

Ekwò Nàxoèhdee K'è

2023 Results



Kokètì Deèzàatì



Dedats'eetsaa:
Tłı̄chọ Research & Training Institute
www.research.tlicho.ca

2024

2023 Field Team: Janelle Nitsiza, Archie Wetrade, Rita Wetrade, Roy Judas, Stephanie Behrens, Aimee Guile, Bobby Nitsiza, Eva Mantla, Louisa Mackenzie, Dene Daniels, Henry Sr. Mantla, Bobby Migwi, Joe Mackenzie, Joseph Moosenose, Joe Lazare Zoe, Petter Jacobsen, Mercie Koadloak, John Franklin Koadloak, John Nishi, Ete Zoe, Andrew Lang, Jimmy P. Mantla and Jimmy B Mantla.

2022 Field Team: Bobby Migwi, Joe Mackenzie, Joseph Moosenose, Joe Lazare Zoe, Petter Jacobsen, Russell Drybones, Terrence Whane, Julian Behrens, Germaine Eyakfwo, Camilia Eyakfwo, Ahri Ekendia, Irene Lafferty, Jayden smith, Quinn Rabesca, Henri Sr. Mantla, Tyanna Steinwand, Louisa Mackenzie, Avery Huskey, Tony Williah, Roy Judas, Janet Rabesca, Irene Lafferty, Bobby Nitsiza, Eva Mantla, Johnny Boline, Charlie Eyakfwo, Stephanie Behrens, John Nishi, Aimee Guile, Charlie Eyakfwo, Denise Lazare Zoe, Eva Mantla, Janelle Nitsiza, Louis Zoe, Therese Zoe, Ernie Wedawin, Sean Richardson, and Ete Zoe.

2021 Field Team: Michel Louis Rabesca, Joe Lazare Zoe, Russell Drybones, Jimmy P. Mantla, Roy Judas, Leon Ekendia, Richard Romie, Terrence Whane, Julian Behrens, Tyanna Steinwand, Louisa Mackenzie, Carter Wetrade, Janelle Nitsiza, Janet Rabesca, Cody Mantla, Bobby Nitsiza, Johnny Boline, Archie Zoe, Camilia Zoe Chocolate, Charlie Eyakfwo, Stephanie Behrens, Aimee Guile, JJ Simpson, and Eva Mantla.

2020 Field Team: Janelle Nitsiza, Louis Zoe, Therese Zoe, Joe Lazare Zoe, Russell Drybones, Leon Ekendia, Nora Ekendia, Joseph Judas, Joseph Whane, Bobby Nitsiza, Albina Nitsiza, Karin Clark, Roy Judas, Aimee Guile, Peter Huskey, Jimmy P Mantla, Johnny Boline, Archie Zoe, Jasmine Blackduck, JJ Simpson, Petter Jacobsen, Camilia Zoe Chocolate, Charlie Eyakfwo, Stephanie Behrens, Doreen Liske, Victor Huskey, Avery Huskey, James Lafferty, Ahri Ekendia, Louisa Nitsiza, Peter Nitsiza, Eddie Erasmus, Albert Nitsiza, and Eva Mantla.

2019 Field Team: Tyanna Steinwand, John Koadloak, Mercie Koadloak, Russell Drybones, Leon Ekendia, Robert Nitsiza, Roy Judas, Mike Simpson, John B. Zoe, Joe Lazare Zoe, Eva Mantla, Peter Huskey, Jimmy P Mantla, JJ Simpson, Nora Ekendia, Archie Zoe, Camilia Zoe Chocolate, Albina Nitsiza, Jasmine Blackduck and William Apples. Researchers were Petter Jacobsen, Camilia Zoe Chocolate and John Nishi.

2018 Field Team: Joe Lazare Zoe, Russell Drybones, Jimmy Mantla, Petter Jacobsen, Roy Judas, Leon Ekendia, Tyanna Steinwand, Mercie Koadloak, John Franklin Koadloak.

2017 Field Team: Joe Lazare Zoe, Russell Drybones, Narcisse Rabesca, Petter Jacobsen, Roy Judas, Leon Ekendia, Tyanna Steinwand, Mercie Koadloak, John Franklin Koadloak.

2016 Field Team: Michel Louis Rabesca, Moise Rabesca, Sean Richardson, Archie Black, Petter Jacobsen, Domenico Santomauro, Leon Ekendia, Roy Judas, and Jorgen Bolt (Kugluktuk HTO).

Program Advisors: Joseph Judas, Joe Rabesca, Michel Louis Rabesca and John B. Zoe.

Planning & Logistical Team: Tyanna Steinwand, Lydiah Rabesca, Jocelyn Zoe, Janelle Nitsiza, Tammy Steinwand-Deschambeault, Stephanie Behrens, John Nishi and Petter Jacobsen.

GIS technicians: Terrell Knapton-Pain, Shahrooz Pirkoohi and Michael Birlea

Principal Investigator: Petter Jacobsen

Disclaimer and Copyright

The Study contains proprietary information of the Tłı̨chǫ Nation, and the Tłı̨chǫ Nation retains all copyright and ownership rights of the Study and its contents.

© Tłı̨chǫ Research and Training Institute 2024

Tłı̨chǫ Government

P.O. Box 412 - Behchokò, NT - Canada, X0E 0Y0

Telephone: [1-867-392-6381](tel:1-867-392-6381) Facsimile: [1-867-392-6389](tel:1-867-392-6389)

ISBN: 978-1-896790-74-9

Table of Contents

Ekwò Nàxoèhdee K'è - Introduction	5
2023 Results.....	14
Kokèti Ekwò Habitat	15
Summer Drought	15
Tundra Fires	16
Kokèti Ekwò – Bathurst Caribou	17
Body Condition & Health at Kokèti.....	20
Dìga and other Predators	21
Kokèti Ekwò Indicator Trends 2016-2023.....	22
Sahti Ekwò Monitoring Results from Deèzàatì	25
Sahti Ekwò – Bluenose East Caribou.....	26
Sahti Ekwò Habitat.....	30
Methodology	34
“We Watch Everything” - Traditional Knowledge Framework	34
Field Methods: “Do as Hunters Do”	36
Program Plans for 2024	55
References	57

Tables

Table 1: Summary of field activities for ENK monitoring, summer and fall 2023	11
Table 2: Summary of animals observed.....	14
Table 3: Summary of animal groups observed	14
Table 4: Classification of caribou observed	18
Table 5: Summary of body condition score around Kokèti during summer and fall 2023.....	20
Table 6: Trends of monitoring indicators 2016-2023	22
Table 7: Trends of calf abundance over time 2016-2023	23
Table 8: Classification of caribou observed	27
Table 9: summary of body condition score around Deèzàatì during fall 2023.....	29
Table 10: Template for wildlife observations	54

Figures

Figure 1: Bathurst herd calving population estimate 2009-2022.....	12
Figure 2: Measured insect activity at Koketi during July-August 2023.....	15
Figure 3: Overview of rain, temperatures and lightening at Kokèti during July and August.....	16
Figure 4. Distribution of ekwò group sizes observed by two ENK field teams	17
Figure 5: Ekwò observations during July and August 2023	19
Figure 6: Ekwò cows and calves observed from September 15 th to October 2nd, 2023	28
Figure 7: Traditional knowledge framework.	35

Maps

Map 1: ENK camps	8
Map 2: Tłjchq Landscape Units	9
Map 3: Team travel routes on Kokèti	13
Map 4: Team travel routes on Deèzàati	26

Photos

Photo 1: Kokèti basecamp.	6
Photo 2: Deèzàati basecamp	6
Photo 3: ENK camp on Łiwets'aòats'ahti (Lac du Sauvage)	7
Photo 4: Team B at Kokèti	7
Photo 5: Kokèti camp in channel between Kokèti (Contwoyto Lake) and Fry Inlet.	10
Photo 6: Team A at Kokèti and Queens University researchers	11
Photo 7: Dried up ponds with cracks in the dry soil by Kokèti.	15
Photo 8: Dry meadows with no surface water	15
Photo 9: Tundra fires burning south of Kokèti, July 2023.	16
Photo 10: Smoke from tundra fire first observed on July 24 th after lightening	17
Photo 11: Bulls in healthy and fat body conditions around Kokèti	18
Photo 12: Bulls in healthy and fat body conditions around Kokèti	19
Photo 13: One skinny bull observed at Kokèti, August 2023.	20
Photo 14: Herd standing on ridgeline facing into wind.	22
Photo 15: Team with the National Film Board film crew	24
Photo 16: Boat selfie with team at Deèzàati	24
Photo 17: Deèzàati team.	24
Photo 18: Well-used trails from Sahti ekwo in the muskeg	25
Photo 19: Sahti ekwo calves and cows	27
Photo 20: Sahti ekwo calf and cows	28
Photo 21: Woza; the Tłjchq term for a cow with calf	29
Photo 22: Cow ekwò with injured and swollen back left foot	30
Photo 23: Elder Joe Zoe holding a patch of ekwò food	31
Photo 24: Fields of moist, fluffy <i>adzii</i> , southwest shore of Deèzàati.	31
Photo 25: Low water exposing long sandy shorelines	31
Photo 26: Ekwò walking in thick smoke.	32
Photo 27: Elder Joe Zoe by forest burned by fire a month earlier	33
Photo 28: Forest burned by fires on the treeline by Redrock lake	33
Photo 29: Team positioned on What'aa (esker) next to a well used animal trail.	36
Photo 30: Team B at Kokèti	56

Tłıchq Yatıı

Placenames

Kokètı	Contwoyto Lake
Kwiıdliachıı	Fry Inlet (slingshot-handle lake)
Ek'atı	Lac de Gras
Ek'adı	Island on Lac de Gras
Kwek'atı	This is an older name for Lac de Gras – referring to the white rocks found around the lake
Ewaànit'ııtı	Courageous Lake
Nqđiikahtı	Mackay Lake
Łıwets'awòats'ahtı	Lac du Sauvage

Deèzàatı	Point Lake
Dı Cho	Big Island on Deèzàatı
Deèzàatıdeè	Coppermine River
Wek'ehaelııtı deh	Parent River
Wek'ehaelııtı	Parent Lake
Saat'ootı	Redrock lake
Tatsotı	Grenville Lake
Gotsokatı	Mesa Lake
Wek'ewhàııtı / Ets'àtı	Rawalpindi Lake

Geographical Terminology Useful for Ekwò Monitors

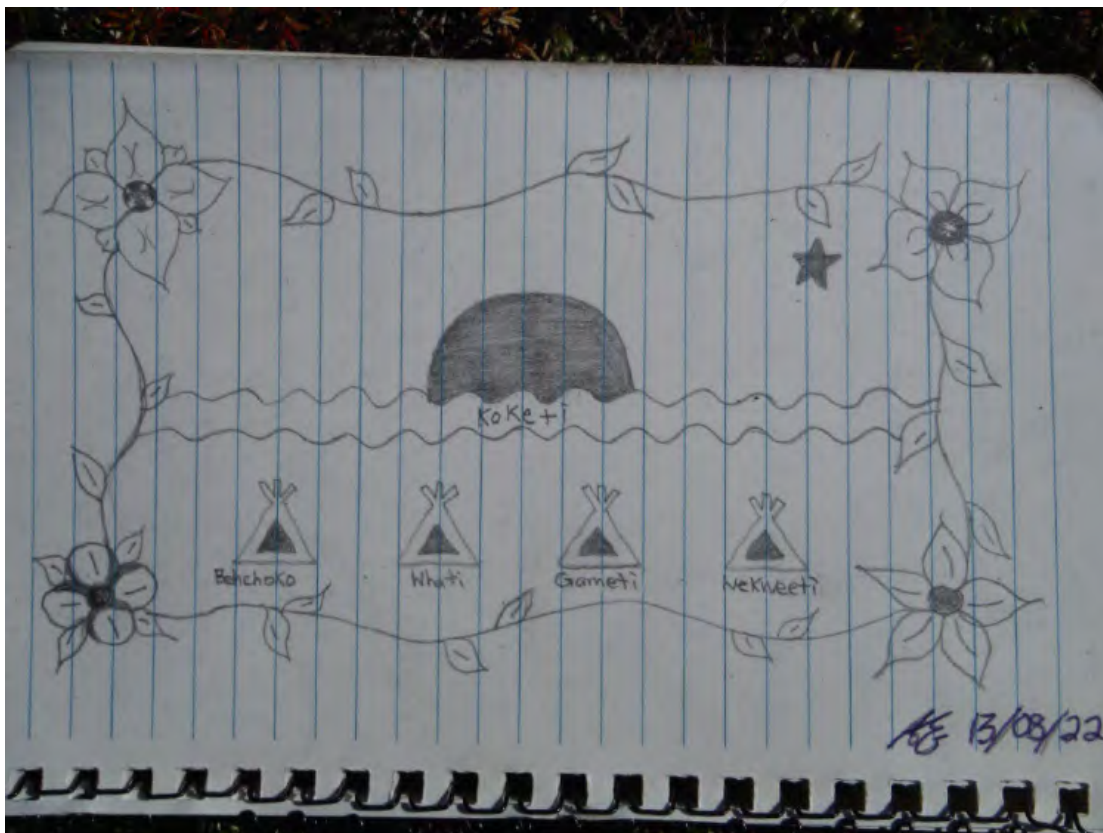
Ekwò Nqòokè	Ekwò water crossing (any place an animal can swim across)
Ekwò Naòokè	Ekwò water crossing (a place ekwò <i>always</i> swims across)
Tataà	Land between water bodies
Whatàa	Esker
Hozıı	Barrenland
Hozıı Deè	Barrenland; farthest out, “big barrens”
Hozıı shıa	Hill or mountain on barrenland
Sıh / shıh	Hill or mountain
Daka	High points
Ts'ıwıı	Stands of trees (black spruce) on barrenland
Tı	Lake/water
Ta	Water; prefix of a word to do with water
Deh	River
Taràaa	Meandering river
Dehtı	River lake (a lake in the flow of a river)
Dı	Island
Tı'à	Bay
tı'ąą	Beach

