Reasons for Decisions Related to a Joint Proposal for the Management of the Kǫk’èetì Ekwǫ̀ (Bathurst Caribou) Herd

Wek’èezhìı
Renewable Resources Board

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

BCAC	Bathurst Caribou Advisory Committee
BGCTWG	Barren-ground Caribou Technical Working Group
CARC	Canadian Arctic Resources Committee
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
ENR	Environment & Natural Resources
GN	Government of Nunavut
GNWT	Government of the Northwest Territories
INAC	Indigenous and Northern Affairs Canada
LKDFN	Łutsel K’e Dene First Nation
MCBCCA	Mobile Core Bathurst Caribou Conservation Area
NWMB	Nunavut Wildlife Management Board
TAH	Total Allowable Harvest
TG	Tłı̨chǫ Government
TK	Tłı̨chǫ Knowledge; traditional knowledge
WRRB	Wek’èezhìı Renewable Resources Board

LIST OF TŁĮCHǪ TERMS

det'ǫcho	eagle
dìga	wolf
ʔekwǫ̀	barren-ground caribou
ʔįk'ǫǫ̀	spiritual power
Kǫk'èetì	Contwoyto Lake
Kǫk'èetì Ekwǫ̀	Bathurst caribou
Mǫwhì Gogha Dè Nįįtłèè	traditional area of the Tłįchǫ, described by Chief Monfwi during the signing of Treaty 11 in 1921
nǫ̀gha	wolverine
nǫʔokè	water crossings
sahcho	grizzly bear
Sahtì Ekwǫ̀	Bluenose-East caribou
tataa	corridors between bodies of water; land bridges
Wek'èezhìı	management area; within the boundaries of

1.0. Executive Summary

The Wek'èezhìı Renewable Resources Board (WRRB) is responsible for wildlife management in Wek'èezhìı and shares responsibility for managing and monitoring the *Kǫ̀k'èetì ekwǫ̀* (Bathurst caribou) herd. In November 2018, the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT) reported that, in their view, the Kǫ̀k'èetì ekwǫ̀ herd had continued to decline significantly and that further management actions were required.

In January 2019, the Tłı̨chǫ Government (TG) and GNWT submitted the *Joint Proposal on Management Actions for the Bathurst ʔekwǫ̀ (Barren-ground caribou) Herd 2019-2021* to the Board, outlining proposed management actions for the Kǫ̀k'èetì ekwǫ̀ herd in Wek'èezhìı. The management actions proposed by TG and GNWT in the Joint Proposal were grouped under the five categories: harvest, predators, habitat and land use, and education as well as research and monitoring. More specifically, TG and ENR proposed continuing a herd-wide total allowable harvest of zero for the Kǫ̀k'èetì ekwǫ̀ herd. Following an initial assessment of the management proposal, the Board determined that a Level 2 review was appropriate, as per its Rule for Management Proposals. Therefore, the Board established a proceeding and an online public registry on February 4, 2019.

The WRRB concluded, based on current evidence and its decision made in 2016, that a serious conservation concern continues to exist for the Kǫ̀k'èetì ekwǫ̀ herd and that additional management actions are vital for herd recovery. In making its decision about harvest limitations, the WRRB considered the risks to the herd from a recent high rate of decline, uncertainties about the underlying mechanisms for the decline and the importance of *ʔekwǫ̀* (barren-ground caribou) for Tłı̨chǫ citizens to thrive – physically, spiritually, and culturally.

The WRRB determined that a TAH of zero shall be continued for all users of the Kǫ̀k'èetì ekwǫ̀ herd within Wek'èezhìı for the 2019/20 and 2020/21 harvest seasons.

As the Mobile Core Bathurst Caribou Conservation Area (MCBCCA) continues to be utilized to implement the zero TAH, the WRRB recommended that the effectiveness of the zone in achieving Kǫ̀k'èetì ekwǫ̀ conservation goals be quantitatively assessed while considering both overlap with adjacent herds and inadvertent harvesting. As monitoring of the Kǫ̀k'èetì ekwǫ̀ harvest is crucial for management decisions, the Board recommended that TG hire additional community monitors.

The 2018 calving ground survey report made it clear that emigration has become a significant factor contributing to the decline of the Kǫ̀k'èetì ekwǫ̀ herd. This information is new and adds a deeper level of uncertainty to the future of the herd. The WRRB

recommended that TG and GNWT provide a plain language description of their positions regarding the implication of emigration on Kǫ̀k'èetì ekwǫ̀, and how it will influence adaptive management of the herd.

To improve our understanding of the role of predators on the decline of the Kǫ̀k'èetì ekwǫ̀ herd, the WRRB recommended that TG and GNWT provide the WRRB with information on the sighting rates of predator and the criteria to be used in determining the targeted number of predators to be removed annually. Additionally, the WRRB is to be provided with the criteria for *Dìga* (wolf) removal based on (i) dìga sightings during Kǫk'èetì ekwǫ̀ composition surveys and (ii) likely exposure of Kǫk'èetì ekwǫ̀ to dìga associated with neighbouring herds during the winter season.

The *Enhanced North Slave Dìga Harvest Incentive Program* is being used as a method of dìga removal on the winter range of Kǫ̀k'èetì and *Sahtì ekwǫ̀* (Bluenose-East caribou). To ensure that this program is contributing to conservation efforts of Kǫ̀k'èetì ekwǫ̀, the Board recommended that the location and number of dìga harvested are provided to the Board each year and that criteria are developed to measure the effectiveness of the program, based on scientific and traditional knowledge.

TG runs a *Community-based Harvest Training Program* and the WRRB recommended that the location and number of dìga harvested be provided to the Board as well as an assessment of how the training will contribute to future dìga harvesting and management. Additionally, the Board recommended that TG and GNWT coordinate the *Enhanced North Slave Dìga Harvest Incentive Program* and the *Community-based Dìga Harvest Training Program* to determine their role in removing the targeted number of dìga.

The WRRB is currently working on a *Sahcho* (grizzly bear) biological and management feasibility assessment. In order to improve efficiencies, the Board recommended that *Nǫ̀gha* (wolverine) be included in this assessment.

The WRRB acknowledged that the range of the Kǫ̀k'èetì and Sahtì ekwǫ̀ extends beyond Wek'èezhìı and the Northwest Territories. However, there has been a lack of progress on the joint management of predators and land management across territorial borders. As such, the Board recommended that GNWT and TG develop a draft agreement and timelines to jointly manage the Kǫ̀k'èetì and Sahtì ekwǫ̀ in cooperation with other co-managers.

Tłı̨chǫ community members as well the general public should be made aware of the status of the ʔekwǫ̀ and should be made aware about efforts being made to halt their decline. The WRRB recommended that the successes and challenges of TG's ekwǫ̀ Nàxoède K'è program be communicated to the Tłı̨chǫ communities and schools.

The decline of Kǫ̀k'èetì ekwǫ̀ affects the well-being of Tłı̨chǫ citizens and the Board recommended that TG and GNWT discuss priorities and solutions for food security. The Board also recommends that TG and GNWT exchange information about ʔekwǫ̀ regarding the reasons for the declines and the factors which continue to affect the declines.

Time is now of the essence for the management of Kǫ̀k'èetì ekwǫ̀ and the Board supported the increase of population surveys to every two years but notes that efforts should be made to have them occur concurrently with neighbouring Sahtì ekwǫ̀ and Beverly/Ahiak herds. The Board also supported the implementation of a pregnancy monitoring program utilizing fecal pellet collection.

The Board recommended the Tłı̨chǫ Research and Monitoring Program be implemented to ensure that both ʔekwǫ̀ and ʔekwǫ̀ habitat monitoring and realistic harvesting numbers are recorded in a culturally appropriate manner while feeding into adaptive management. The Board recommended that the Ekwò ¸Nàxoède K'è collect on-the-ground climate change observations to be incorporated into an adaptive management framework.

The Board recommended that TG and GNWT collaborate with the WRRB to develop a herd-specific adaptive management framework with thresholds linked to specific management actions.

