy B. Mantla





In July and August, dwarf birch leaves were **turning yellow**, and some leaf turn brown in moisture-stressed plants mid-summer



July and August; only two days with substantive rain

Smoke started 24 July after lightening

Overall insect activity was rated low to absent for most of summer

- only two days with high insect activity

No standing water in meadows and ponds

- Less rearing habitat for mosquito

Tundra fires on Barrenlands: Contwoyto Lake



- July 2023 - first time wildfires observed at Contwoyto lake;
- Several fires burned south and on east side of lake in July; still burning and smoking in August.
- The fire was at least 6-10 km long; 4-5 km from the shoreline

“We have not seen tundra fires before. Not sure how it is affecting animals and caribou”.

Forest Fires and Smoke - Deèzàatì

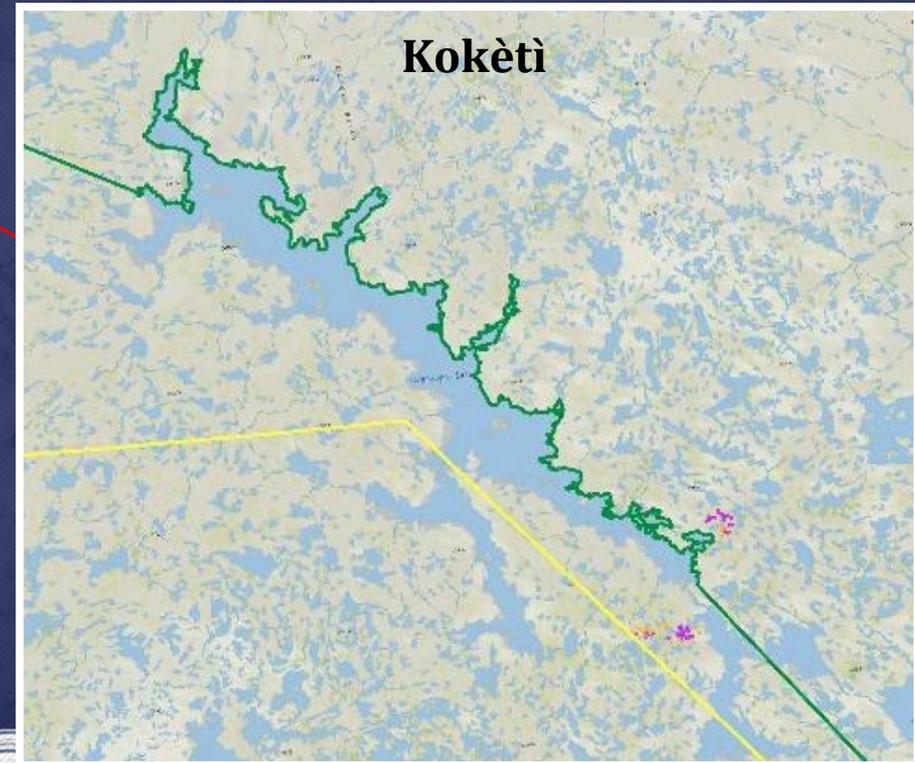
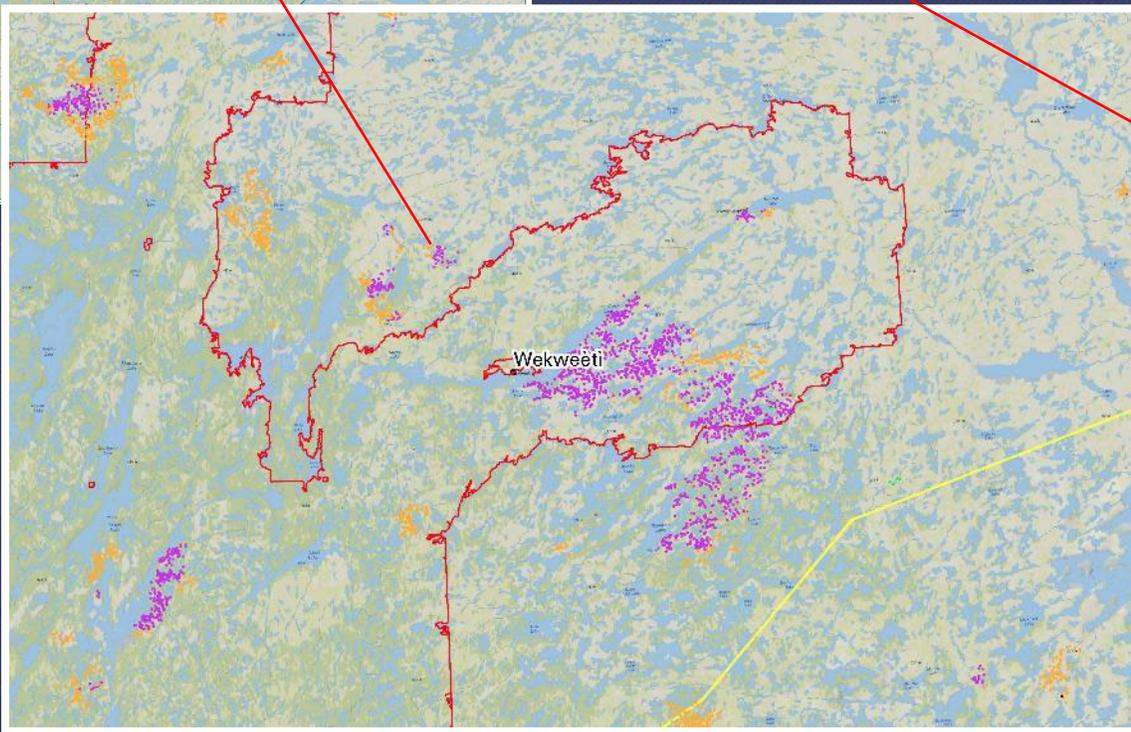
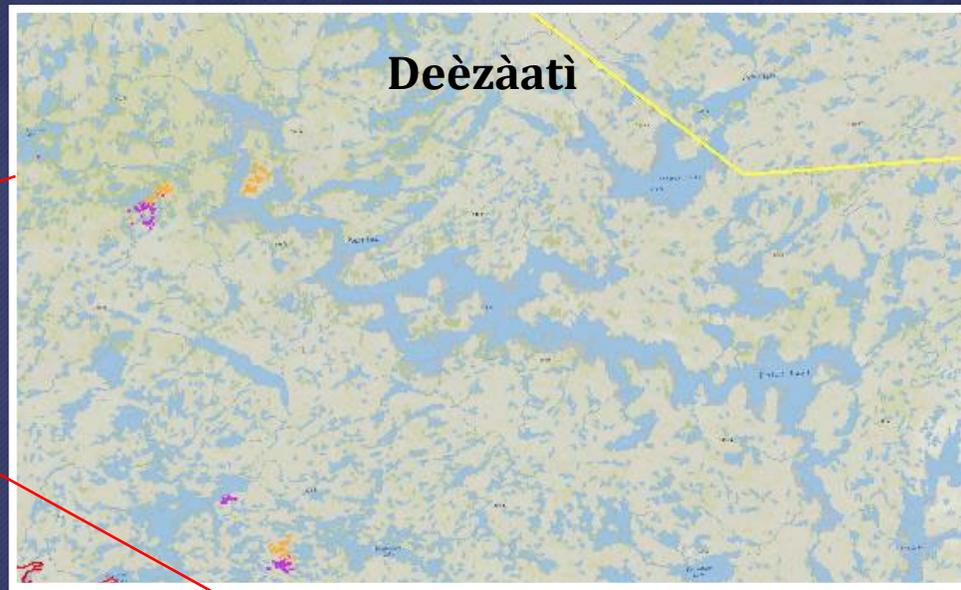
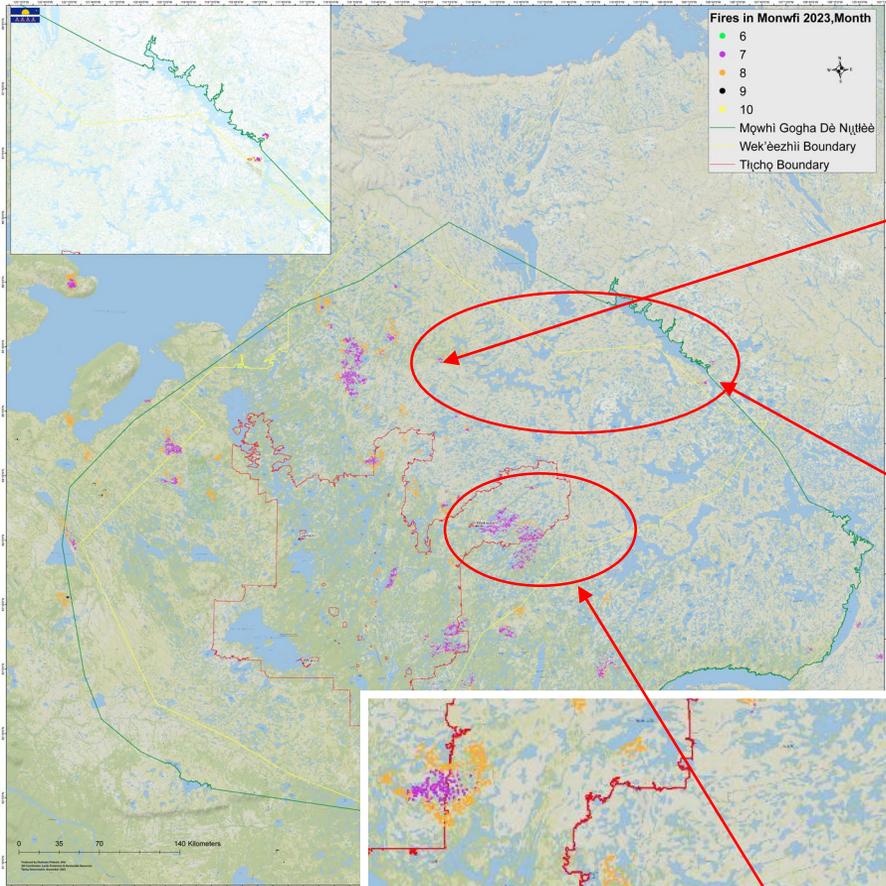
“Caribou food is getting dry too early”