Tabàa	Lake shore or beach
ᵛehdah	A point of land
ᵛehdahkw'ò	Peninsula
Tì k'abàa	Shoreline (walking by the shoreline)
Wha	Sand: prefix to do with sand / or a pole
Nafèezee	Ekwò calving grounds
Dechjlaa	Treeline
Chj'k'è	North
Sazhj/ sazj	South
k'àbatsòò	East
dàà	West

Wildlife Terminology Useful for Ekwò Monitors

Hozì Ekwò	Barren-ground ekwò
Kokèti ekwò	Bathurst ekwò herd
Sahti Ekwò	Bluenose-east ekwò herd
Tòdzì	Woodland / boreal ekwò
Ekwò fexè k'eᵛàa	Ekwò herd
Ekwò akwe etfee	Ekwò leader / lead ekwò (any gender)
Ts'ida akwe etfee	Cow leader
Chia/Tsia	Ekwò calf
Ts'idaa	Yearling (2 or 3 years old)
Wedziike /wedziikea	Cow with no calf
Dets'èa	Young cow ekwò
Dets'e	Mature cow ekwò
Wozaà	Cow with calf
Yèagoa	Young bull ekwò (2 to 3 years old)
Yèago	Bull
Yèagocho	Bull ekwò, biggest bull
Wedziicho	Oldest bull
Wedziì	Bull ekwò
Nadèèzhò	Older bull ekwò
Ekwò nàxòèhdee k'è	In the migration of ekwò
Nadèeᵛà	Migrating ekwò
Ekwò na da dì	Ekwò left behind during migration: "ekwò that go half way"
Nìizaa	Ekwò migrating towards the forest in the fall
Nadèezoò	Ekwò migrating to the calving grounds
Ekwò edè	Ekwò antlers
Ekwò keè	Ekwò tracks
Ekwò eto	Ekwò trail
Ekwò ek'a	Ekwò fat
Dìga	Male wolf
Dìga dets'è	Female wolf

Dìgazha/ Dìgaza	Wolf pup/pups
Diga wozaa /wezaa	Wolf litter
Dìga eʔoo	Wolf den
Dìga nàdè	Wolves family / community / wolves living together
Dìga nàdèe k'è	Wolf habitat
Sahcho	Grizzly bear
Hozìi edzie	Muskox
Nògha	Wolverine
Didì	Arctic ground squirrel / barrenland squirrel
Dedìi	Moose
Kw'ih	Mosquito
Behk'òts'jà	Arctic tern
Tatsò gah	Raven
Hatsòga	Crow
Tì tso	Loon
Det'òcho	Eagle
Ets'imbaa	Arctic fox



Artwork by Ahri Ekendia

Ekwò Nàxoèhdee K'è - Introduction

Started in 2016, the Ekwò Nàxoèhdee K'è ekwò monitoring program has brought Tłıchų people to the ancestral hozı ekwò (barren-ground ekwò) harvesting locations on hozıdee (barrenland). The basecamp at Kokèti (Contwoyto Lake), located in the northernmost region of Tłıchų traditional territory, is on the summer range of the Kokèti ekwò (Bathurst ekwò) herd; the place where hozı ekwò migrate with their newborn calves to spend the summer.

In an ongoing commitment, the Tłıchų Government persistently engages in monitoring endeavors to comprehensively study and oversee the ekwò herds, guided by the traditional wisdom of Tłıchų Elders and harvesters. Both the Kokèti ekwò and the Sahti ekwò herds undergone significant declines over the past decade. The latest calving ground surveys, carried out in June 2021, revealed that the Kokèti ekwò population was estimated at 6,243 individuals, marking a 99% reduction from its peak recorded population of 480,000 in the 1980s. The Sahti ekwò population (Bluenose East herd) was estimated at 23,202 ekwò, indicating a modest increase from 19,294 animals counted in the previous survey in 2018. In an ongoing commitment, the Tłıchų Government continues our program to comprehensively study and interact with the ekwò herds, guided by the traditional wisdom of Tłıchų elders and harvesters.

The monitoring goal is to assess the state of hozı ekwò within its summer range, with a specific emphasis on four primary indicators: (1) habitat; (2) ekwò health; (3) predator presence; and (4) industrial development impacts. The program is a collaboration between the Tłıchų Government, GNWT-ENR, the Wek'èezhı Renewable Resource Board (WRRB). Funding was provided by Tłıchų Government, Burgundy Diamond Mines Ltd. , and the GNWT-Cumulative Impact Monitoring Program¹ (CIMP).



Photo 1: Kokèti Basecamp. Photo: Pat Kane.



Photo 2: Deèzàati basecamp. Photo: Petter Jacobsen.

The program operates from three basecamps situated on the barrenlands (map 1). The primary basecamp is located at Kokèti, where ekwò monitoring efforts have been ongoing for seven years, starting in 2016 (Photo 1). In the summer of 2020, an additional base camp was established at Deèzàati (Point Lake) to oversee the monitoring of the Sahti ekwò. Establishing the ekwò monitoring program at Deèzàati was

¹ This project receives funding from Government of the Northwest Territories Department of Environment and Natural Resources, Northwest Territories Cumulative Impact Monitoring Program. More info can be found at: <http://www.enr.gov.nt.ca/en/services/cumulative-impact-monitoring-program-nwt-cimp>

based on WRRBs (2019) recommendation (#15-2019) to expand TG’s monitoring to the summer range of Sahtì ekwò. Deèzàati was selected as its the largest waterbody on the Sahtì ekwò range within the Wek’èezhìi and because of the rich Tłıchq cultural history on the lake. In August 2022, we expanded the program to Ek’atì (Lac de Gras) and Łiwets’agòats’ahtì (Lac du Sauvage). The long-term plan involves establishing a research camp on Łiwets’agòats’ahtì, and initiate research and monitoring activities on the lakes around the mines in the years ahead. We were not able to be at Ek’atì during fall 2023, due to wildfire evacuations and severe smoke conditions on the barrenlands making it impossible to land floatplanes at Ek’atì.



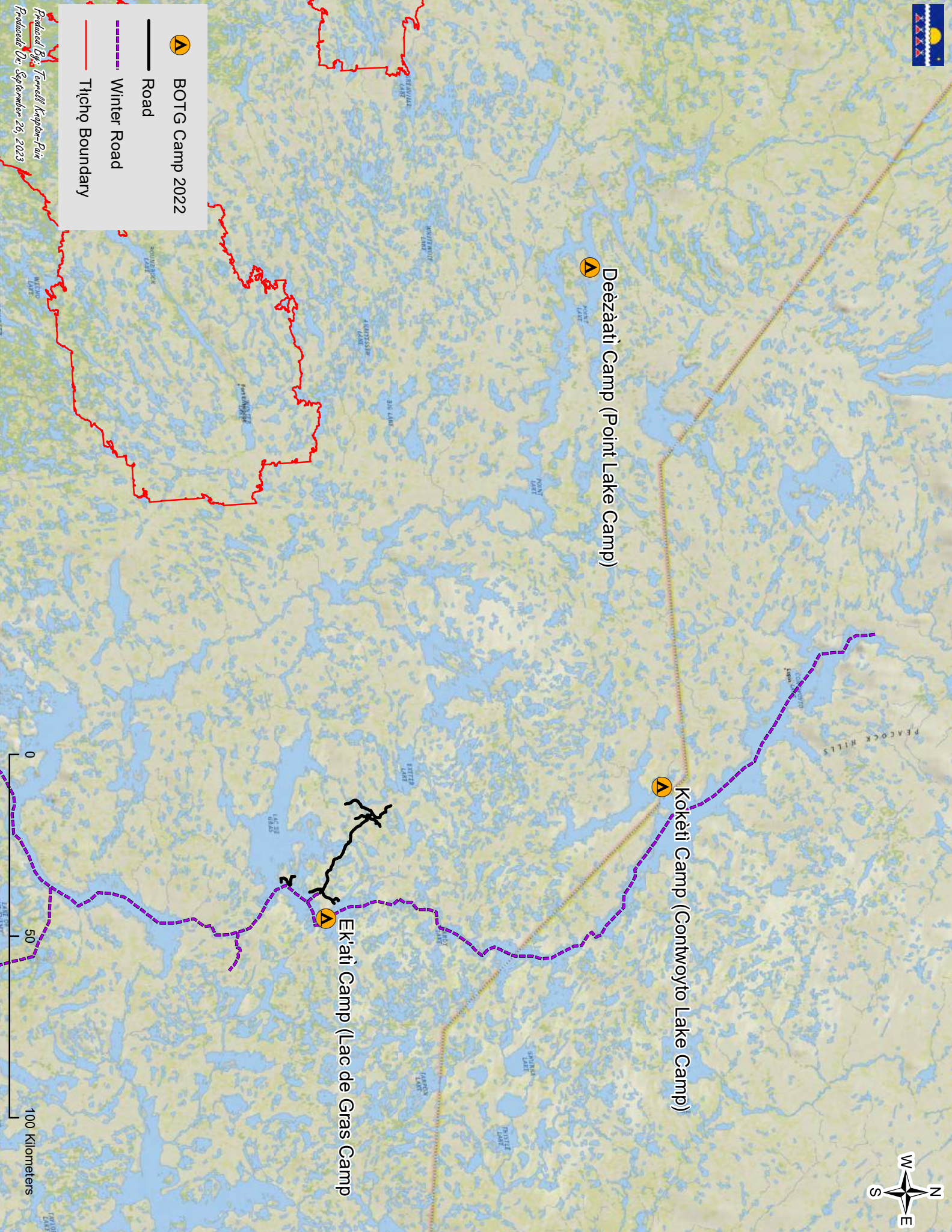
Photo 3: ENK camp on Łiwets’agòats’ahtì (Lac du Sauvage). Photo: Petter Jacobsen.

Between 2016 and 2022, the monitoring and search efforts of the teams have consistently grown, leading to more frequent and comprehensive wildlife observations. Table 1 provides an overview of the program’s annual progression, highlighting the increase in monitors, field days, travel distances, and monitoring hours.

Through Ekwò Nàxoèhdee K’è, Tłıchq travel to their ancestral harvesting locations on Kokèti and Deèzàati, where we reconnect to cultural places and ekwò. Thus, the program helps Tłıchq participants to “go back to the original source to remember” (John B. Zoe) the stories, language, knowledge, and cultural ways of life. An important process to continue maintaining the relationship with the land and animals, because “our relationship with ekwò defines who we are. It’s a foundation for our nàowo – a Tłıchq concept that encompasses our language, culture, way of life, as well as our knowledge and laws” (Zoe 2012a, p. 69).



Photo 4: Team B at Koketi: Dene Daniels, Janelle Nitsiza, Louisa Mackenzie, Hardy Mantla, Rita Wetrade, Archie Wetrade, Bobby Nitsiza, Mercie Koadloak, John Franklin Koadloak.



Deézáati Camp (Point Lake Camp)

Kokéti Camp (Contwoyto Lake Camp)

Ek'atıi Camp (Lac de Gras Camp)

BOTG Camp 2022

Road

Winter Road

Tłı̄chǫ Boundary

Produced By: Terrell Kuylen-Fair
Produced On: September 26, 2023

100 Kilometers

We apply the Tłıchq̓ research methodology, “We Watch Everything” to study current environmental conditions, cumulative impacts to ekwò health and population numbers, and gain firsthand experience of the ekwò life cycle. The research methodology “Do as Hunters Do” is formed around traditional ways of traveling the land and sharing knowledge through peoples’ daily activities and interactions on the land (Zoe 2012b). In and around the lakes, we travel the land by boat and on foot to key geographical features known as ekwò nq̓okè (ekwò water crossings), where Elders have always anticipated ekwò herds’ arrival. The monitors sit in position, in the same way a traditional hunting party would have done, to wait, and watch the ekwò and their habitat. Using traditional hunting methods as wildlife monitoring methods, and traditional hunting locations as monitoring places, we conduct research by doing what the ancestors did successfully to survive the harsh sub-arctic environment from time immemorial.

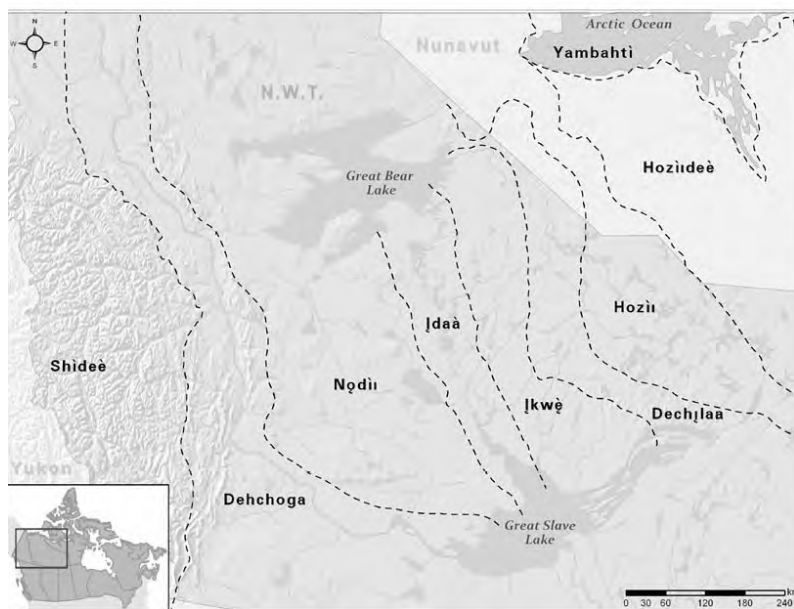
This report presents overview of the 2023 field season, including:

- **Kokèti ekwò monitoring results from Kokèti,**
- **Sahti ekwò monitoring results from Deèzàati**
- **Trend Analysis from 2016 to 2023;**

For information about program activities and results from 2016 to 2023, please see our reports, documentaries and photos on the website: <https://research.tlıcho.ca/research/bootsongtheground>.