2.0. Introduction

By 2018, the Kǫ̀k'èetì ekwǫ̀ herd was at its lowest recorded size, with GNWT and TG stating that *"the current small and declining number of mature caribou in the Bathurst herd is a critical conservation status"*.[1] The herd has declined from approximately 472,000 in 1986 to about 8,200 in 2018, based on the latest calving ground survey in June 2018 (Figure 1). This is an unprecedented decline in herd size, approximately 98% over the last 32 years. While the small herd size is startling, the Board is more alarmed by the accelerated rate of decline of 29% per year since 2015 and what the future holds for the Kǫ̀k'èetì ekwǫ̀ herd.

[1] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

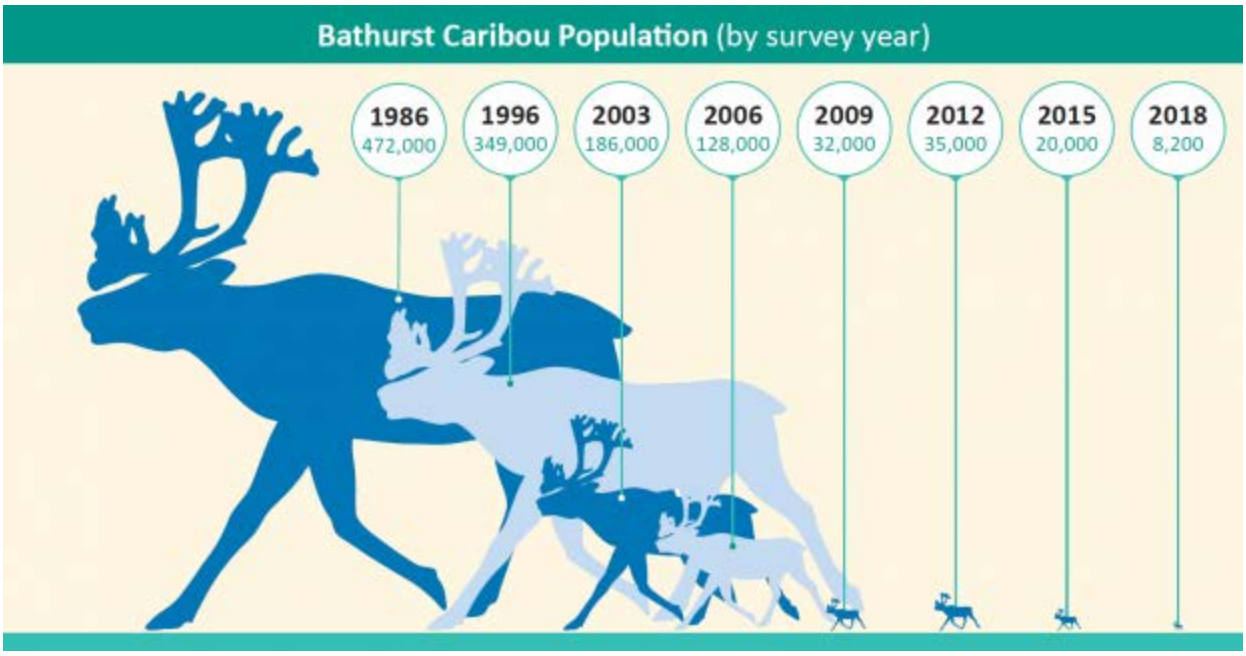

Figure 1. Bathurst Caribou Population (by survey year).[2]

Despite best efforts to halt it, the decline of the Kǫk'èetì ekwǫ̀ herd has continued. The herd rapidly declined from 2006-2009 and the WRRB made the difficult decision to severely restrict harvests in 2010. The decision seemed to be justified when the herd's numbers stabilized between 2009 and 2012.[3] Unfortunately, the decline again accelerated and, in 2016, the WRRB determined that the total allowable harvest (TAH) should be zero, which caused distress and hardship for harvesters. Despite halting harvest, the decline in the Kǫk'èetì ekwǫ̀ herd continued, which indicated that harvesting was not the only cause of low adult ʔekwǫ̀ survival. As such, the WRRB, in 2016, made recommendations to increase ʔekwǫ̀ survival and offset natural hardships for ʔekwǫ̀ by increasing dìga harvesting, conducting a feasibility assessment for dìga management, and supporting habitat conservation and monitoring.

In 2019, the Board received evidence that the causes of the decline are now more complicated as some collared cows moved to the neighboring Beverly/Ahiak herd's calving ground in 2018 and 2019, which has added emigration as a cause of the decline in Kǫk'èetì ekwǫ̀ herd size.

The reduced herd size and extent of the decline, as of June 2018, is reported in the 2019 Joint Proposal, entitled *"Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021"* (the "Joint Proposal") (Appendix A).[4]

[2] https://www.enr.gov.nt.ca/en/services/caribou-de-la-toundra/bathurst-herd.
[3] Ibid.
[4] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

TG and GNWT submitted the Joint Proposal on January 22, 2019. Since the Board was not required to consider a change in harvest restrictions, i.e. the TAH remained at zero, the WRRB undertook a Level 2 management proposal review, as per its Rule for Management Proposals.[5] The Board implemented review procedures, which included an open public comment period from February 4 to April 5, 2019.

The short-term goal of the 2019 Joint Proposal's proposed management actions is to halt the Kǫk'èetì ekwǫ̀ herd's decline and promote recovery over the period of 2019 to 2021. The long-term goal of the Joint Proposal is recovery of the herd to a level which meets community needs and where sustainable harvesting is once again possible within Mǫwhì Gogha Dè Nıı̨tłèè.

The Joint Proposal is clear that the Kǫk'èetì ekwǫ̀ herd is in *"a critical conservation status that requires implementation of an integrated suite of recovery management actions"*.[6] Despite these goals, the Joint Proposal also states that the proposed specific management actions will not halt the decline.[7] This puts the herd in a fragile and perilous position.

This report describes the WRRB's assessment of the evidence on the record and is the basis for the Board's determinations and recommendations.

3.0. The Board and Its Authorities

3.1. WRRB Mandate & Authorities

The WRRB is responsible for the wildlife management functions set out in the Tłı̨chǫ Agreement in Wek'èezhìı [8] and shares responsibility for the management and monitoring of the Kǫk'èetì ekwǫ̀ herd. The WRRB is a co-management tribunal established by the Tłı̨chǫ Agreement to exercise advisory and decision-making responsibilities related to wildlife, forest, plant and protected areas management in Wek'èezhìı (Figure 2). The Board's legal authorities came into effect at the time the Tłı̨chǫ Agreement was ratified by Parliament.[9] Section 12.1.5 of the Agreement requires the Parties[10] to manage wildlife based on the principles of conservation, on an

[5] https://www.wrrb.ca/sites/default/files/REV%20FINAL%20Rule%20-%20Management%20Proposals%20-%2016oct18.pdf.
[6] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[7] Ibid.
[8] Section 12.1.2 of the Land Claims and Self-Government Agreement Among the Tłı̨chǫ and the Government of the Northwest Territories and the Government of Canada, Indian Affairs and Northern Development, Ottawa, 2003 (hereinafter the "Tłı̨chǫ Agreement").
[9] Tłı̨chǫ *Land Claims and Self-Government Act*, S.C. 2005, c.1. Royal assent February 15, 2005. See s.12.1.2 of the Tłı̨chǫ Agreement.
[10] This includes the Tłı̨chǫ Government, the Government of the Northwest Territories and the Government of Canada.

ecosystemic basis and in an adaptive fashion.[11] The WRRB's major authorities and responsibilities in relation to wildlife are further set out in Chapter 12 of the Tłı̨chǫ Agreement.[12]