“Land is too hot and dry”

“Summer season is longer, and it is drier”

*“It used to snow mid-September,
now there is more smoke than snow”.*





Sahtì Ekwò Habitat

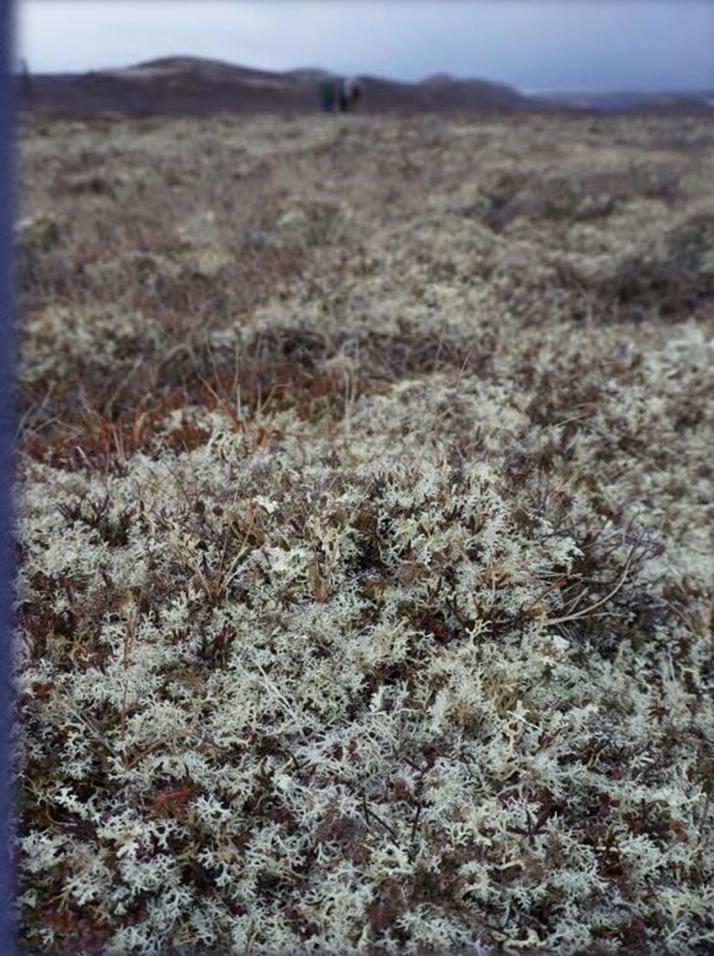
In September and early October

- caribou food were described as overall **good quality**.
- Vegetation was dry when we arrived (15 Sept) but became moist from rain.

“When we first got here the lichen was dry, but there has been quite a bit of rain in the last week and now it is nice and moist for the caribou to eat.” -Joe Zoe

During the third week of September, rain made caribou forage nice and moist for the caribou to eat.

*“Everywhere we have gone through has nice wet lichen. The food is good for them here. Looks like they are eating lots”
-Joseph Moosenose*



Observations of the changing climate

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- One muskrat was observed swimming in a small pond surrounded by grass, on the west shore of Deèzàatì.
 - If there is one muskrat, there are likely more
 - We have not seen any muskrat before on the barrenlands.
- Low water levels and dry - drought
- Bald eagles moving further north
- More moose observed in the barrenlands
- Atypical weather conditions - warmer winters and quick/early melting of lakes and later freeze up - shorter winter road season
 - Winter rain



Affects of climate change to TG programs

- Tłıchǫ Aquatic Ecosystem Monitoring Program – cut short in 2023 because it was too smoky
- Marion Watershed Stewardship Program – low water levels, unable to travel to locations in 2022 went by helicopter
- Dinaga Aquatic Monitoring Program – low water levels and too smoky in 2023 cancelled
- Ekwò Nàxoèhdee K'è → Ekàtì camp cancelled because of heavy smoke, evacuation from wildfire limited Kokètì and Deèzàatì camps
- K'ichii cancelled in 2023

Concerns for the impacts of climate change

- rain-on-snow events results in ice layers covering ground lichens and reducing availability for caribou to forage in the winter
- Dry vegetation - poor food quality
- Unpredictable weather events
- Weaker ice with warmer temperatures
- Traditional knowledge of travelling routes or understanding landscape and weather is no longer useful; there is so much changes
- Caribou may stay north where it's colder, won't come below treeline anymore
- Shorter winter road season

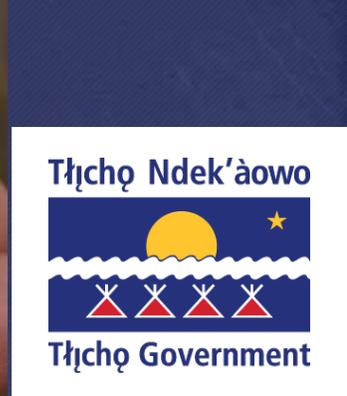
What can we do to mitigate or adapt to these changes?

- TG will continue to develop and implement an integrated approach to monitoring and managing land use activities that support long-term conservation and resilience of migratory caribou on Tłıchq lands, and that is guided first and foremost by Tłıchq traditional knowledge
- TG will work to establish forest fire management approaches and protection measures to protect natural values vulnerable to fire on Tłıchq lands, including forests, parks, and wildlife habitat
- TG to develop a regional Climate Change Adaption Plan
- Each community is working on emergency preparedness plans
 - Fire breaks around the communities

What can we do to help the caribou adapt?

- TG has worked with GNWT to identify critical Ekwò habitat to use in their wildfire management
- TG has developed a sample collection program to identify if there are any diseases and viruses affecting Ekwò
- TG is promoting traditional harvesting practices through their Ekwò Harvest Monitoring program
- Elders has said, climate is changing but the caribou have their choice as to how they will react and adapt to these changes.

“Caribou has it’s own way to survive, they are like human beings. How will they survive? They will probably change what they eat” - Dora Nitsiza



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