Kokèti Monitoring Area and Timeline

The study area is situated entirely within hozıidee (map below), referring to the region beyond hozıı (barrenland); a place without trees and only low-growth shrub vegetation (Andrews 2011). The area is classified as a tundra biome and is in the Arctic Tundra climatic zone. Geographically, the ekwò monitoring area is focused around Kokèti (Contwoyto Lake), Kwııdlıachıı̄ (Fry Inlet), and the surrounding land that can be reached within one day’s walking distance from these lakes (map 3). The Tłıchq̓ name for Contwoyto Lake is Kokèti, translated as “empty campsite lake,” in reference to the many camps erected around this lake throughout history. Kokèti is located at the northernmost extremity of Tłıchq̓ traditional land use and is situated in Hozııidee described as “big barrens” (Andrews 2011). The lake is importantly situated directly southwest of Bathurst Inlet, home to the herds calving grounds.



Map 2: Tłıchq̓ Landscape Units. Source: Andrews 2011

Hozìidee is a shared region utilized by both the Tłı̨chǫ and Inuit people for harvesting hozìi ekwò in summer and fall, fur trapping in winter, and as a trade route facilitating interactions between the two cultures. Inuit and Tłı̨chǫ have a long history of meeting at historical hozìi ekwò hunting locations. The land surrounding Kokèti play a pivotal role in both the post-calving and summer ranges of the Kokèti ekwò. Come July, following calving, herds of cows and calves migrate from the calving grounds and join the bulls, amalgamating into larger herds. The cows lead their newly born calves to these feeding grounds around Kokèti, allowing the calves to feed, nourish themselves and grow adequately before the fall migration and the onset of winter.

Kokèti runs approximately northwest to southeast, effectively dividing the post-calving summer range of the Kokèti ekwò. The land around the large lake provides a low rolling landscape with optimal ekwò habitat and refuge from biting insects; heavily influenced by winds coming off the lake. At its widest point, the lake is approximately 19 kilometres wide, and numerous eskers and islands form nǫǫkè (water crossings) that ekwò use to cross the lake. The elongated shape of the lake creates a network of nǫǫkè along both eastern and western shores of the lake that creates corresponding ekwò etǫ (ekwò trails) dug deep into the ground as these etǫ are continuously used every summer. Kokèti is accessible by canoe and floatplane during the summer; in the winter months it is reached by snowmobile from Kugluktuk or via winter ice road to Yellowknife. The Tibbitt-Contwoyto Winter Road (TCWR Joint Venture) is built from Yellowknife through Kokèti for mining resupply (map 1), although the winter road access north of the Diavik and Ekati mines has not been open each year. There are currently two non-active mines (Lupin and Jericho) in the monitoring area, and several active mines south of the area (Ek'atì, Diavik, and Gahcho Kuè) as well as several abandoned exploration camps scattered across the landscape.



Photo 5: Kokèti camp in channel between Kokèti (Contwoyto lake) and Fry Inlet. Photo: Aimee Guile.

Field Teams

During 2023, our monitoring at Kokèti took place over a combined period of 56 days between July 21st and October 4th, during which three teams (Teams A to C) conducted shifts of three and two weeks (Table below).

		Field Time in Summer 2023 [#]					
			Start	End	Personnel	# Days	Person-Days
Bathurst	Kokèti	Team A*	21-Jul	09-Aug	8	19	149
		Team B	09-Aug	27-Aug	9	18	162
	Ek'atì*	n/a			0	0	0
Bluenose East	Deèzàati	Team C	15-Sep	04-Oct	8	19	152
					25	56	463

[#] Six teams were planned; wildfire evacuation reduced effort to three teams in total.

*Ek'atì; one team was planned in September; due to thick smoke we were not able to land on lake.

Table 1: Summary of field activities for ENK monitoring, summer and fall 2023

In total the three field teams spent 56 days on the land and watching wildlife, with a total of 463 person-days. The teams' daily fieldwork was done by boating and walking. The teams travelled the lakes by boat and walked inland to get into proximity to the ekwò herds. The daily monitoring locations were determined using the harvesters' knowledge of ekwò movement and GPS collar locations of Kokèti ekwò provided by GNWT-ECC three times per week.



Photo 6: Team A at Kokèti and Queens University researchers

The Silent Crisis – Dramatic Decline of the Kokètì Ekwò

In 2018, the NWT Conference of Management Authorities (CMA) listed the *hozìi* *ekwò* (barren ground caribou) as *Threatened* in the Northwest Territories, based on a 2017 assessment by the Species at Risk Committee (SARC 2017). The CMA listing *threatened* means that the barren ground *hozìi* *ekwò* species in NWT is declining and there are threats that could cause the entire species to disappear in our children’s lifetime. Furthermore, the listing states that “barren ground caribou is likely to become endangered in the NWT if nothing is done to reverse the factors leading to its extirpation or extinction” (SARC 2018).

For the *Kokètì* *ekwò*, the most recent calving ground survey, conducted in June 2022, estimated the total herd population to be 6,843 *ekwò* (Adamczewski et al. 2022 unpublished). At its historic recorded high in 1986, the Bathurst herd was estimated at about 470,000 *ekwò*, and the estimate of 6,843 *ekwò* in 2022 represents just 1.3% of the population high. Emigration of some Bathurst *ekwò* to the Beverly herd is likely an important contributing factor in the recent observed decline between 2018 and 2021. The main contributors to the continued decline are low survival rate for adult female *ekwò*, and poor reproduction rates of the herd, which include low survival rate for calves (Government of the Northwest Territories and Tłı̄chǫ Government Joint Proposal on Management Actions for the Bathurst Ekwò (Barren-ground *ekwò*) Herd: 2019 – 2021).

This dramatic rate of decline for the *Kokètì* *ekwò* herd meets the criteria for being *Endangered*, according to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2015). If current trends continue, the Bathurst herd will meet the criteria for *Critically Endangered*. In such a scenario, the herd “may not recover for decades to a size that could sustain a meaningful level of hunting” (TG - GNWT Joint Management proposal for Bathurst *Ekwò* 2019).

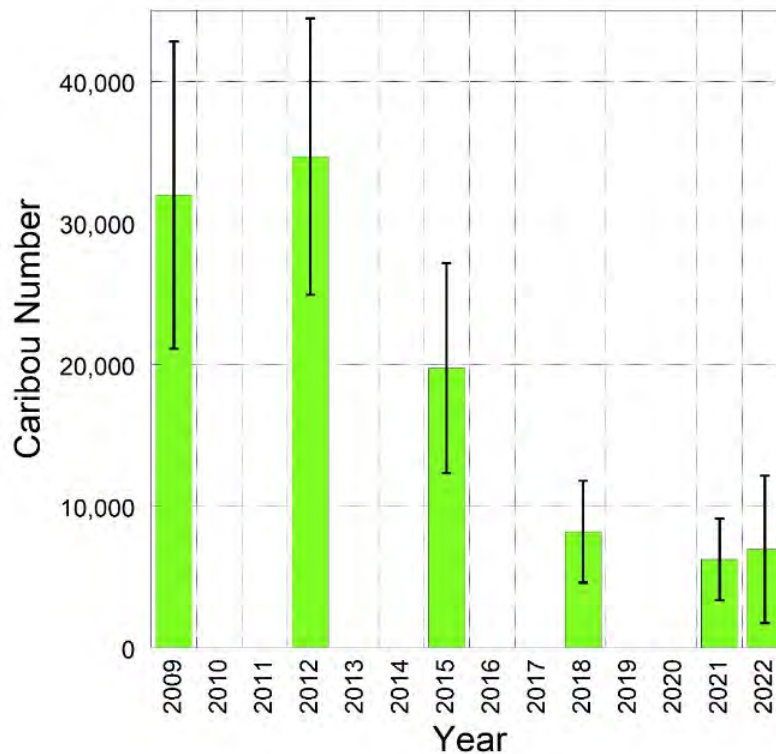
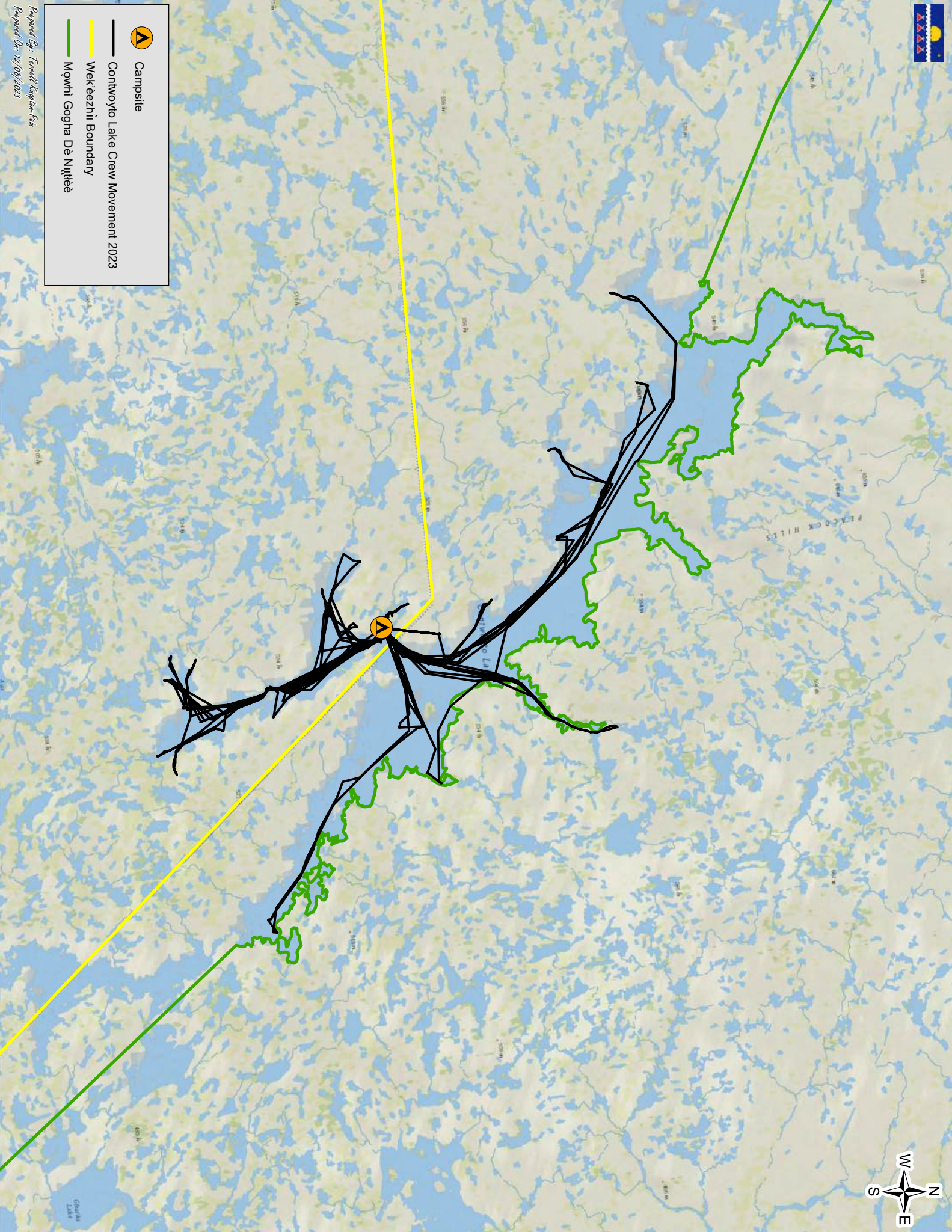






Figure 1: Bathurst herd calving population estimate 2009-2022. Source: Adamczewski et al. 2022 unpublished.



-  Campsite
-  Contwoyto Lake Crew Movement 2023
-  Wek'èezhii Boundary
-  Mìqwhì Goghna De Nìq̄tèè

Prepared By: Terrell Nagler-Pan
Prepared On: 12/08/2023

2023 Results

Ekwò (barren ground caribou) were the most abundant species seen by field teams. A total of 491 ekwò within 104 groups were observed by the three teams. Most ekwò were seen at Kokèti (253 caribou in 73 groups, followed by Deèzàati (238 caribou in 32 groups).

Table 2: Summary of animals observed

	Caribou	Muskox	Moose	Wolf	Grizzly Bear	Wolverine	Bald Eagle	Golden Eagle	Muskrat
Team A	43	97	2	3	1	0	9	0	0
Team B	210	44	0	0	1	1	1	0	0
Team C	238	0	2	0	0	0	1	0	1
	491	141	4	3	2	1	11	0	1

In contrast to total ekwò seen, sighting rates of ekwò at Kokèti were highest for the field team in August at Ek'ati camp. These differences in sighting rates of ekwò likely reflect the low occurrence of Bathurst ekwò in July, and the slight increase of ekwò in August (Table 5). This year was the lowest amount of ekwò reported at Kokèti since start of program, possibly because most of the Kokèti herd migrated further west of Kokèti this summer. The herds remained west of Kokèti for most of the fall and into early winter.

Table 3: Summary of animal groups observed

	Caribou	Muskox	Moose	Wolf	Grizzly Bear	Wolverine	Bald Eagle	Golden Eagle	Muskrat
Team A	27	9	1	1	1	0	7	0	0
Team B	45	8	0	0	1	1	1	0	0
Team C	32	0	1	0	0	0	0	0	1
	104	17	2	1	2	1	8	0	1

- Muskox (Hozì edzie) were only seen at Kokèti and were the second most observed wildlife species with 141 individuals seen within 17 groups.
- Two moose (dedii) were observed at Deèzàati, and two moose were seen at Kokèti.
- Wolves (dìga) were most consistently seen by field teams at Kokèti. Dìga were not observed at Deèzàati, although many ekwò herds were around the lake.
- Grizzly bears (sahcho) were only observed at Kokèti. Single bears were seen on two separate occasions.
- Wolverines (nogha) were seen one time at Kokèti, none at the other camp.
- Bald eagles (det'òcho) were seen at both camps. 10 eagles at Kokèti and one at Deèzàati. No golden eagles were observed.