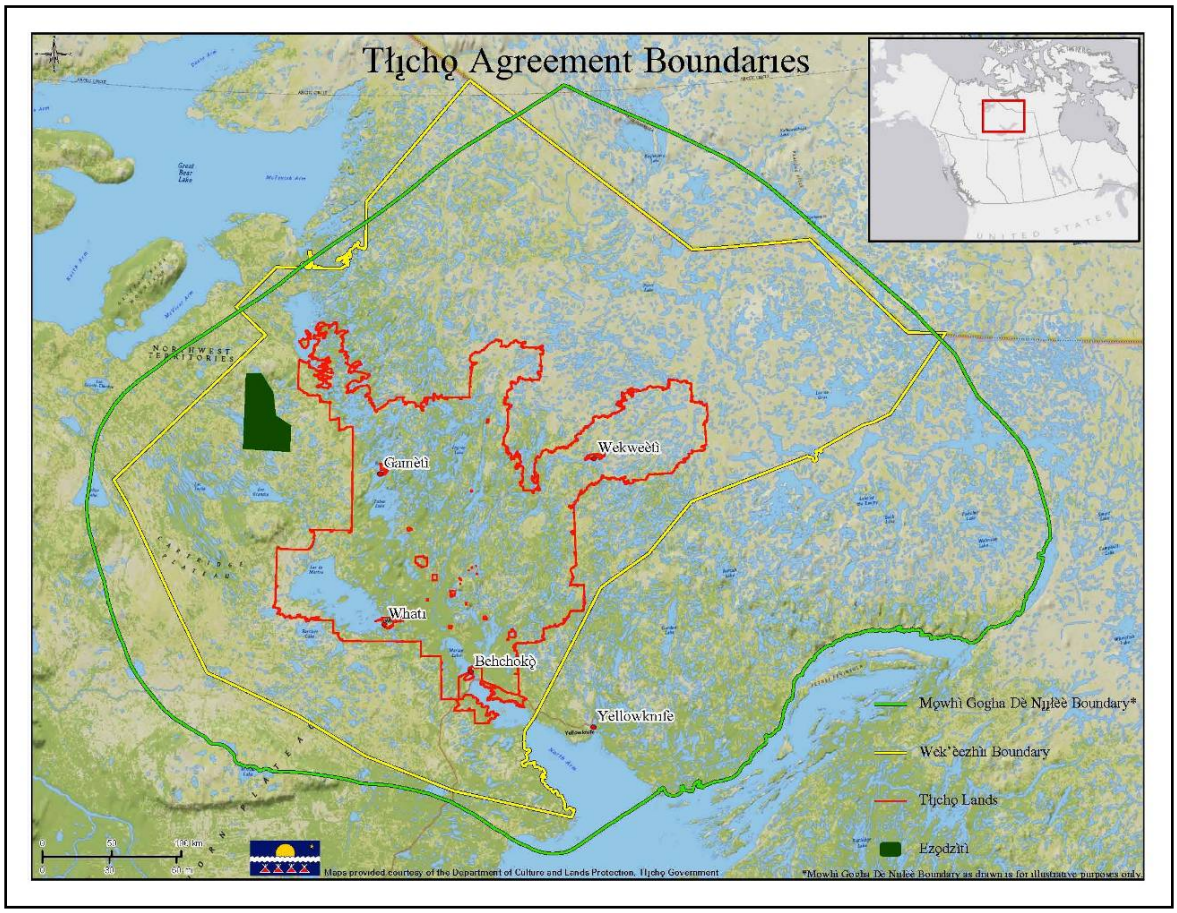

Figure 2. Wek'èezhìı Management Area.[13]

As required by Sections 12.5.1 and 12.5.4 of the Tłı̨chǫ Agreement, any Party[14] proposing a wildlife management action in Wek'èezhìı must submit a management proposal to the WRRB for review. This includes the establishment or adjustment of a TAH. Prior to making a recommendation, the WRRB must consult with any body that has authority over that wildlife species both inside and outside of Wek'èezhìı. Under Section 12.5.5 of the Agreement, the WRRB has sole responsibility for making a final determination with respect to a TAH for Wek'èezhìı.

[11] See Section 12.1.5 paragraphs (a) and (d) of the Tłı̨chǫ Agreement.
[12] See Section 12 of the Tłı̨chǫ Agreement.
[13] Department of Culture & Lands Protection, Tłı̨chǫ Government. 2014.
[14] As defined in the Tłı̨chǫ Agreement, "Parties" mean the Parties to the Agreement, namely the Tłı̨chǫ, as represented by the Tłı̨chǫ Government, the Government of the Northwest Territories and the Government of Canada.

The WRRB acts in the public interest. It is an institution of public government, which makes its decisions on the basis of consensus. Part 12.1 of the Tłı̨chǫ Agreement requires the coordination of the functions of governments (authorities whose responsibilities include wildlife management among other functions).[15] The WRRB works closely with Tłı̨chǫ communities, TG, and GNWT. The Board also collaborates with other territorial government departments, such as Lands and Industry, Tourism and Investment, and federal government departments, such as Environment and Climate Change Canada, Fisheries and Oceans Canada, and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). In addition, the WRRB works with other wildlife management authorities, Indigenous organizations and stakeholders.

Wildlife management is a central and vital component of the Tłı̨chǫ Agreement.[16] The rights of Tłı̨chǫ citizens to use wildlife for sustenance, cultural, and spiritual purposes are protected by the Tłı̨chǫ Agreement and the Constitution[17], subject to the management framework set out in Chapter 12.

The WRRB is bound by the Tłı̨chǫ Agreement if it is contemplating any limitation to Tłı̨chǫ citizens' harvesting, including any limitation to the harvesting of Kǫk'èetì ekwǫ̀. More specifically, Section 12.6.1 specifies that a TAH level shall be determined for conservation purposes only and only to the extent required for such purposes.[18] The Tłı̨chǫ Agreement defines conservation as follows:

> *"conservation" means*
>
> *(a) the maintenance of the integrity of ecosystems by measures such as the protection and reclamation of wildlife habitat and, where necessary, restoration of wildlife habitat; and*
>
> *(b) the maintenance of vital, healthy wildlife populations capable of sustaining harvesting under the Agreement.*

In addition to the substantive legal protection for Tłı̨chǫ citizens' harvesting rights set out in the Tłı̨chǫ Agreement, the WRRB is also bound by the requirements of fairness. Section 12.3.10 gives the Board the authority to order a public hearing on a wildlife management proposal and makes it mandatory for the WRRB to hold a public hearing when it intends to consider establishing a TAH in respect of a species or a population such as the Kǫk'èetì ekwǫ̀ herd.

[15] See Section.12.1.4 of the Tłı̨chǫ Agreement.
[16] See Section.12.1.1 of the Tłı̨chǫ Agreement.
[17] *Constitution Act.* 1982. Section 35.
[18] See Section 12.6.1 of the Tłı̨chǫ Agreement.

3.2. Rule for Management Proposals

Under Section 12.3.6, the WRRB has the authority to make rules respecting the procedure for making applications to the Board. The WRRB has developed a Rule for Management Proposals[19] as a guide for making management proposal submissions, including actions taken in the issuance of licences, permits and other authorizations.

Section 12.5.1 of the Tłı̨chǫ Agreement is mandatory. Except in an emergency situation as set out in 12.5.14, it requires that a Party, before taking "*any action for management of wildlife in Wek'èezhìı submit its proposals to the WRRB for review under 12.5.4*". This section of the Agreement is intended to be broadly inclusive of wildlife management initiatives.

The WRRB, depending on the nature, content and context of a management proposal, will undertake one of three levels of review:

- Level 1 – will require Board or Board Staff (as directed by the Board) review but no public consultation;
- Level 2 – will require Board review and Board-led public consultation (no public hearing); or,
- Level 3 – will required Board review and Board-led public consultation with a public hearing.

Except where in the Board's view the proposal will require the establishment of a TAH as stated in Section 12.3.10 of the Tłı̨chǫ Agreement, all submissions are treated initially as a Level 1 review. Following assessment, the Board has the discretion to increase the level of review as it deems appropriate. For Level 2 management proposals, the Board may establish a proceeding and an online public registry. Notification of the proceeding and a request for comments will be made via its website, newspaper, social media and radio advertisements with a reasonable period granted to allow affected stakeholders and the public to provide comment.

Following closure of the public comment period, the WRRB reviews and provides recommendations. Level 2 management proposals may require up to 90 days for consultation, review and response. As per Section 12.5.8 of the Tłı̨chǫ Agreement, the Board *"shall give public notice of their recommendations"* by posting them on their website (www.wrrb.ca).

[19] https://www.wrrb.ca/sites/default/files/REV%20FINAL%20Rule%20-%20Management%20Proposals%20-%2016oct18.pdf.

WRRB determinations are final but recommendations made by the Board may be accepted, rejected or varied by the Party with the jurisdiction affected by the recommendation. However, once a recommendation is accepted, that Party doing so must implement it *"to the extent of its power under legislation"*.[20] This framework and these relationships are central to effective wildlife management in Wek'èezhìı.

Following submission of its recommendations to a Party, the Board expects a response within 42 days of receipt of its recommendations for a Level 1 or Level 2 management proposal. Section 12.5.11 of the Tłı̨chǫ Agreement states that *"each Party with power under its laws to implement a recommendation of the WRRB made under 12.5.5, 12.5.6, 12.5.7, 13.4.1 or 14.4.1 shall accept, reject or vary such recommendation"*. A Party must tell the Board whether its recommendation has been accepted. If a recommendation is varied, the Party must provide reasons for that decision, and, in addition, provide the change in wording so that the Board and all affected persons are clear about the final outcomes of the Board proceeding and necessary implementation actions. This ensures clarity with respect to the obligations under Section 12.5.12 of the Tłı̨chǫ Agreement, that *"each Party shall, to the extent of its power under legislation or Tłı̨chǫ laws, establish or otherwise implement a) a determination of the WRRB under 12.5.5 or 12.5.6; and b) any recommendation of the Board as accepted or varied by it".*

If a recommendation is rejected, the Party must provide specific reasons and an explanation of why the rejection has occurred.

4.0. Previous WRRB Ɂekwǫ̀ Determinations & Recommendations

The objective of Chapter 12, Wildlife Harvesting Management, of the *Tłı̨chǫ Agreement* is to recognize the importance of wildlife and its habitat to the Tłı̨chǫ First nation well-being, way of life and land-based economy.[21] The WRRB takes this objective seriously while making its decisions. The Board also acknowledges the tremendous importance that Kǫ̀k'èetì ekwǫ̀ play in the language, culture, and way of life of the Tłı̨chǫ people. The Board has kept this in mind over the last 14 years, since receiving the first management proposal for Kǫ̀k'èetì ekwǫ̀, by making determinations and recommendations using scientific and Tłı̨chǫ knowledge. Outlined below are the Board's determinations and recommendations from the 2007, 2010, and 2016 proceedings to demonstrate the effort the WRRB has put in to halt the decline of Kǫ̀k'èetì ekwǫ̀.

[20] See Sections 12.5.11 and 12.5.12 of the Tłı̨chǫ Agreement.
[21] See Section 12.1.1 of the Tłı̨chǫ Agreement.

4.1. 2007 Proceeding

In June 2006, GNWT conducted a calving ground photographic survey and estimated the Kǫ̀k'èetì ekwǫ̀ herd size was about 128,047 ʔekwǫ̀. The WRRB became fully operational in August 2006 and received its first management proposal, entitled *"Bathurst Caribou Herd Harvest Reductions"* from the GNWT on December 14, 2006 to reduce Kǫ̀k'èetì ekwǫ̀ herd harvest levels. The proposed management actions, based on the 2006 calving ground photographic survey results, were intended to limit the harvest to 4% of the 2006 estimated herd size for a total of 5120 Kǫ̀k'èetì ekwǫ̀. This included eliminating all commercial meat tags held by Tłı̨chǫ communities, reducing the number of tags for non-resident and non-resident alien hunters from 2 to 1, and reducing tags for all outfitters from 1559 to a total of 350.

Due to the significance of the management actions proposed, and the fact that the WRRB, as a new organization, had not yet heard from other Parties affected by the Department of Environment and Natural Resources (ENR), GNWT proposal, the Board decided to conduct a public hearing in March 2007 before making any decisions on the proposal. The WRRB held the public hearing on March 13-14, 2007 in Behchokǫ̀, NT. Once the evidentiary phase of the proceeding was completed, the Board decided to adjourn the proceeding in order to give ENR and the Tłı̨chǫ Government time to initiate a consultation process.

On April 17, 2007, the Minister of ENR advised the Tłı̨chǫ Government and the WRRB that the Big Game Hunting Regulations had been amended to reduce the number of tags available for outfitted hunts for ʔekwǫ̀ in Unit "R" to 750 for the 2007 season. The letter noted that this decision was made under the authority of Section 12.5.14 of the Tłı̨chǫ Agreement as ENR considered its action necessary due to an emergency situation regarding declining populations of the ʔekwǫ̀.

On May 30, 2007 and June 4, 2007 respectively, the Tłı̨chǫ Government and ENR submitted letters to the Board indicating that they were making substantial progress but required an extension to September 28, 2007 in order to develop a new joint ʔekwǫ̀ management proposal. The WRRB was concerned that any further adjournments could adversely affect the interests of other Parties affected by the proposal. ENR had already taken steps to implement portions of its proposal on the grounds that an emergency situation existed. Further extension of the proceeding to accommodate consultation which, in the Board's view should have taken place before the proposal was advanced, seemed inconsistent with the urgency asserted by ENR. For these reasons, the WRRB decided not to grant a further adjournment of its proceeding.

Based on the WRRB's review of the evidence presented during the proceedings, the Board recommended that ENR's proposal to undertake management actions to reduce

the harvest of the Bathurst ʔekwǫ̀ herd not be implemented as submitted. The WRRB strongly encouraged ENR and the Tłı̨chǫ Government to continue their consultations towards the development of a Joint Proposal for the management of the Bathurst ʔekwǫ̀ herd. Additionally, the WRRB indicated that any future management actions that propose to limit any component of the harvest to a particular number, including zero, would be treated as a proposal for the establishment of a TAH.

Additional details of the 2007 proceeding can be found in Appendix B.

4.2. 2010 Proceeding

In June 2009, GNWT conducted a calving ground photographic survey and estimated the Kǫ̀k'èetì ekwǫ̀ herd size was about 31,900 ʔekwǫ̀. On November 5, 2009, TG and GNWT submitted a *Joint Proposal on Caribou Management Actions in Wek'èezhìı*, which proposed nine management actions and eleven monitoring actions, including harvest limitations, for the Kǫ̀k'èetì, Sahtì and Beverly/Ahiak ekwǫ̀ herds. While TG and GNWT agreed on the majority of actions set out in the proposal, there was no agreement reached on the proposed levels of Indigenous harvesting.

Upon review of the proposal, the WRRB held that any restriction of harvest or component of harvest to a specific number of animals would constitute a TAH. Thus, the Board ruled that it was required to hold a public hearing. Registered Parties were notified on November 30, 2009 of the Board's decision to limit the scope of the public hearing to Actions 1 through 5 of the Joint Proposal, which prescribed limitations on harvesting. All other proposed actions were addressed through written submissions to the Board. Originally scheduled for January 11-13, 2010, the public hearing on Action 1 to 5 took place March 22-26, 2010 in Behchokǫ̀, NT. Once the evidentiary phase of the proceeding was completed, TG requested the WRRB adjourn the hearing in order to give TG and GNWT time to work collaboratively to complete the joint management proposal.

On May 31, 2010, TG and GNWT submitted the *Revised Joint Proposal on Caribou Management Actions in Wek'èezhìı*. This revised proposal changed the original management and monitoring actions and incorporated an adaptive co-management framework and rules-based approach to harvesting levels. TG and GNWT were able to reach an agreement on Indigenous harvesting. Therefore, the WRRB reconvened its public hearing on August 5-6, 2010 in Behchokǫ̀, NT, where final presentations, questions and closing arguments were made.

On October 8, 2010, the WRRB submitted its final recommendations and reasons for decision report to TG and GNWT.[22] Many of the recommendations were related to the Kǫ̀k'èetì ekwǫ̀ herd and relevant management actions vital for herd recovery, including harvest restrictions. The Board also made harvest recommendations for the Sahtì ekwǫ̀ and Beverly/Ahiak ekwǫ̀ herds.