Kokèti Ekwò Habitat

Summer 2023 was described as hot and too dry, and in July was the first time that we experienced tundra fires by Contwoyto Lake. Overall, the summer was characterised by dry and warm weather. Vegetation became drier throughout the season. There were low water levels in lakes and little to no water in muskeg and ponds, thus the growing season was shorter. The Kokèti ekwò showed signs of good health during summer and fall, most of the adult ekwò were in good body condition, however two ekwò were noted as skinny.



Photo 7: Dried up ponds with cracks in the dry soil by Kokèti. Photo: John Nishi



Photo 8: Dry meadows with no surface water. Photo: John Nishi.

Summer Drought

During mid-August, vegetation conditions appear to be very dry in all the plant communities. During both summer of 2022 and 2023, wet sedge meadows were dry, with cracks often showing in the dried soil or organic surface. Even after rainfall, the land dried up quickly. Walking in hummocky meadows would normally leave moisture on your boot or standing water in the tracks; in these normally wet meadows and ponds there was no surface water this summer.

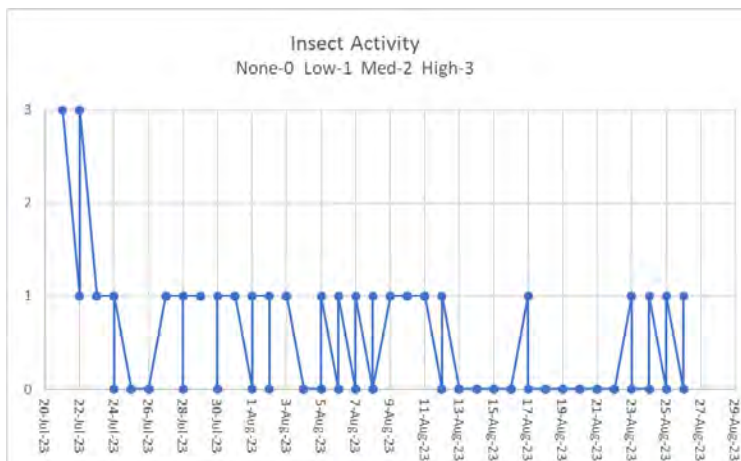


Figure 2: Measured insect activity at Koketi during July-August 2023. Overall insect activity was low to absent for most of the field season (21 July – 26 August 2023).

Due to dry conditions, there was a noticeable lack of mushrooms on the land, and during August, grasses and leaves were brown. Due to lack of water in ponds and fields, there was less rearing habitat for mosquito larvae and consequently very low mosquito abundance throughout summer. Only two days in July had high insect activity, while insects were mostly absent for the rest of the summer.

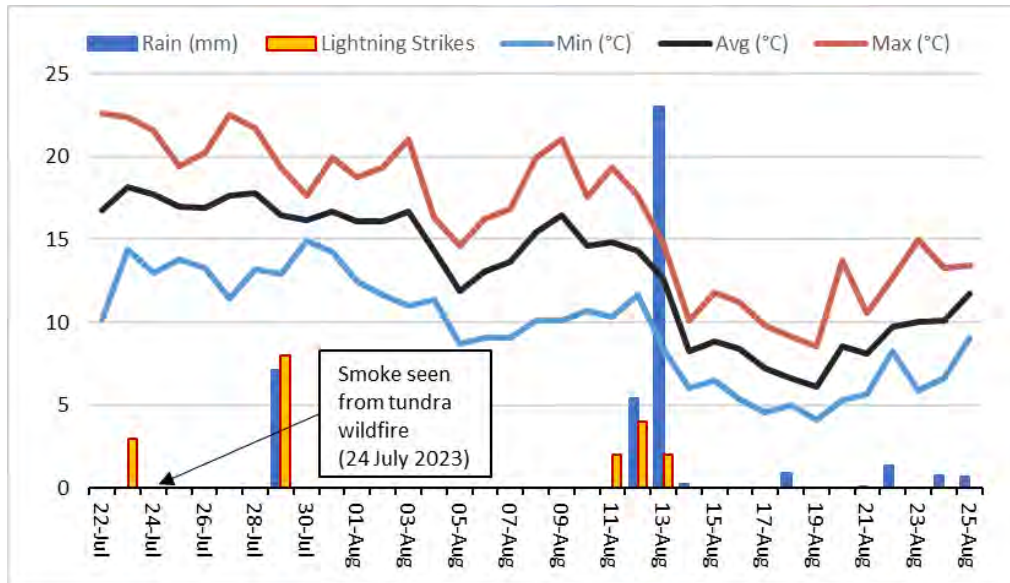


Figure 3: Overview of rain, temperatures and lightening at Kokètì during July and August

Tundra Fires

July 2023 was the first time we observed wildfires on the barrenlands. Smoke was observed on 24th of July after lightening activity, causing several fires in the dry grass and shrub fields on the south and east side of Contwoyto Lake. The fire was 4-5 km inland from the shoreline, and the fire was at least 6-10 km long burning an extensive area between Kokètì and Pallet Lake. Some smoke was still visible in August.



Photo 9: Tundra fires burning south of Kokètì, July 2023. Photo: John Nishi.



Photo 10: Smoke from tundra fire first observed on July 24th after lightening: Photo: John Nishi.

Kokèti Ekwò – Bathurst Caribou

The two teams observed a limited number of ekwò around Kokèti, with a total of 253 individuals in 72 groups during July and August. Group sizes were relatively small, ranging from 1 to 21 ekwò, with an average size of 3.5 and a median size of 2 ekwò per group. Overall, we saw few ekwò during the summer period around Kokèti, as much of the Bathurst herd had migrated further west, as indicated by the distribution of collared ekwò during that period.

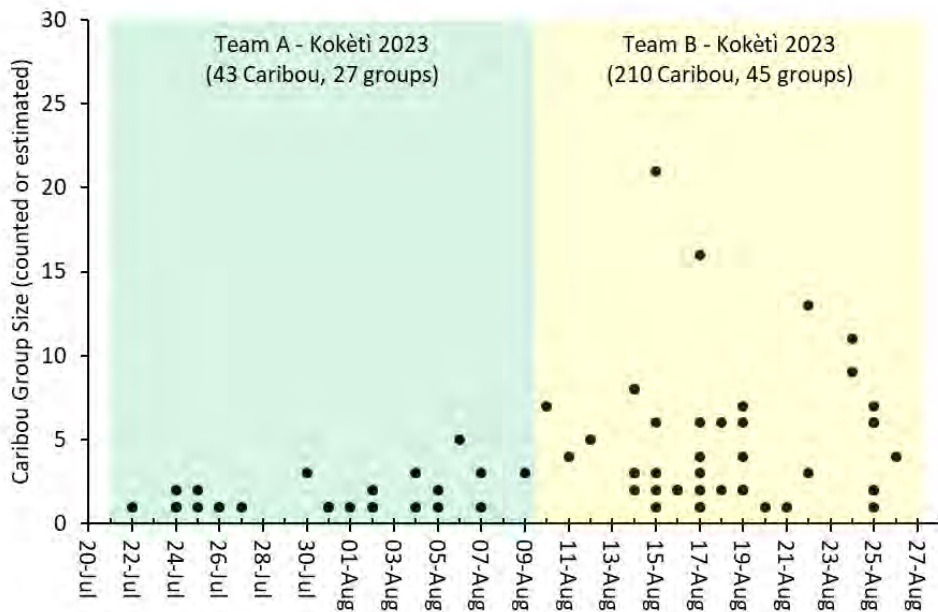


Figure 4. Distribution of ekwò group sizes observed by two ENK field teams at Kokèti, July to August 2023.

A majority of ekwò observed consisted of bulls (45.8%), while cows comprised 15.8%. 8.7% were yearlings and calves accounted for 8.3% of the total animals seen. Additionally, 21.3% was classified as unknown age/sex class.

Table 4: Classification of caribou observed

	Bulls	Cows	Yrlgs	Calves	Unknown	Total Caribou
# Individuals	116	40	22	21	54	253
% Composition	45.8%	15.8%	8.7%	8.3%	21.3%	100.0%
# Groups	51	23	14	11	19	72
Mean	2.3	1.7	1.5	2.0	2.8	3.5
Min	1	1	1	1	1	1
Max	9	6	5	5	13	21
Median	2	1	1	2	2	2
Variance	3.0	1.6	1.2	1.6	8.0	13.4
Standard Dev	1.7	1.3	1.1	1.3	2.8	3.7

Kokètì Ekwò Calf Abundance

Calf to cow ratios were derived from ekwò observations that included at least one cow and were observed within 1 km of field teams. During summer 2023 at Kokètì, calves were not observed throughout July. The first sighting of calves was on August 12th, by the second field team. In total, we observed 16 groups of ekwò with at least one cow; we estimated 51.2 calves per 100 cows (SE 13.2). This average calf to cow ratio is considered very good for late summer. However, the estimate is likely not well representative of the herd and due to small sample size and relatively few animals observed (23 cows and 13 calves). Nevertheless, it is encouraging that the calves observed within the 16 groups are displaying signs of healthy growth and overall well-being.

“In August; many of the cows and calf groups observed had a 1:1 ratio, This indicates good population growth.” - John Franklin Koadloak

On August 26, the team saw, for the first time, a cow with two calves, which suggests the possibility of them being twins. According to elders, instances of twins are considered a positive indicator of the overall health of the herd.

“In August; many of the cows and calf groups observed had a 1:1 ratio. indicating good population growth.” - John Franklin Koadloak



Photo 11: Bulls in healthy and fat body condition around Kokètì, August 2023. Photo: Janelle Nitsiza

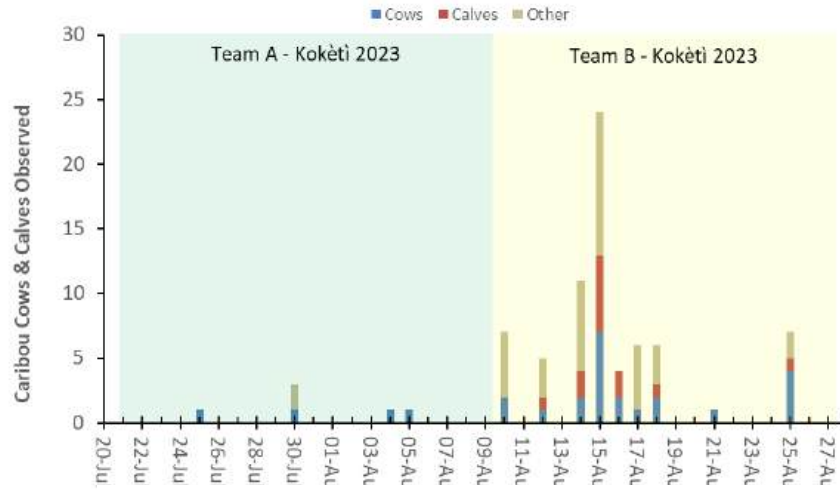


Figure 5: Caribou observations during July and August 2023

Most of those groups (62.5%) were within 2 km of the field team, but most of the groups with calves were estimated to be 2-3 km away. Because of the small group sizes and the length of time we were able to observe undisturbed groups from afar, we included 6 groups of cows and calves that were greater than 2 km away (table 7 below).

Between 2018 and 2021, we have observed favorable ekwò habitat conditions and seen healthy ekwò in generally good body conditions around Kokèti. We considered this as a positive sign, indicating the presence of necessary environmental conditions for the population to grow. However, during these years, we continue to see many herds with few or no calves. During summer 2022 and 2023, we started to see herds with more calves. This is the second consecutive summer where we have observed a higher calf abundance in the herds around Kokèti. During summer 2022, we documented a calf-to-cow ratio of 48 calves per 100 cows, based on observations of 44 ekwò groups. We consider this amount of calf during the summer months to be "good" and "normal," when compared to the low calf numbers seen around Kokèti between 2018 to 2021. For additional context, a stable ekwò herd would need to have approximately 35 calves per 100 cows in late winter (March) combined with an average adult female survival rate of 85%. Because some calves will die through fall and winter, calf to cow ratios in March would most certainly be lower than calf counts in fall.



Photo 12: Bulls in healthy and fat body condition around Kokèti, August 2023. Photo: Janelle Nitsiza

Body Condition & Health at Kokèti (Contwoyto Lake)

The Kokèti ekwò were overall in healthy and good condition. Body conditions were improving over summer and in late August, most animals were in good body condition, although two ekwò were observed as skinny. The ekwò monitors assessed Kokèti ekwò body condition around Kokèti, and of 102 bulls observed in 32 groups; 51% of bulls were fat and 48 % were good condition, and 1 bull was thin. Of 35 cows in 18 groups; only 23% scored were fat, while 74% were in good condition, and 1 cow was skinny. Of 20 calves observed, 20% were fat and 80% in good condition. There were no thin calves.

During previous summer and fall in 2022, most of the adult ekwò were described as in good body condition, however they were not as fat as the previous years, and some cows were described as skinny. Of the bulls, 6% were fat and 94% of the bull ekwò were in ‘good’ body condition, and no skinny bulls. For the cows, 0% were described as fat, 97% were described as good; and 3% were described as skinny. All the calves were classified as good.