The Board recommended a harvest target of 300 (± 10%) Kǫ̀k'èetì ekwǫ̀ per year for harvest seasons 2010/11, 2011/12, and 2012/13 in Wek'èezhìı. Further, the Board recommended that the ratio of bulls harvested to cows should be 85:15. Although the evidence suggested that even if all harvest of the Kǫ̀k'èetì ekwǫ̀ herd stopped there was no guarantee that the herd would stabilize and begin to grow, the Board concluded that a limited harvest of 270-330 Kǫ̀k'èetì ekwǫ̀ with 60 or fewer cows was an appropriate management option to help Indigenous peoples maintain important cultural linkages with ʔekwǫ̀ while minimizing the impact of harvest on the herd. Additionally, the WRRB recommended that all commercial, outfitted and resident harvesting of the Sahtì ekwǫ̀ herd in Wek'èezhìı be set to zero.

The WRRB made additional ʔekwǫ̀ management and monitoring recommendations to TG and GNWT, specifically implementation of detailed scientific and Tłı̨chǫ knowledge (TK) monitoring actions and implementation of an adaptive co-management framework.

The WRRB also recommended to the Minister of CIRNAC (formerly Indian and Northern Affairs Canada) and GNWT to collaboratively develop best practices for mitigating effects on ʔekwǫ̀ during calving and post-calving, including the consideration of implementing mobile ʔekwǫ̀ protection measures, and for monitoring landscape changes, including fires, industrial exploration, and development, to assess potential impacts to ʔekwǫ̀ habitat.

The Board recommended that the harvest of dìga should be increased through incentives but that focused dìga control not be implemented. The Board understood if TG and GNWT were to plan for focused dìga control in the future, a management proposal would be required for WRRB consideration.

Of the 57 recommendations made in 2010 and accepted or varied by TG and GNWT, the Board has evidence that only 18 have been fully implemented. Specifically, the closure of commercial, outfitted and resident harvesting for the Kǫ̀k'èetì, Sahtì and Beverly/Ahiak ʔekwǫ̀ herds; the establishment and allocation of a harvest target for the Kǫ̀k'èetì ekwǫ̀ herd; the implementation of monitoring the density of cows on the calving grounds; the development and implementation of a scientific conservation education program; the establishment of the Barren-ground Caribou Technical Working Group

[22] PR (BATH 2019): 037 - Report on a Public Hearing Held by the Wek'èezhìı Renewable Resources Board 22-26 March 20105-6 August 2010 Behchokǫ̀, NT.

(BGCTWG); the ongoing discussions with the Government of Nunavut (GN) to identify opportunities for calving ground protection; the collaborative work to meet the obligations of Section 12.11 of the Tłı̨chǫ Agreement; the hiring of a TG Wildlife Coordinator to increase capacity to ensure full participation in monitoring and management of ʔekwǫ̀; the removal of GNWT's Emergency Interim Measures following the implementation of recommendations by January 1, 2011; the consultation with Tłı̨chǫ communities about Board recommendations prior to January 1, 2011; the development of a detailed implementation and consultation plan; and the development and implementation of an effective enforcement and compliance program.

Implementation of the remaining accepted recommendations appears to the WRRB to be incomplete, including the development of a government position regarding reinstatement of outfitting and resident harvesting in Wek'èezhìı; the negotiation of harvesting overlap agreements with the Sahtú and Nunavut; the implementation of the *Special Project, Using Tłı̨chǫ Knowledge to Monitor Barren Ground Caribou* of the overall Tłı̨chǫ Research and Monitoring Program; the implementation of TK and scientific ʔekwǫ̀ monitoring actions; the development of criteria to evaluate when management actions are to be revised; and the development of a land use plan for Wek'èezhìı.

Additional details of the 2010 proceeding can be found in Appendix C and a review of the 2010 WRRB Recommendations is found in Appendix D.

4.3. 2016 Proceeding

In June 2015, GNWT conducted a calving ground photographic survey and estimated the Kǫ̀k'èetì ekwǫ̀ herd had declined to 19,769 ʔekwǫ̀. In December 2015, TG and GNWT submitted the *Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019* to the Board outlining proposed management actions for the Kǫ̀k'èetì ekwǫ̀ herd in Wek'èezhìı, including new restrictions on hunter harvest, predator management, and ongoing monitoring. More specifically, TG and GNWT proposed implementing a herd wide TAH of zero ʔekwǫ̀ and conducting a feasibility assessment of a full range of dìga management actions. The WRRB considered the proposed restriction of harvest as the establishment of a TAH and, therefore, was required to hold a public hearing. The public hearing took place February 23-24, in Yellowknife, NT.

In order to allow careful consideration of all the evidence on the record and to meet deadlines for legislation to implement a Board decision, the WRRB decided to prepare two separate reports to respond to the proposed management actions in the joint management proposal. The first report, Part A, dealt with the proposed harvest management actions that required regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed dìga

feasibility assessment. The second report, Part B, dealt with additional predator management actions, biological and environmental monitoring, and cumulative effects.

On May 26, 2016, the WRRB submitted its final determinations and recommendations and Part A Reasons for Decision Report to TG and GNWT.[23] The WRRB determined that a TAH of zero ʔekwǫ̀ should be implemented for all users of the Kǫ̀k'èetì ekwǫ̀ herd within Wek'èezhìı for the 2016/17, 2017/18, 2018/19 harvest seasons.

The Board recommended that TG and GNWT agree on an approach for designating zones for aerial and ground-based surveillance throughout the fall and winter harvest seasons from 2016 to 2019. Additionally, the WRRB recommended weekly communication updates and timely implementation of hunter education programs for all harvesters of the Kǫ̀k'èetì ekwǫ̀ herd.

The WRRB recommended that the dìga feasibility assessment set out in the proposal be led by the Board with input and support from TG and GNWT. The Board continued to support the implementation of the Community-based Dìga Harvesting Project as a training program, subject to several conditions

On September 27, 2016, the WRRB submitted its final recommendations and Part B Reasons for Decision Report to TG and GNWT.[24] The WRRB recommended consultations with Tłı̨chǫ communities to determine a path forward for implementation of Tłı̨chǫ laws to continue the Tłı̨chǫ way of life and maintain their cultural and spiritual connection with ʔekwǫ̀.

In addition, the WRRB recommended several TK research and monitoring programs focusing on dìga, *Sahcho* (grizzly bear), stress and other impacts on ʔekwǫ̀ from collars and aircraft over-flights, and an assessment of quality and quantity of both summer and winter forage.

The Board recommended a biological assessment of sahcho as well as requesting that the BGCTWG prioritize biological monitoring indicators and develop thresholds under which management actions can be taken and evaluated. All scientific and TK monitoring data will be provided to BGCTWG annually to ensure ongoing adaptive management.

The WRRB recommended the implementation of Tłı̨chǫ Land Use Plan Directives as well as completing a Land Use Plan for the remainder of Wek'èezhìı. In addition, the completion of the Bathurst Caribou Range Plan and the long-term Bathurst Caribou

[23] PR (BATH 2019): 040 - Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part A.
[24] PR (BATH 2019): 041 - Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part B.

Management Plan were requested with measures to be implemented in the interim to provide guidance to users and managers of the Kǫ̀k'èetì ekwǫ̀ herd range.

The Board also recommended the development of criteria to protect key ʔekwǫ̀ habitat, including *Nǫʔokè* (water crossings) and *Tataa* (corridors between bodies of water), using the Conservation Area approach in the NWT's *Wildlife Act*, offsets and value-at risks in a fire management plan. Additionally, the WRRB recommended the continued refinement of the Inventory of Landscape Change, the integration of Wildlife and Wildlife Habitat Protection Plans and Wildlife Effects Monitoring Programs objectives for monitoring the effects of development on ʔekwǫ̀ in Wek'èezhìı, and the development of monitoring thresholds for climate indicators

Of the one determination made by the Board and 25 recommendations accepted or varied by TG and GNWT, only the determination and seven recommendations have been fully implemented. Specifically, the establishment of a zero harvest for the Kǫ̀k'èetì ekwǫ̀ herd; the establishment and implementation of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA); the regular provision of updates on aerial and ground-based compliance surveillance of the Kǫ̀k'èetì ekwǫ̀ herd; the implementation of the GNWT's Hunter Education Program; the completion of a collaborative feasibility assessment of options for dìga management; the completion of the Bathurst Caribou Range Plan (BCRP); the update and refinement of the Inventory of Landscape Change; and, the completion and implementation of the Wildlife Management and Monitoring Plan guidelines.