Bulls				
Groups	Fat	Good	Thin	Total
32	52	49	1	102
	51%	48%	1%	100%

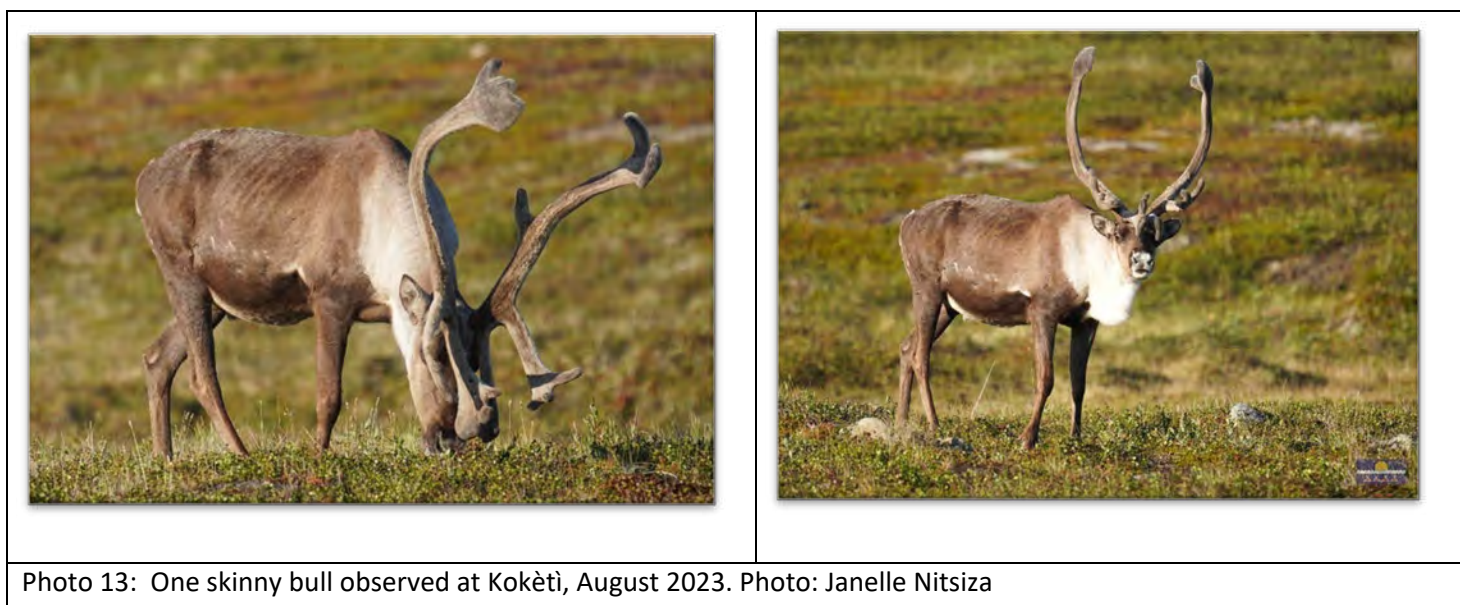
Cows				
Groups	Fat	Good	Thin	Total
18	8	26	1	35
	23%	74%	3%	100%

Calves				
Groups	Fat	Good	Thin	Total
13	4	16	0	20
	20%	80%	0%	100%

Table 5: Summary of body condition score around Kokèti during summer and fall 2023.

Injuries

Out of the 253 ekwò seen in July and August around Kokèti, no ekwò were observed with lameness, injuries or any health abnormalities.



Dìga and other Predators

Between July and August, there was no dìga (wolves/*Canis lupus*) activity observed in the vicinity of Kokèti. However, three wolves were seen by Queens University researchers at Fry Inlet in July. In 2022, 14 dìga were reported on 10 distinct occasions, which is similar to 14 dìga observed in 2021. In 2020, zero dìga was reported, while during summer 2019, a higher number of 31 dìga observations were recorded. There were 16 dìga observations in 2018, and 16 dìga observed in 2017.

According to our observations from 2017 to 2023, the abundance of dìga around Kokèti seems to show consistent amount of dìga around Kokèti, with some variations in 2020 and 2023 dependent on ekwò's proximity to the lakeshore.

Sahcho (grizzly bears/*Ursus arctos*/"big guy") were only observed at Kokèti. Two individual bears were seen on two separate occasions. No sahcho were observed at Deèzàati. The two sahcho are less than the six sahcho observed in 2022, which was slightly less than the seven sahcho reported in summer 2021. And less than eight bears were observed throughout the summer 2020, and ten sahcho reported during summer 2019. The reported observations for the last years range from 2 to 10 animals per summer, although fewer sahcho have been seen each year. Bald Eagles (det'qcho) were seen at Kokèti and at Deèzàati. 10 bald eagles were observed at Kokèti and Ek'ati, and 1 was observed at Deèzàati. No golden eagles were reported.

Dedì (Moose) Observations

Two dedii (moose) were seen at Kokèti. This is the fourth year dedii has been reported at Kokèti. One was reported in 2022, seven dedii was observed in 2021, and 11 dedii was reported in 2019. Most observation was made around the basecamp between Kokèti and Kwìdliachj. Dedii have not been seen by Tìchq monitors prior to 2019 but has become a usual animal to see around Kokèti.

At Deèzàati, two dedii were spotted. One large dark bull and a cow were spotted by Red Rock Lake, running up a hill. Eight dedii were observed at Deèzàati in 2022. There are considerable stands of trees and taller shrubs in sheltered valleys around Deèzàati, and it appears to be a better habitat for dedii compared to the higher hills around Kokèti.

Kokèti ekwò Indicator Trends 2016-2023

Monitoring Kokèti ekwò is based on periodic assessment of indicators, developed using the holistic Tłıchǫ concept of “We Watch Everything”. The elders included several interconnected indicators for monitoring ekwò and its habitat, and the table below summarizes results and trends for each indicator per year.

Indicators Over Time






	2016	2017	2018	2019	2020	2021	2022	2023
 Weather and Vegetation	Warm, Dry	Mix Dry/Wet	Wet, Windy	Wet, Windy	Wet, Windy	Cool, Windy	Dry, Windy, No insects	Hot, Dry, Tundra Fires
 Caribou Health	Normal, Many Injured	Normal	Early Fat, Bulls Healthy	Early Fat, Bulls Healthy	Healthy, Fat Animals	Healthy, Fat Animals	Healthy Animals	Healthy Animals
 Calf Abundance	Normal, High	Normal, High	Normal, Low	Low	Low	Low	Normal, Good	Very Good
 Wolves Observed	1	18	16	31	0	13	9	3
 Moose Observed	0	0	0	11	0	7	1	2

Table 6: Trends of monitoring indicators 2016-2023

The Ekwò Nàxoèhdee K'è monitors reported a trend of warm and dry habitat, with high calf abundance in 2016 to 2017, shifting to a trend of cold, wet weather. During the four years, 2018 to 2021, monitors reported ekwò habitat and food in generally excellent condition due to much rain and wind, and that ekwò health has been observed as “good”, including fat bulls and cows, but low calf abundance during the last four summers, from 2018 to 2021 (table above). Although, the good conditions of ekwò habitat and ekwò body condition, reported from 2018-2022, provide the necessary environmental conditions for the population to grow. However, the monitors observe many groups with few or no calves, and GNWT ECCs calving ground survey shows a continued decline of the Kokèti ekwò herd from 8,207 ekwò in 2018 to 6,243 in 2021 (Adamczewski et al. 2022).

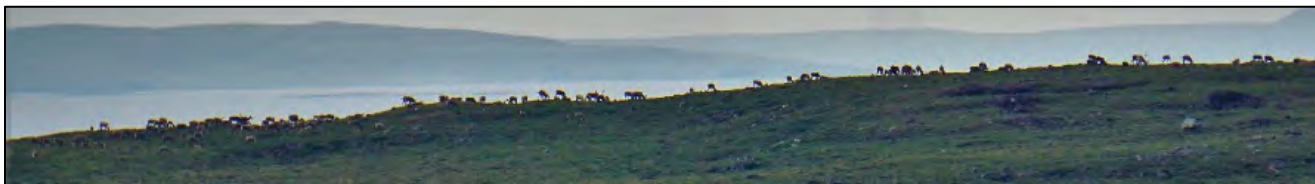


Photo 14: Herd standing on ridgeline facing into wind to avoid the high biting insect harassment. July, 2017. Photo: Petter Jacobsen.

During summer 2022, the previous year’s climate trend of wet and cold started to change. The summer was very dry and warm. The **summer of 2022** had good forage conditions but short growing season, and some vegetation was drying up at end of summer. The lack of rain and wet ground was comparatively different than the last couple years, with very few mushrooms observed. The summer was characterized

as dry and windy conditions which resulted in few or a lack of insects. The water levels in lakes and ponds were decreasing and became very low at the end of fall.

In **2022**, the teams reported more calves than we have observed since 2016. During the summer, we observed 44 ekwò groups and counted 48.1 calves to 100 cows. This amount of calves in the herd during summer & fall is considered ‘good’ and ‘normal’, compared to low calf numbers we have seen around Kokètì in recent years. Around Ek’atì (Lac de Gras) in August, we observed many Kokètì ekwò herds and counted 34.3 calves to 100 cows. Combining the cow-calf observations at Kokètì and Ek’atì, resulted in an estimate of 39.2 calves per 100 cows for summer 2022. Around Ek’atì, the Tł̨chq̨ monitors also observed a high proportion of tsidaa and yagoa (young cows and young bulls) in many herds.

During **summer 2023**, the shift to warm and dry conditions we experienced during the previous summer was intensified and became even drier and warmer; leading to such dry vegetation, that lightening sparked multiple tundra fires at Contwoyto Lake, marking our first observation of tundra fires in the area.

At the same time, we started to see herds with a higher number of calves. This is the second consecutive summer of increased calf abundance in the herds around Kokètì, with an estimated 51.2 calves per 100 cows. This average calf to cow ratio is considered very good for late summer. However, due to few animals observed the estimate is likely not well representative of the herd. Nevertheless, it is encouraging that the calves show healthy growth when compared to the low calf numbers seen around Kokètì between 2018 to 2021.

Calf Abundance Over Time

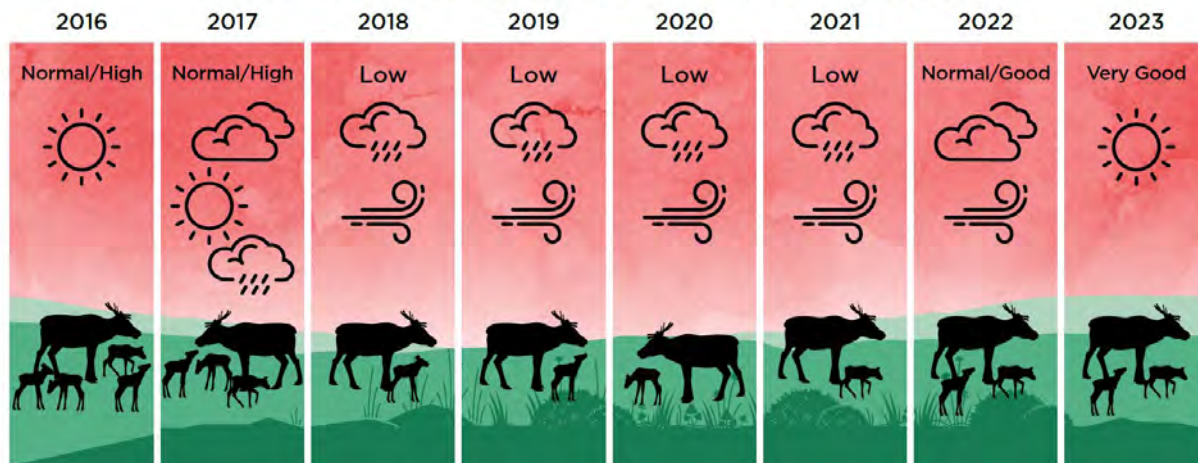


Table 7: Trends of calf abundance over time 2016-2023



Photo 15: Team with the National Film Board film crew, September 2023.



Photo 16: Boat selfie with team at Deèzàati: Petter Jacobsen, Ete Zoe, Aimee Guile, Roy Judas, Stephanie Behrens, Joe Zoe and Dillion Smith.



Photo 17: Deèzàati team: Aimee Guile, Roy Judas, and Ṯchq̱ youth Ete Zoe and Dillion Smith.

Sahti Ekwò Monitoring Results from Deèzàati

During fall 2023, one team of Tłjchq guardians stayed at the lake from September 15th to October 4th. Due to wildfire evacuations, only one field team was able to depart to Deèzàati instead of the planned two teams. This fall was the second year that we conducted monitoring of Bluenose East ekwò around the lake; previous years (2020 and 2021) was challenged by COVID-19 travel restrictions and lack of ekwò around the lake.


Located on the northern barrenland, the large lake Deèzàati (Point Lake) was accessed by the canoe trails from the treeline, as people traveled here for ekwò harvesting and trapping since time immemorial. As Tłjchq have traveled here each ekwò hunting season, Deèzàati has a rich cultural history. Located along the treeline, the lake contains two ecosystems; a full forest cover exists on its western shores, towards Redrock Lake, while most of the eastern and northern part of the lake is open barrenlands. In between are several pockets of coniferous trees, growing in sheltered bays and along creeks. This combination provides two integrated ecosystems that sustains families of harvesters throughout the year, by providing both access to resources from the forest and from the barrenland. By knowing what to look for, and know-how for making tools, shelters and acquiring fresh meat from the available resources, the unique location of the lake becomes, what the Elders often refer to, as the “bank” or the “store”. Since time immemorial, the continued use of this unique location has created a rich cultural landscape


According to Elders, the placename Deèzàati originates from the word woza, which describes a female ekwò with a tsia (calf) during summer (Joe L. Zoe). Thus, the meaning of the placename, speaks to a location to travel to at a certain time of the year where you can meet ekwò cows and their calves. Additionally, the placename represents a time and place where the ekwò are at a certain age and subsequently the hide is in correct conditions to prepare clothes for the small children in one’s family.