The remaining accepted recommendations appear to the Board to be incomplete, including providing regular harvest updates; conducting TK research on sahcho predation on ʔekwǫ̀, and their relationship with ʔekwǫ̀, other wildlife and people; conducting a collaborative sahcho biological assessment; conducting TK research about stress and impacts on ʔekwǫ̀ and people related to collars and aircraft over-flights; prioritizing biological monitoring indicators in order of need for effective management and developing thresholds under which management actions can be taken and evaluated; developing a land use plan for Wek'èezhìı; investigating the potential use of offsets for ʔekwǫ̀ recovery; conducting a TK monitoring project with elders to document how climate conditions have affected preferred summer forage and impacted ʔekwǫ́ fitness; and developing monitoring thresholds for climate indicators.

Additional details of the 2016 proceeding can be found in Appendix E and a review of the 2010 WRRB Recommendations are in Appendix F.

5.0. Summary of 2019 Wildlife Management Proposal and Board Process

On January 22, 2019, the TG and GNWT submitted the *"Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021"* to the Board outlining proposed management actions for the Kǫk'èetì ekwǫ̀ herd in Wek'èezhìı.[25] The management actions proposed by TG and GNWT in the Joint Proposal were grouped under the five categories: harvest, predators, habitat and land use, and education as well as research and monitoring.

More specifically, TG and GNWT proposed the following:

- Harvest: maintaining a TAH of zero (0) for Kǫk'èetì ekwǫ̀; continuing use of the MCBCCA; continuing regular aerial and ground-based surveillance of the MCBCCA through the fall and winter seasons; maintaining frequent contact with Government of Nunavut regarding harvest of Kǫ̀k'èetì ekwǫ̀ in Nunavut;
- Predators: submitting a separate TG-GNWT joint management proposal on reduction of *dìga* numbers on the Sahtì and Kǫ̀k'èetì ekwǫ̀ herd ranges; increasing incentives for dìga harvesters in an area centered on the collar locations of wintering Kǫ̀k'èetì ekwǫ̀; continuing to develop a program to train dìga harvesters using culturally acceptable methods on the winter range; collaborating with GN about predator management;
- Habitat & Land Use: finalizing, endorsing and implementing the Bathurst Caribou Range Plan (BCRP) by 2019; supporting Indigenous governments and organizations to conduct additional work to identify key landscape features and areas of significance to ʔekwǫ̀ in order to better conserve and manage ʔekwǫ̀ habitats;
- Education: increasing education and public awareness to improve knowledge of ʔekwǫ̀, promoting respectful hunting practices to reduce wastage and wounding; expanding TG on-the-land programs focused on continued use and maintenance of traditional sites and trails; and,
- Research & Monitoring: increasing biological monitoring of the Kǫ̀k'èetì ekwǫ̀ herd, including conducting population surveys carried out at two-year intervals, increasing radio collars to 70, suspending June calving reconnaissance surveys in years between photo survey years, conducting annual composition surveys in June, October and March/April to assess productivity and mortality rates; continuing accurate harvest reporting and improving body condition assessment of harvested ʔekwǫ̀; supporting the expansion of the Tłı̨chǫ Ekwǫ̀ Nàxoède K'è (formerly the Boots on the Ground) program; supporting continued research into factors contributing to ʔekwǫ̀ declines.

[25] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

The Board initiated its 2019 Bathurst Caribou Herd Proceeding on January 30, 2019 and established an online public registry: http://www.wrrb.ca/public-information/public-registry. On February 4, 2019, public notice of the WRRB decision to open a proceeding for the Kǫ̀k'èetì ekwǫ̀ herd was provided to potentially interested organizations in and out of Wek'èezhìı via email, WRRB website, social media and radio. The WRRB requested parties to provide written comments on the Joint Management Proposal by March 15, 2019.

The Board received a letter from the Minister of ENR on February 26, 2019, which requested parties on the distribution list to provide written comments on the Joint Management Proposal by April 5, 2019. As such, on March 4, 2019, the WRRB gave notice of its revised proceeding schedule, extending its public comment period to April 5, 2019. The Board received public comment from Canadian Arctic Resources Committee (CARC) on January 29, 2019, Alternatives North on February 27, 2019 and the Łutsel K'e Dene First Nation (LKDFN) on April 5, 2019.

On March 14, 2019, a letter was sent to the Nunavut Wildlife Management Board (NWMB) informing them of the WRRB's Kǫ̀k'èetì ekwǫ̀ proceeding. Sine the Kǫ̀k'èetì ekwǫ̀ herd is a migratory species that moves between the Northwest Territories and Nunavut, the WRRB is requested that the NWMB identify whether further consultation by the Board was required prior to a final decision on TG and GNWT's joint management proposal. Additionally, the NWMB was requested to update the WRRB on any processes related to the Kǫ̀k'èetì ekwǫ̀ herd that were underway in Nunavut. To date, no response has been received.

The proceeding was conducted in accordance with the WRRB's *Rules of Procedure, June 14, 2017*.[26] The Board requested that GNWT provide a compilation of any comments received through its consultations by April 10, 2019. The GNWT confirmed that no comments were received in response to their consultation letter on April 12, 2019. As such, the public record was closed on April 12, 2019.

Throughout the proceeding, GNWT assured the WRRB that submission of the 2018 Bathurst Caribou Calving Ground Survey Report was imminent. Unfortunately, as of June 7, 2019, the report was not available from the GNWT; therefore the WRRB adjourned the 2019 Bathurst Caribou Herd Proceeding until July 19, 2019 to allow GNWT the time necessary to complete and provide the 2018 Bathurst Caribou Calving Ground Survey Report. The report was provided to the WRRB on July 17, 2019.

[26] https://wrrb.ca/sites/default/files/WRRB%20Rules%20of%20Procedure%2014jun2017_1.pdf.

The Board reopened the record in this proceeding to post the 2018 Bathurst Calving Ground Survey Report as well as additional documents to the registry to assist with the completion of the final Reasons for Decision Report.

The public record was closed again on September 3, 2019 and the WRRB's deliberations followed.

6.0. Is there a Conservation Concern for the Kǫk'èetì Ekwǫ̀ Herd?

Based on the WRRB's review of Sections 12.6.1 and 12.6.2 of the Tłı̨chǫ Agreement, the first question which must be answered is whether there is a conservation concern with respect to the Kǫk'èetì ekwǫ̀ herd. If the WRRB is not convinced that there is a Kǫk'èetì ekwǫ̀ management problem, it does not have the authority to recommend harvest limitations on Tłı̨chǫ citizens.

During its 2016 Kǫk'èetì ekwǫ̀ proceeding, the Board repeatedly heard from governments, communities and members of the public of their concerns over the continued decrease of the Kǫk'èetì ekwǫ̀ herd, including recognition of the rapid rate of the decline. Vital rates associated with the herd, including the cow survival rate, calf recruitment, and pregnancy rate, all indicated that the herd would likely continue to decline. Despite the uncertainty, GNWT noted that to facilitate herd recovery and to once again provide harvesting opportunities for traditional users, that *"timely conservation-based management actions are needed"*.[27] Additionally, TG stated that *"in a time of crisis for caribou – closure of Aboriginal harvesting of caribou … are difficult but necessary actions"*.[28]

Despite all of the management actions taken over the past 12 years, the Kǫk'èetì ekwǫ̀ herd is still declining, and recovery of the herd remains uncertain. Additionally, in 2016, the Committee on the Status of Endangered Wildlife in Canada assessed ʔekwǫ̀ as Threatened. The status of ʔekwǫ̀ under federal Species at Risk legislation is currently under review. Within the NWT, ʔekwǫ̀ were assessed by the Species at Risk Committee as Threatened in 2017 and were later listed as Threatened under the NWT *Species at Risk Act* in 2018.[29] A draft ʔekwǫ̀ recovery strategy is currently undergoing public review.

The Board also notes that there is no current management or action plan for the Kǫk'èetì ekwǫ̀ herd. The Bathurst Caribou Advisory Committee (BCAC) was established in 2016 to advise on the management of the Kǫk'èetì ekwǫ̀ herd and its habitat,

[27] PR (BATH 2019): 040 – Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part A.
[28] Ibid.
[29] https://www.nwtspeciesatrisk.ca/species/barren-ground-caribou.

including addressing and reconciling the various factors affecting the herd, including harvest, predation, environmental conditions, and land disturbance. In May 2019, the BCAC hired a technical writer to prepare a management plan as well as an action plan to implement the actions outlined in the management plan. At this time, a draft is not yet available.

The Kǫk'èetì ekwǫ̀ herd continues to decline at a rapid rate. ʔekwǫ̀ have been both nationally and territorially assessed as threatened as well as listed as threatened in the Northwest Territories. Currently, there are no recovery documents available nor any management or action plans in place. Therefore, the WRRB continues to believe that there is a serious conservation concern for the Kǫk'èetì ekwǫ̀ herd.

7.0. WRRB's Recommendations

7.1. Introduction

The WRRB is highly concerned about the need for effective and timely actions and this was a substantial consideration in the development of the determinations and recommendations outlined in this report.

Consistent with the requirements of the Tłı̨chǫ Agreement, the WRRB is taking a precautionary approach[30] as well as learning from the experience of the 2016 TAH, which did not on its own achieve the objective of halting the decline. Reducing harvest and predation are the two management actions that most directly and immediately affect ʔekwǫ̀ survival rates.

While the WRRB was previously most concerned about harvest and predation reducing Kǫk'èetì ekwǫ̀ survival, the Board is now also concerned with the need for a precautionary approach to management given that the rapid decline has partly been caused by the emigration of cows abandoning their traditional Kǫk'èetì ekwǫ̀ calving ground. The Board also recognizes the importance of a healthy habitat, efficient and effective monitoring that can rapidly inform management decisions (adaptive management), and the support and understanding of an informed public. Therefore, in addition to the urgency of actions to halt the decline, the WRRB has recommendations on habitat, adaptive management, and education. In particular, the WRRB is concerned that the need to protect calving cows and newborn calves is more essential than ever.

[30] Section 12.1.5(c) of the Tłı̨chǫ Agreement.

7.2. Harvest & Harvest Monitoring

7.2.1. Introduction

A TAH is defined in the Tłı̨chǫ Agreement, *"in relation to a population or stock of wildlife, the total amount of that population or stock that may be harvested annually". S*ection 12.5.5(a)(i) of the Tłı̨chǫ Agreement sets out that the WRRB has sole responsibility for making a final determination with respect to a TAH for Wek'èezhìı.[31]

In 2016, the Board had determined that the seriousness of the Kǫk'èetì ekwǫ̀ herd's decline warranted a TAH of zero in Wek'èezhìı for the 2016/17, 2017/18, and 2018/19 harvest seasons despite the difficulties this was sure to cause for people. However, the zero TAH has not been accompanied by a halt in the decline and, in 2019, TG and GNWT proposed continuing the zero harvest of Kǫk'èetì ekwǫ̀. A difficulty in enforcing the harvest restriction is that, in some winters, ʔekwǫ̀ from neighboring herds may overlap with the Kǫk'èetì ekwǫ̀ herd. GNWT and TG proposed in 2016 and again in 2019 that a core mobile zone was the most effective way to differentiate between ʔekwǫ̀ herds when their winter distribution overlapped.

7.2.2. Proponent's Evidence

The Joint Proposal compared the 2015 and 2018 estimates of herd size based on calving ground aerial photographic surveys to report an accelerated decline in the Kǫk'èetì ekwǫ̀ herd size. The herd has declined by half from 19,769 in 2015 to 8,207 in 2018. Therefore, the rate of decline from 2015 to 2018 is approximately 29% a year.[32] Given the current herd size and rate of decline, TG and GNWT proposed to maintain the zero TAH and to rely on the MCBCCA.

TG and GNWT outlined in the Joint Proposal that currently, adaptive management is used in managing the MCBCCA. Established in 2011, the Barren-ground Caribou Technical Working Group (BGCTWG), which reviews annual biological monitoring information, is composed of representatives from TG, GNWT and the WRRB.[33] The BGCTWG is responsible for managing the MCBCCA, including developing and implementing the *"Rules for Definition of the Mobile Core Bathurst Caribou Conservation Area"* The Rule includes specific thresholds where changes to the MCBCCA are made, and the rule is updated annually. The current rule, revised in November 2018, recommends that 40 or more collars should be placed on the Kǫk'èetì

[31] Section 12.5.5(a)(i) of the Tłı̨chǫ Agreement.
[32] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[33] PR (BATH 2019): 037 - Report on a Public Hearing Held by the Wek'èezhìı Renewable Resources Board 22-26 March 20105-6 August 2010 Behchokǫ̀, NT.

ekwǫ̀ herd to define its distribution for purposes of the mobile zone and that TG and GNWT should jointly evaluate effectiveness of the Mobile Core Area in 2019.[34]

The Joint Proposal states that *"the current small and declining number of mature ʔekwǫ̀ in the Bathurst herd is a critical conservation status that requires implementation of an integrated suite of recovery management actions that continue and support the Total Allowable Harvest (TAH) of zero (0) established in 2016 (Determination #1-2016 in WRRB 2016a) along with enhanced monitoring."*[35]

The Joint Proposal lists that the key population processes in the Kǫk'èetì ekwǫ̀ herd that have likely contributed to its continued rapid decline are:

1) relatively low rates of survival (i.e. high rates of mortality) in adult female ʔekwǫ̀; and
2) low and variable rates of productivity that generally reflect a combination of low fecundity and poor calf survival rates (i.e. calf recruitment).[36]

The Joint Proposal also mentions as a third factor the emigration of cows from the Kǫk'èetì ekwǫ̀ calving ground.

TG and GNWT recommend that the TAH for the Kǫk'èetì ekwǫ̀ herd remain at zero in the Northwest Territories, and be reviewed within two years, following completion of the next Kǫk'èetì ekwǫ̀ herd calving ground survey and analyses of available demographic data (as per WRRB Determination #1-2016; WRRB 2016a).

TG and GNWT recommend the continuation of the MCBCCA as the means for managing and implementing the TAH of zero for the Kǫk'èetì ekwǫ̀ herd.

7.2.3. Other Parties' Evidence

Alternatives North stated that they couldn't find evidence that the TAH of the Kǫ̀k'èetì ekwǫ̀ herd is zero.[37] They noted that there is no assessment for the accuracy of reporting numbers in sex and composition of harvested Sahtì ekwǫ̀ from the overlapping range; as such, it is most likely that Kǫ̀k'èetì ekwǫ̀ are getting harvested as well.[38]

> *"Given the state of the Bathurst Herd, we ask the Board to ensure much more clarity and certainty that harvest of these animals is actually zero, or what the*

[34] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021. Appendix A.
[35] Ibid.
[36] Ibid.
[37] PR (BATH 2019): 006 - Alternatives North Submission to 2019 Bathurst Caribou Proposal.
[38] Ibid.

sex, age and size of the unintended harvest is. These numbers should be compiled and publicly reported."[39]

CARC believes that reliance upon the untested MCBCCA as a method to control harvest is ineffective. CARC identified the vulnerability to errors due to the proponent's identification of *"few Bathurst or Bluenose-East caribou were taken"*.[40]

LKDFN does not believe subsistence harvesting is the cause of the rapid decline, as the harvest restrictions were put in place almost 10 years ago and the decline of the Kǫk'èetì ekwǫ herd is still increasing.[41] LKDFN stated that GNWT does not report the effectiveness of the zero TAH or the MCBCCA.[42] LKDFN requests that this information become available in order to ascertain the effectiveness. Based on information from LKDFN environmental monitor reports from early March 2019, Kǫk'èetì ekwǫ were being killed on the boundary of the MCBCCA and the ice road.[43] This creates issues as the GNWT can't check carcasses of already deceased animals and cannot stop people from using the ice road. LKDFN would like to see the TAH of zero continue to be enforced for the next two years and carried over across the border into Nunavut as well.[44]

7.2.4. Analysis and Recommendation

The evidence available to the Board is that the decline of the Kǫk'èetì ekwǫ herd has accelerated since 2015 and that the underlying mechanisms have changed and become more complex. The evidence for the decreasing trend in herd size is from population estimates from aerial photographic and visual surveys over the Kǫk'èetì ekwǫ herd's calving grounds in 2015 and 2018.[45] The Board finds that the survey methods and analyses for estimated herd size are clear and consistent with previous surveys.