Photo 18: Well-used trails from Sahti ekwò in the muskeg along the northern shore of Deèzàati, September 2023



 Campsite

 Point Lake Crew Movement 2023

 Wek'ezhii Boundary

Prepared By: Tawell Wapagan-Pan
Prepared On: 12/08/2023



Sahti Ekwò – Bluenose East Caribou

Due to wildfire evacuations during July and August, we were only able to have one field team at Deèzàati. The team was there from September 15th – October 4th, 2023. At the end of August, numerous Sahti ekwò herds migrated southward towards Deèzàati and in September and October, groups of ekwò were around the lake and surrounding area.

We observed a total of 238 ekwò within 32 groups (see table below). The group sizes ranged from 1 to 23 ekwò. Most groups were small, and average and median group size was 7.4 and 5 respectively. We did not see any larger herds.

Table 8: Classification of caribou observed

	Bulls	Cows	Yrlgs	Calves	Unknown	Total Caribou
# Individuals	62	46	4	30	96	238
% Composition	26.1%	19.3%	1.7%	12.6%	40.3%	100.0%
# Groups	23	19	4	17	17	32

Tsia – Calves

When the teams observed groups of cows and calves in the hills around Deèzàati, the elder pointed out that these are *woza*; the Tł̨chq̨ term for a cow with calf.

“The first ekwò you will see are woza, the cow and its calf...then the larger herd is coming”.

Elder Joe Zoe added more details of herd behaviour and explained that when you see bulls, they are often by themselves, but when a cow with calf is seen they will be the first of the larger herds. Consequently, when he uses the term *woza*, it means that the whole herd is coming; the cows, calves, and everyone are following.

Through September, we observed 32 ekwò groups, and there were 19 groups where at least one adult cow was classified. These 19 groups comprised a total of 46 cows and 28 calves and were observed on nine different days. Most calves were observed on September 28 and 30. From this small sample, we estimated an average calf: cow ratio of 60.3 (± 10 SE) calves per 100 cows. This observed calf:cow ratio in the fall suggests high calf survival through spring and summer, and that calves born in June have been growing well and are healthy. However, we acknowledge that the observed calf to cow ratio may not be representative of the herd because it is based on a small sample of ekwò groups.



Photo 19: Sahti ekwo calves and cows: notice the tall antlers and large body size of the calves, September 2023. Photo: Petter Jacobsen

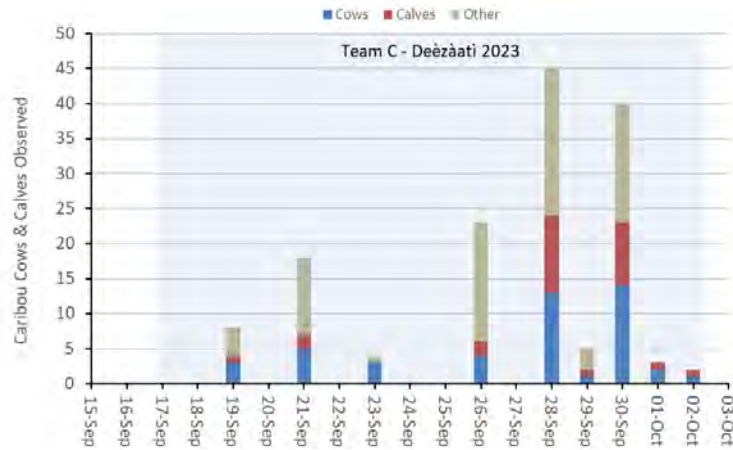


Figure 6: Ekwò cows and calves observed from September 15th to October 2nd, 2023

The calf-to-cow ratio is considered a very good ratio for fall. The observed ratio is in the middle of the range reported by GNWT-ECC (Adamczewski et al. 2016) who observed that fall (late October) calf-to-cow ratios for BNE caribou from 2009 to 2021 varied between 25-52 calves to 100 cows. For additional context, a stable caribou herd would need to have approximately 35 calves per 100 cows in late winter (March) combined with an average adult female survival rate of 85% (DeCesare et al. 2012). Because some calves will die during summer through to winter, calf to cow ratios in March would most certainly be lower than calf counts in September.

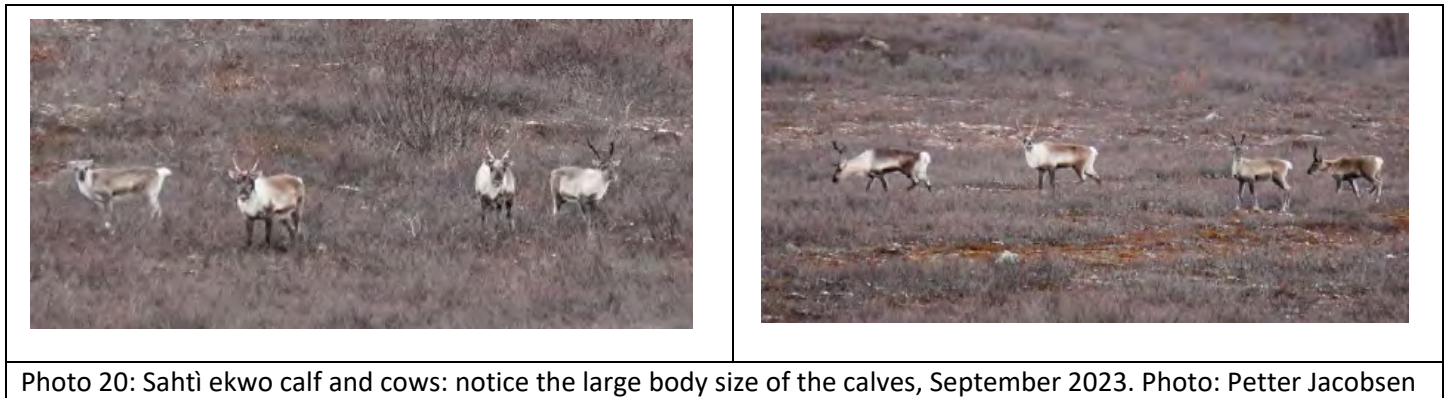


Photo 20: Sahtì ekwo calf and cows: notice the large body size of the calves, September 2023. Photo: Petter Jacobsen

The calves were considered healthy, with no visible injuries. Calves are not usually fat as they spend their energy to grow. At the end of September, many calves had grown larger in body size. At times, it was challenging to differentiate between a calf and yearling; as the calf legs and body had grown and the calf's antler had grown longer than what is considered a "normal" short antler of a calf. This also indicates that calves are healthy have been growing well since they were born in June. This is the second fall, that we observe calves with large body size. In later fall, the calves belly also start to grow as they transition from only drinking milk from its mom to eating grass and vegetation.

"If it's a calf it is staying with its mom.
A yearling won't stay so close – the mom will chase them away." - Joe Zoe

Tsidaa and Yagoa

During the previous fall, in 2022, we saw a high proportion of tsidaa and yagoa (young bull & young cows). In some herds, a high proportion of yagoa (young cows) were observed. These observations

indicate that many calves and yearlings survive overwinter. During September 2023, we continued to see many young ekwò. It is a good sign to see a high proportion of young caribou, *tsidaa* and *yagoo*, as it means that many calves and yearlings survive overwinter.

"You can tell all ekwò around here are young, because of the way they are moving.
They are moving fast – bouncing & trotting" – Quote by who?

Also observed in fall 2022, was many fat and healthy bulls, with big antlers and big bellies. This fall we did not see any large bulls around Deèzàati.



Photo 21: Woza; the Tłıchq term for a cow with calf: Deèzàati, September 2023. Photo: Petter Jacobsen

Body Condition and Health

The Sahti ekwò showed signs of being in good shape, and all the adult bulls and cows were described as good and fat. Field teams assessed the body conditions of bulls, cows and calves; as fat, good or thin (skinny). Out of 238 ekwò observed in total, we assessed body condition on 68 ekwò (29% of the total). All the assessed ekwò, 55 (81%) were within 1 km of the field team, and all were within 2 km.

We saw 25 bulls in ten groups were observed, and all the bulls (100%) were scored as fat and no bulls observed as thin. Of the cows, we saw 27 cows in 12 different groups; 24 cows were fat, 2 cows were in good condition, and one skinny cow was noted. 16 calves were observed in 9 groups, and we scored 7 (44%) as fat, 9 calves as good condition. No skinny calves were seen. Watching the fat bull, the elder Joe Zoe described that "The ekwò don't put the fat inside the body and in the meat - the fat goes outside their body, on their back".

Table 9: summary of body condition score around Deèzàati during fall 2023

Bulls					Cows				
Groups	Fat	Good	Thin	Total	Groups	Fat	Good	Thin	Total
10	25	0	0	25	12	24	2	1	27
	100%	0%	0%	100%		89%	7%	4%	100%

Calves				
Groups	Fat	Good	Thin	Total
9	7	9	0	16
	44%	56%	0%	100%

Injuries: out of all the 238 ekwò observed, one was injured. One cow had an injured and very swollen 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. It looked as though the animal had been injured for a long time as she was skinny and her tail was down, even though she was afraid of us approaching by boat.



Photo 22: Cow ekwò with injured and swollen back left foot, September 2023. Photo: Petter Jacobsen.

Sahtì Ekwò Habitat

On the fall range around Deèzàati in September and early October, the vegetation and ekwò food were described as overall good quality. Drought conditions with little to no rain had dominated the summer, and NWT experienced one of the worst forest fire seasons in history. By Contwoyto Lake, our teams observed tundra fires for the first time. The vegetation around Deèzàati was dry when we arrived (mid-September). During the last two weeks of September, some rain and overnight cooler temperatures brought morning fog and moisture which made ekwò forage moist and in better quality for ekwò to eat.

“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 ekwò to eat.” - Joe Zoe.

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

The elder explained that ekwò like to eat the leaves from the willows and dwarf birch in the fall. We saw ekwò feeding extensively on lichen in September, and lichen was growing in large amounts all around the lake. The elder explained that they eat the lichen mixed with cranberry leaves, feeding in between the willow bushes.



Photo 23: Elder Joe Zoe holding a patch of ekwò food.
Photo Petter Jacobsen.



Photo 24: Fields of moist, fluffy adziì, southwest shore of Deèzàati. Photo Petter Jacobsen.

In late August, ekwò usually eat mostly the leaves and branches of willows; the Elder explained that dwarf willows have high oil content in late fall, thus ekwò gain fat from eating willows, but by mid/end of September, the leaves have fallen off and ekwò were eating lichen in between the willows. They eat the lichen mixed with green cranberry leaves. Later in September, when leaves have fallen, ekwò eat mostly lichen and cranberry leaves. During the last week of September, with good forage conditions were good, we saw calves eating lichen as they will transition to eating lichen as well as milk from its mom this time of the year.

The water level has dropped extremely low, and it seems even lower than last year, 2022. The low water levels are also creating rocky shorelines for the ekwò to travel on. This rocky edging can potentially cause injuries for the ekwò; the ekwò are at risk of getting their hooves stuck between the rocks and get injured in the exposed rocks.



Photo 25: Low water exposing long sandy shorelines, September, Deèzàati.

Smoke and Fires on the Treeline

After one of the worst forest fire seasons in Canadian history, the monitoring team spent the last three weeks of September at Deèzàati. Although there were no fires around Deèzàati at that time, we still felt the effects of fires further south. During the third week of September, the smoke from forest fires became very thick on the barrenlands for several days, the smoke was so thick that it became hard for monitors to see caribou in the hills when boating on the lake. There were also days when monitors could not go out on the lake because visibility and air quality was too poor.

“When it’s too smoky animals hang around the shoreline...when it is so smoky the ekwò are not very active.” Joe Zoe



During the first week of October (fieldwork ended on Oct 4th), forest fire smoke was visible in the hills, and we could clearly smell the smoke. Elder Joe Zoe compared current conditions to the past, saying that there used to be snow on the barrenlands at the end of September and in October, but now there’s only smoke.

“It used to snow mid-September, now there’s more smoke than snow in October...the land is too hot - summer season is longer and drier.” – Joe Zoe

After spending three weeks at Deèzàati, Elder Joe Zoe provided his thoughts on current habitat conditions:

“My dad used to talk about ekwò having six inches of fat on them. Before 1960s the ekwò food was really good. Lots of water, no planes flying, no mines. The whole land is spoiled now. In November/December when they shoot ekwò there is no fat on them. Right now, we’re talking about climate change – that’s the way it is...It looks like we are there now. Water is low, and it might get worse next year. It’s a lot different here than 60 years ago. The food is different than it was 60 years ago.”

After experiencing the dry and hot summer of 2023, we hope that similar conditions will not appear during 2024. As we are starting to see positive signals in the recovery of the Sahti ekwo, prolonged dry and hot habitat conditions and large fires on their fall and winter forage habitat are not what the herd needs at this critical time in their life cycle.



Photo 27: Elder Joe Zoe by forest burned by fire a month earlier. September 2023. Photo: Petter Jacobsen.



Photo 28: Forest burned by fires on the treeline by Redrock Lake, September 2023. Photo: Petter Jacobsen.

Methodology

“We Watch Everything” - Traditional Knowledge Framework

Ekwò Nàxoèhdee K'è is an applied interdisciplinary research project that bridges observations on biological indicators with the cultural knowledge of local hunters. We use this “biocultural approach” to emphasize the Tł̨ch̨q and Inuit knowledge (Inuit Qaujimaqatugangit—IQ) of the ecosystem we live in. Biocultural approaches explore the link between biological and cultural diversity, and their interdependency with one another (Pretty et al., 2009; Pilgrim and Pretty, 2010). Our framework of research is based on two methodologies developed over the course of the program, named, respectively, “We Watch Everything” and “Do as Hunters Do.”

“We Watch Everything” is a theoretical framework of Traditional Knowledge research founded upon participatory ethnographic research and a set of theoretical concepts shaping the way information is collected, analyzed and interpreted. The use of language, indigenous ontology and perspectives on nature form the pillars of the framework.

Language of Nature

Knowledge of nature is culturally situated and derives from the environmental adaptations of the culture that gave it meaning. Our human experiences of nature are thus tied to their cultural interpretations. Seen through different cultural lenses, a single process in a physical environment may have two (or more) quite different meanings. Furthermore, a person’s response towards environmental processes will depend on his or her pre-existing ideas and values within their culture. Thus, the beliefs one holds of the environment direct one’s actions towards nature (Ingold 2000; Sharp and Sharp 2015).

Developing a traditional knowledge environmental monitoring framework requires that we recognize and adapt the values and ideas within an indigenous perspective on nature. Using cultural practices related to ekwò to direct the monitoring, and indigenous perspectives on nature permeate as a framework, we can glimpse into a different worldview of interactions with the land—one that is as ancient as the people who first hunted ekwò in the landscapes of Kokèti, Ek’atì and Deèzàati.

Land-based Theoretical Concepts

To achieve an indigenous perspective, the program employs Tł̨ch̨q words and cultural perspectives deeply ingrained in Tł̨ch̨q ontology. While such theoretical concepts are abstract, they have a very concrete physical practice in the day-to-day thinking of Tł̨ch̨q harvesters. An example is the concept of dè. Dè has a broader meaning than “land,” because it refers to a whole ecosystem or environment; “however, where the word ecosystem is based on the idea that living things exist in association with non-living elements, the Dogrib term dè expands the meaning of “association” to encompass the knowledge that everything in the environment has life and spirit” (Legat, Zoe & Chocolate, 1995). Dè is not an independent object “out there,” existing separate from culture and our daily lives, but rather is an all-encompassing, holistic system, of which indigenous culture is an integral part. As Alice Legat explains, “dè includes everything because all entities are in the state of existing and have spirit” (2012: 79). Surrounding the concept of dè we defined four key theoretical concepts underlying the program’s traditional knowledge framework. These are **sentience**, **interdependence**, **communication**, and **time immemorial** (see Figure 10).

TRADITIONAL KNOWLEDGE FRAMEWORK

SENTIENCE

We acknowledge diverse forms of communication between beings in dè, which may be unfamiliar to Western perspectives. Spiritual communication is legitimate knowledge that informs of the presence and abilities of animals and natural elements. We accept that knowledge revealed through spiritual communication is valid and can be used as hunters have always used it.



TIME IMMEMORIAL

We recognize that we engage with an ancient land. Since time immemorial, the people have focused their attention on knowing the seasonal rhythms of sentient animals and geographical and climatic details throughout their land. We recognize that we follow an ancient tradition of walking the same trails, watching the same caribou herd and using the same hunting locations as people have always done.

RESPECT

We recognize all beings, such as caribou, fish and birds, as sentient, intelligent beings capable of communication, memory and personal agency. Furthermore, inanimate beings, such as the wind, are also sentient and can act on choices and influence other beings. We engage in a social relationship with animals and the elements (living and nonliving) when we travel on the land. By respecting the land and water when we camp or travel, through small acts such as paying the water, we follow the elders' teachings and engage with dè as hunters have done since time immemorial.

INTERDEPENDENCE

Humans, caribou and living and nonliving elements of the land live in a dynamic interdependent relationship. For the Tłı̨chǫ, dè is not separated into the biological, social or supernatural spheres, as it is in Western concepts. We recognize the interdependent relationships of all beings and elements of the land.

Acting upon the principles of sentience, interdependence, communication and time immemorial, team members perform individual and collective rituals. One of the simplest and yet most powerful of these is “pay the land.” Paying the land is done to neutralize our passage and become aware of our dependence on nature as human beings. This ritual involves simple acts of placing tobacco, or other valuable objects, in the water upon one’s first arrival to a place. Other rituals are propitiatory in nature and performed to ask for safety. “Feeding” the fire is a ritual performed collectively to mitigate ones’ presence and ask for safe passage and for harmony to be maintained (photos on page 33). Through such actions, the team communicates and engages with the land on a social level; “the land, then, is a living entity with powers that should be respected if harmony is to be maintained” (Legat 2008: 37). During such engagement, the land is comparable to ones’ parents, who provide everything for a person’s sustenance. Tłıchq use the word *Dè Gogha Nàeǰ* (“the land shows favour to us”) to understand how the land feels about our presence

Field Methods: “Do as Hunters Do”

“Do as Hunters Do” is the practical implementation of the “We Watch Everything” framework. “Do as Hunters Do” is a useful memetic English phrase that helps to emphasize that our research methodology emulates traditional indigenous ekwò hunting in the barrenlands, although no real hunting occurs during the program. Using a participatory action research (PAR) approach, members of the “hunting party” travel to specific locations on the barrenlands to find ekwò together, collectively participating, experiencing, and sharing knowledge. Using a PAR approach, the researchers become part of the “hunting team” under the direction of the Elders and the local harvesters, as traditionally done in Tłıchq culture. This form of PAR research can be defined as a process of self-investigation shaped by collective decision-making among the team members.

The essence of “Do as Hunters Do” is the recognition that a TK monitoring program does not need to develop new methods; rather, it should learn from and adapt to the cultural practices developed, since time immemorial, by experienced indigenous harvesters to sustain their communities in the Arctic environment. In order to comfortably live in the Arctic, Tłıchq and Inuit hunters developed sophisticated ways of looking at the landscapes surrounding them and locating animals as well as other food sources. Thus, the program uses hunting locations as places of observations, and hunting techniques as the method of observation.



Photo 29: Team positioned on *what'aa* (esker) next to a well used animal trail. Photo: Pat Kane.

Hunting Locations as Places of Observation

The “Do as Hunters Do” field methods unfold through a set of techniques and concepts that are specifically related to the landscapes of the barrenlands. These were incorporated as effective tools within our research framework.

Observations at Nḡḡokè

Nḡḡokè (watercrossings) are the closest points of contact between land across waterbodies, used by ekwḡ to cross the numerous large lakes dotting the tundra. Nḡḡokè is a Tḡchḡ term for water crossings; it literally means “swim across”, and a nḡḡokè can be any place that ekwḡ or any other animal use to swim across. Tḡchḡ also use the more specific term naḡoke to refer to a place where ekwḡ always cross, such as the crossing between Kokèti and Kwìdliachḡ. As part of our methodology, waiting at these crossings allows the researchers to “Do as Hunters Do.”

Nḡḡokè refers to the interface between water, land, and ekwḡ movement. When the herds travel over the vast land, they need to walk around large waterbodies on their migration routes. But at times they prefer to swim across water bodies rather than walk the long way around. In those circumstances, they often enter the water at the point of shortest distance to the other side; although the presence of large boulders or perceived hazards, may influence where the herds decide to cross.

Observations from Daka

Daka (high points) across the landscape such as hozì shìa (hills on barrenland) and what’aa (eskers) are extensively used by the team to monitor ekwḡ, locate features such as favourable habitats, track the progression of predators and other species, and as points of observation with limited insect harassment.

Observations at Tataa

Tataa is an important word to understand ekwḡ migration. It refers to movement patterns of ekwḡ over land formations relative to water bodies, and literally means “in the midst of waters” (Whaèhdöö Nàowò Kö 2002:21). The large lakes and numerous water bodies encountered on the migration routes create obstacles that the herds must travel around. A tataa is a channel of land between lakes—a land corridor that allows ekwḡ to move between lakes along their migration routes. The concept of tataa is also used by the Elders to refer to a migration route (Whaèhdöö Nàowò Kö 2002:21).

Hunting Techniques as Methods of Observation

The location of our main camp, close to the naḡokè (water crossing) between Kokèti and Kwìdliachḡ in Northwest Territories, was located at the northernmost range of Tḡchḡ land use. In the past, people travelled by birch bark canoes and later with canvas canoes along the waterways from their settlements south of the treeline to this location purely for ekwḡ hunting. They followed shorelines by boat, then beached at known ekwḡ water crossings. Families set their camps short distances from the crossings, so as not to disturb the potential movement of ekwḡ. From camp, hunters walked to hill tops or eskers, where they waited and watched for any movement on the land surrounding the crossing.

The Ekwḡ Nàxoèhdee K’è program has sought to revive ancient traditions and trails by applying similar techniques and concepts. Observations from the daka (hilltops) such as hozì shìa (hills on barrenland) and what’aa (eskers) are the main tools applied by the team to locate ekwḡ. Advised by local hunters, our

main camp was established approximately two kilometres north of the main naʔokè. This location has been used for centuries by Tłı̄chǫ and Inuit. One kilometre west of the main campsite, there is a long, tall esker, stretching in a north-south direction, where we did as hunters have always done; wait and watch the land for animal movement surrounding the naʔokè.

Waiting

The “Do as Hunters Do” methodology is based on walking the land and waiting at strategic places, such as at higher elevations with a viewpoint or known nǫʔokè; places where ekwǫ are expected to migrate. As ekwǫ herds are constantly moving, it is necessary to meet them on their travels, and hunters have identified the best locations to meet them. They regularly travelled to these locations and simply waited.

Waiting also provided an opportunity to feel and become acquainted with the land. Every day, the team sat on the high esker west of the camp for hours, watching, listening, and feeling the weather. Sitting on the esker between two and eight hours each day, in morning, midday and evenings, we had the opportunity to experience weather systems moving over us. Living in close contact with the land fosters a connection with elements of dè that goes beyond ordinary observations.

Waiting is therefore intended as a vigilant watch—a state of mind in which the team members engage personally with the landscape. Such prolonged personal engagement with the daily weather conditions, physical movement over various terrains and close encounters with local animals, shapes the mental state of each team member, and thus the overall team’s ability to monitor ekwǫ.

Time

The “Do as Hunters Do” methodology requires ample time due to its ground-based approach. Time is required, for example, to adjust to the daily and seasonal weather patterns. Weather decides everything on the barrenlands; the wind and waves direct all movements and actions; thus, plans get delayed and remade constantly. The most appropriate tool we can employ is time, implemented by waiting and watching. A long-term approach is necessary to get more than momentary observations, and to fully understand the life of ekwǫ on the land. Long-term monitoring, defined over years of repeated research periods, allows the researcher and the hunters to discern ecological patterns.

Walking

Walking is simultaneously the slowest form of transportation and the most intimate form of movement over any landscape. As a research method, walking provides the team with the time necessary to watch for details and identify clues of presence left behind by animals. The teams walked between five and 20 kilometres per day. After 73 days of field work at Kokèti, we had covered 3572 kilometres by foot and boat. The long walks into the surrounding landscape were made from daka (high point) to daka, from one high point to the next, often following eskers. As we reached a daka, such as an esker or hilltop, we sit, watch over the surrounding landscape, and wait. If no animal movements were seen for one to three hours, we proceeded to the next daka and continued watching. This is the same method as hunters use when hunting for ekwǫ on the barrenlands in the fall.

Monitoring Indicators: “We Watch Everything”

Monitoring is based on the periodic assessment of key indicators, which were developed using an interdisciplinary approach. Based on the holistic Tłıchǫ concept of “We Watch Everything,” the elders highlighted several related indicators to be included for an analysis of ekwò and habitat assessment. The resulting list of monitoring indicators include: (1) habitat; (2) ekwò; (3) predators, and (4) industrial development.

Indicator 1: Habitat

- Daily weather pattern (temperature, wind direction, humidity, barometric pressure)
 - a. Ekwò behaviour in response to weather
 - b. Daily insect activity in response to weather
- Ekwò and predator behaviour in response to weather/ insect activity
- Conditions of vegetation and ekwò forage
- Effects of environmental changes on habitat and ekwò

Indicator 2: Ekwò

Ekwò health

- Unhealthy: skinny; bony; fatigued
- Healthy: normal conditions. No bones visible on rump and back. Layer of fat shows on the neck and back, and back to rump. Look at tail: if it’s short, then the animal is fat and healthy

Hide colour

- Unhealthy: discoloured; patchy
- Healthy: nice colour; no patches. In July: white-coloured hide (shed winter coat in June- July); August: darker more uniform color and shorter hair (new winter coat is coming)

Walking posture

- Unhealthy: limping, or walking with lagging head
- Healthy: prancing, or normal posture; head straight or slightly down when walking

Injured animals

- Number of ekwò injured in the herd
- Types of injuries
- Signs of disease

Calves

- Calf-to-cow ratio
- Number of cows without calves
- Number of twins: sign of a healthy herd, as the cow is healthy enough to support two calves— demonstrates cows have not been under stress, and good habitat quality

Indicator 3: Predators

- Number, signs of and location of ekwò predators
- Relationship between ekwò and predators

Indicator 4: Industrial Development

- Ekwò behaviour and movement affected by visible presence, noise, scent from industrial infrastructure and activities

Finding Ekwò

The main challenge for monitoring ekwò is finding ekwò. In general, Kokèti ekwò migrate southwest, from their calving grounds west of Bathurst Inlet, in late June/early July, toward the general area of Kokèti and Kwidiachijj, and remain in that area throughout July and August, and into September. However, at a finer scale, the herd's movements are very unpredictable. In our field program, the knowledge of the team's harvesters and scientific radio collar data received every two days allowed us to locate the herds and position ourselves in the right location.

Collar Data

Collar information provides a specific geographic location of male and female ekwò. Every second day, GNWT-ECC biologists provide collar information to the TG's GIS technician, who plots the info onto a grid map of our monitoring area. The info from the grid map is communicated to the team researcher, over satellite phone or as a text message using a Garmin Inreach device, who plots the collar data on a grid map either while on the land (photo 32) or in camp (photo 33). The collar information provides the location of collared ekwò at a specific time approximately every second day. The challenge for the program is knowing where the herds are throughout the days in between.

Local Knowledge

Since herds can move long distances each day, local knowledge was necessary to identify where to best position ourselves to intercept ekwò before they moved to areas inaccessible by our transportation methods; boating and walking. Building camp near frequently used nqokè and waiting is the traditional and most efficient way to ensure meeting ekwò. Local knowledge identified which locations would be best suited to have a semi-permanent camp. John Franklin and Mercie Koadloak, who have lived most of their lives on Kokèti, pointed out the best camp locations, and where to go by boat and foot to meet the herds. Their detailed local knowledge of geography and topography, by land and water, was vital for our team's ability to best position itself.

We learned that the success of the program is dependent on doing, as close as possible, what local harvesters and Elders have always done on the lake: travel similar routes; set camp at the same historical campsites and walk the same trails. The task of monitoring is an act of trying to position oneself at places where one anticipates ekwò will move through. In Tjichq, Kokèti means empty campsite lake, and refers to the many old campsites that have been made at the lake over time. These campsites were chosen for a purpose; namely, for protection from wind or proximity to hunting locations. The program used the same sites for the same reasons.

Field Notes Protocols

Field notes protocols were created to provide consistency between the researchers' observations. Table 12 outlines information collected during each wildlife observation. The templates provide consistency to the daily observations and experience of each team. The template systemizes the direct wildlife recording, while the notes of Elders' explanations are flexible and open-ended, to allow for different durations of each observation and adjusting to the Elders' descriptions. The field books are printed in Rite-in-the-Rain™ waterproof paper.

Table 10: Template for wildlife observations

Date (DD/MM/YYYY): _____ Obs. #: _____

Species: Caribou Wolf Muskox Other: _____

Obs. start time: _____ (24:00) Obs. end time: _____ (24:00)

Total obs. time (hours mins): _____

Distance from observer (circle): 0-500m 500m-1km 1-2km 2-3km Other: _____

Waypoint #: _____ Placename (Descr.): _____

Total group size: _____ (circle): Count Estimate

No. animals classified: _____ Confidence of observation (circle): No Yes

	Bulls	Cows	Calves	Yearlings	Unknown	Total

Calif. cow ratio: _____ (0-10 score)

Animal health observed (circle): No Yes (sample counts below)

Body condition:	Fat	Good	Skinny	Total
Bulls				
Cows				
Calves				

Ask Elders if Caribou look healthy and why?: _____

Injuries:	Number and description of injured or sick animals
Bulls	
Cows	
Calves	

More details of observation at back: Yes No

Fecal samples collected (circle): Yes No ID number _____

Ask Elders about Caribou Injuries: _____

Classification

Animal Health

Movement (coming from/going to): _____

Behaviour (circle): Feeding Bedded – Ruminating Swimming
Walking Running – due to Insects or Predators or _____

Are weather/insects affecting behaviour and ability to feed? (circle): No Yes

Insect activity (circle): None Low Medium High

Ask Elders how insects are affecting Caribou.: _____

Can you see what they are eating? (circle): No – too far Yes

Description: _____

Condition of food:	None	Poor growth	Avg. growth	Good growth
Grasses/sedges				
Shrubs				
Lichens				
Mushrooms				
All vegetation				

Ask Elders what Caribou are eating. Does food look healthy? Is food dry or moist?: _____

Ask Elders to explain the overall observation: _____

Tłjchq words/concepts: _____

Additional info in field journal (circle): No Yes (use obs. # for reference)

GPS – Latitude: _____ Longitude: _____

Behaviour

Effect on Behaviour

Caribou Food

Effect on Behaviour

Summary of 2023

2023 was again a very busy year for the program; as we experienced large scale forest fires, heavy smoke and the evacuations of Behchoko and Yellowknife. A certain stressful part during the evacuation was the shut down of Air Tindi floatbase while we had people at the Kokèti camp, which meant no floatplanes available to transport our people.

Regardless, we still were able to operate two camps (Kokèti and Deèzàati) on the barrenlands on both the Kokèti ekwò (Bathurst caribou) summer range and the Sahti ekwò herd fall range at Deèzàati (Point Lake), and we made two attempts at flying to Ek'ati . But due to heavy smoke on the barrenlands, we were not able to land at our camp. Throughout July and August, we had two monitoring teams on the Kokèti ekwò summer range at Kokèti (Contwoyto Lake). In the final last two weeks of September, we had two teams at Deèzàati to monitor the Sahti ekwò. The camp at Deèzàati was closed on October 4th.

In total, we had three field teams out over a three-month span, and 24 persons participated in the program and had the opportunity to spend 2-3 weeks immersed in Tłıchǫ culture on the barrenlands. Additionally, we had a film crew from the National Film Board at the Deèzàati camp for ten days in September. This large operation was organized by the Tłıchǫ Government team Jocelyn Zoe, Lydiah Rabesca, Janelle Nitsiza, Stephanie Behrens, Tyanna Steinwand, Tammy Steinwand and Petter Jacobsen, with support from many other dedicated staff and organizations.

Program Plans for 2024

Our plans for summer 2024 include the following:

- Establish a 3rd camp at Lac de Gras/ Lac du Sauvage (Ek'ati).
 - Start-up monitoring ekwò and habitat in the vicinity of the Ekati and Diavik mines
 - Assess impacts from mining on ekwò habitat and behavior.
 - Identify a location and build camp infrastructure, including two cabins.
- Operate the ekwò monitoring camps at Kokèti in July and August to continue monitoring Kokèti ekwò.
- Operate the Deèzàati camp in September to monitor Sahti ekwò.
- Train more Tłıchǫ people in “monitoring and research” on how to observe and assess ekwò health, herd numbers and habitat conditions.
- Develop collaborative partnership with various universities to include TK in research on ekwò and northern ecosystems.

Continued Monitoring Topics

In upcoming field seasons, the program will persist in monitoring the following areas:

- Trends in the health of the ekwò herds
- Tracking the abundance of calves
- The quality of habitat and available forage
- The influence of climate change on both habitat and ekwò behavior
- The relationship between ekwò, dıga, and indigenous harvesters

- The impacts of industrial development on ekwò habitat and behavior

Further Research Topics

We suggest that further research related to ekwò decline should include:

- How the loss of cultural practices associated with less ekwò harvesting, meat processing and hide preparation affect social and cultural identity in northern communities?
- How this loss of opportunities to pass on the knowledge, language and culture of the ekwò hunt affect the social and cultural identity of younger generations in northern communities?
- How does the inability to hunt ekwò affect food security concerns in Tłı̄chǫ and other indigenous communities?

Ekwò Nàxoèhdee K'è has given participants, old and young, the opportunity to live in close contact with ekwò and gain direct experience with the land and animals. This program has, however, also been an emotional journey for many. While happy to see *ekwò*, all felt the visual impact of low population numbers; others felt nostalgia and sadness at the fewer opportunities to maintain their traditional practices. Elder Joe Zoe summed up the feelings of all on the real implications to his community from the *ekwò* decline: *“how can I be happy [to see ekwò], when my wife and kids back home are hungry”*.



Photo 30: Team B at Kokèti, August 2023: Dene Daniels, John Franklin Koadloak, Archie Wetrade, Bobby Nitsiza and Janelle Nitsiza.

References

- Adamczewski, J. Z., J. Boulanger, J. Williams, D. Cluff, K. Clark, J. Nishi, S. Goodman, K. Chan, and R. Abernathy.
2022. Estimates of breeding females and adult herd size and analyses of demographics for the Bathurst herd of barren-ground caribou: 2021 calving ground photographic survey. Manuscript Report No. 326, Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 82 pp + Appendices
- Zoe, John. B.
- 2012a. Ekwò and Tłı̄chq Nàowo / Caribou and Tłı̄chq language, culture and way of life: An evolving relationship and shared history. Rangifer Special Issue No. 20:69-74.
- Zoe, John. B.
- 2012b. The story that was in danger of being left behind: Restoring Tłı̄chq culture with land claims and self-government a conversation with John B. Zoe. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health 10:147-150.
- Andrews, Tom
- 2011 "There will be many stories" museum anthropology, collaboration, and the Tłı̄chq. PhD thesis, University of Dundee.
- Andrews, T. D., J. B. Zoe, and A. Herter
- 1998 On Yamozhah's Trail: Dogrib sacred sites and the anthropology of travel. Pages 305-320 in J. Oakes, R. Riewe, and K. Kinew, editors. In Sacred Lands: Aboriginal World Views, Claims, and Conflicts. Canadian Circumpolar Institute, University of Alberta, Edmonton, AB.
- DeCesare, N. J., M. Hebblewhite, M. Bradley, K. G. Smith, D. Hervieux, and L. Neufeld.
- 2012 Estimating ungulate recruitment and growth rates using age ratios. Journal of Wildlife Management 76(1):144-153. doi: 10.1002/jwmg.244
- Government of the Northwest Territories and Tłı̄chq Government
- 2020 Government of the Northwest Territories and Tłı̄chq Government Joint Proposal on Management Actions for the Bathurst Ekwò (Barren-ground caribou) Herd: 2019 – 2021
<https://www.wrrb.ca/sites/default/files/TG%20ENR%20Joint%20Management%20Proposal%20of%20BATH%202019.pdf>
- Government of the Northwest Territories.
- 2019 Bathurst Caribou Range Plan. Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 86 + iii pp.
https://www.enr.gov.nt.ca/sites/enr/files/resources/bathurst_caribou_range_plan_2019_-_plan_pour_laire_de_repartition_des_caribous_de_bathurst_2019.pdf
- Goulet, Jean-Guy
- 1998 Ways of Knowing: Towards a Narrative Ethnography of Experience Amongst the Denè Tha. Journal of Anthropological Research 50(2): 113- 139.

Helm, June

1994 Prophecy and Power among the Dogrib Indians. Lincoln: University of Nebraska Press.

Jacobsen, Petter

2011 Tłıchq Traditional Knowledge of Climate Change and Impacts for Caribou Hunting: Implications for Traditional Knowledge Research. MA Thesis. University of Northern British Columbia.

Legat, Alice

2008 Walking Stories; Leaving Footprints. In Ingold, Tim and Jo Lee Vergunst, eds: Ways of Walking; Ethnography and Practice on Foot. Ashgate Publishing Company, Burlington.

Legat, Alice

2012 Walking the Land, Feeding the Fire: Knowledge and Stewardship Among the Tâıchô Dene. The University of Arizona Press. Tucson, Arizona.

Legat, Zoe and Chocolate

1995 Tłıchq Nde: The Importance of Knowing in Environmental Impact Assessment Statement: BHP Diamonds Inc.

Pretty, Jules; Bill, Adams; Fikret, Berkes; Simone Ferreira de Athayde, Nigel Dudley, Eugene Hunn, Luisa Maf, Kay Milton, David Rapport, Paul Robbins, Eleanor Sterling, Sue Stolton, Anna Tsing, Erin Vintinner and Sarah Pilgrim

2009 The Intersections of Biological Diversity and Cultural Diversity: Towards Integration. *Conservation and Society* 7(2): 100-112.

Pilgrim, Sarah and Jules Pretty

2010 Nature and Culture: Rebuilding Lost Connections. Published by Earthscan. London, England.

Species at Risk Committee (SARC).

2017 Species Status Report for Porcupine Caribou and Barren-ground Caribou (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst, Beverly, Ahiak, and Qamanirjuaq herds) (Rangifer tarandus groenlandicus) in the Northwest Territories. Species at Risk Committee, Yellowknife, NT. https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/bgc_and_pch_status_report_and_assessment_final_apr1117.pdf

Species at Risk Committee (SARC).

2018 Conference of Management Authorities. Consensus Agreement on Listing Barren-Ground Caribou. https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/consensus_agreement_on_listing_barren-ground_ekwq_signed_apr1118_0.pdf

Sharp, Henry S, and Karyn Sharp

2016 Hunting Caribou: Subsistence Hunting along the Northern Edge of the Boreal Forest. University of Nebraska

Tłıchq Government

2014a Placenames as Indicators of Biogeographical Knowledge. Tłıchq Research and Training Institute (TRTI). Tłıchq Traditional Knowledge Reports; Series 2.

Tłıchq Government

2014b Caribou Migration and the State of their Habitat: Tłıchq Knowledge and Perspectives on ekwò (Barrenland Caribou). Tłıchq Research and Training Institute (TRTI). Tłıchq Traditional Knowledge Reports; Series 2.

Tłıchq Research and Training Institute (TRTI)

2020 Results Report, Boots on the Ground caribou monitoring program. Tłıchq Traditional Knowledge Research Reports. Tłıchq Government.
https://research.Tłıchq.ca/sites/default/files/2020_results_ekwò_naxoede_ke_1.pdf

Tłıchq Research and Training Institute (TRTI)

2016 We Live Here for Caribou: Cumulative Impacts Study on the Bathurst Caribou. Tłıchq Government.
https://research.Tłıchq.ca/sites/default/files/ekwò_zo_gha_dzo_natsede_tk_study.pdf

Tłıchq Research and Training Institute (TRTI)

2012 Tłıchq Use and Knowledge of Ewaànit'ııtı. Tłıchq Government.

Wek'èezhıı Renewable Resources Board (WRRB).

2019 Report on a Public Hearing Held by the Wek'èezhıı Renewable Resources Board 9-11 April 2019 Behchokò , NT & Reasons for Decisions Related to a Joint Proposal for the Management of the Sahtı Ekwò (Bluenose-East Caribou) Herd Wek'èezhıı Renewable Resources Board Yellowknife, NT.

Whaèhdôö Nàowòö Kö

2002 Dogrib Knowledge on Placenames, Caribou and Habitat. Dogrib Treaty 11 Council: submitted to the West Kitikmeot Slave Study Society, Yellowknife, NWT.



Tłıchǫ Government Culture and Lands Protection

Sustaining Our Lands, Language, Culture and Way of Life

Tłıchǫ Government
Box 412
Behchokǫ, NT
Canada X0E 0Y0
Phone: (867) 392-6381
Fax: (867) 392-6389

www.tlicho.ca