The 2018 calving ground survey report concluded that adult cow survival was low, and that productivity was low and annually variable.[46] However, the 2019 Joint Proposal only used information up to 2015.[47] More recent information and analyses became

[39] PR (BATH 2019): 006 - Alternatives North Submission to 2019 Bathurst Caribou Proposal.
[40] PR (BATH 2019): 004 - CARC to WRRB Re: Joint Management Proposal for Bathurst Caribou.
[41] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou Proposal.
[42] Ibid.
[43] Ibid.
[44] Ibid.
[45] PR (BATH 2019): 020 – An Estimate of Breeding Females and Analyses of Demographics for the Bluenose-East Herd of Barren-ground caribou: 2015 Calving Ground Photographic Survey; and PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[46] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[47] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ (Barren-ground caribou) Herd: 2019 – 2021.

available in July 2019 as part of the June 2018 calving ground survey report which showed that survival rates for adult cows have increased since 2015.[48] As illustrated in Figure 3 for 2015-2018, adult cow survival averages 85% a year which is close to the 88% required for a stable herd when productivity (pregnancy rate and calf survival) is 0.31 (the average for 2015-2017).[49] The WRRB notes that adult cow survival has improved since 2015 and the season of mortality has shifted from the summer to the winter (Figure 4).

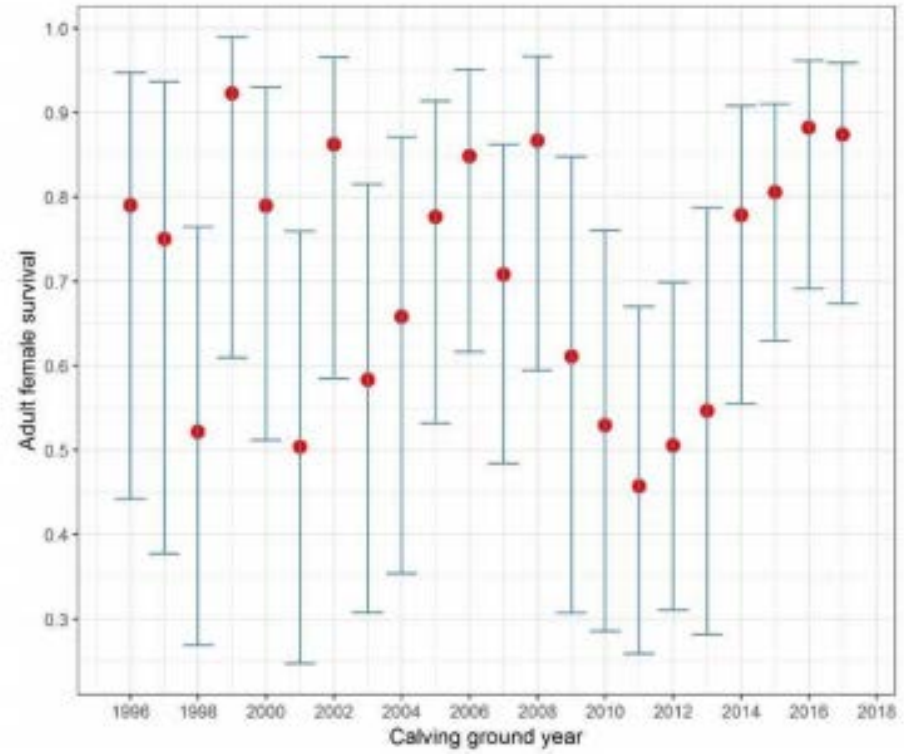

Figure 3. Annual Survival rate estimates 1996-2018 for Kǫ̀k'èetì Ekwǫ̀ adult females based on collared female ɔekwǫ̀.[50]

[48] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[49] Ibid.
[50] Ibid.

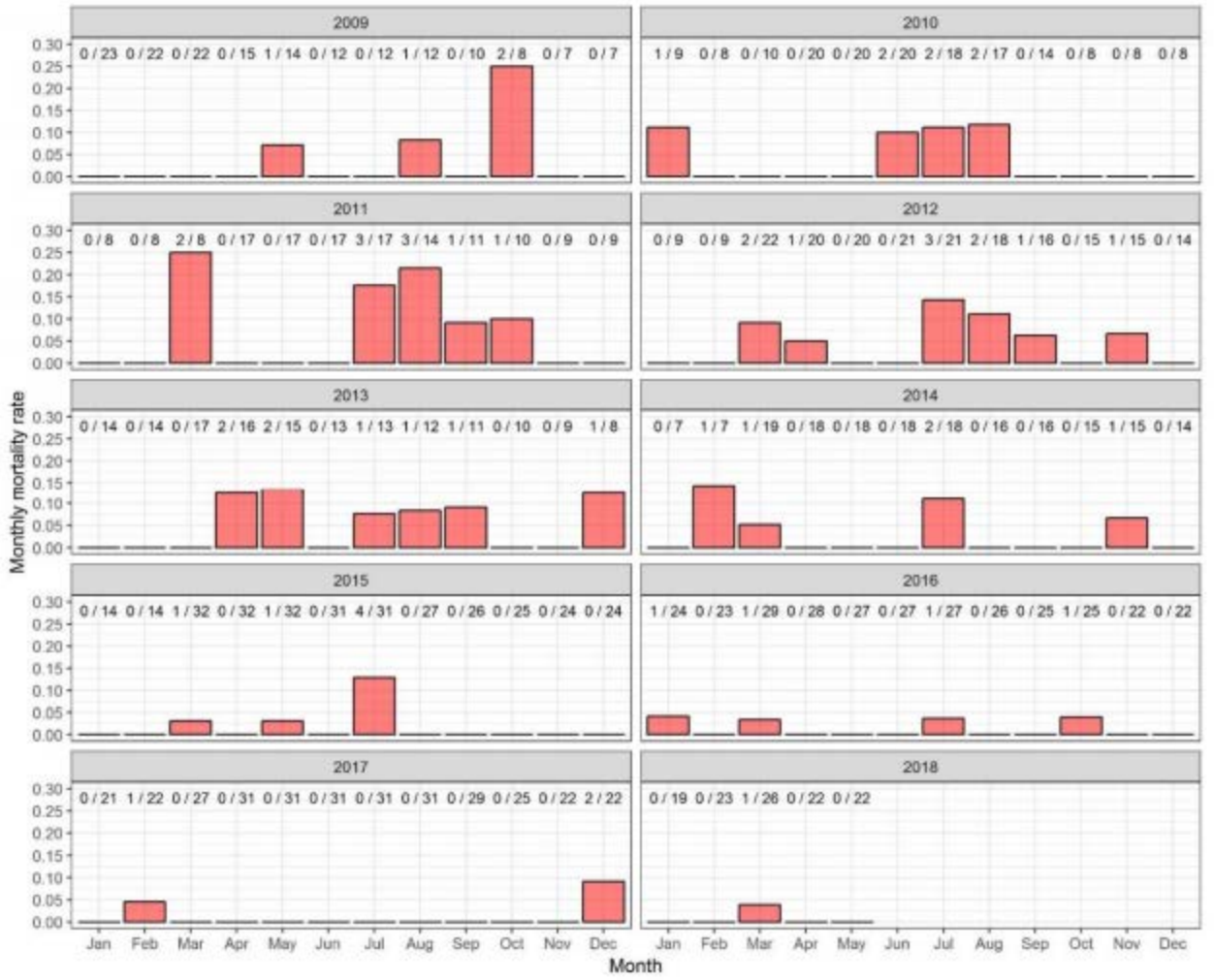

Figure 4. Summary of monthly collared cow mortality data for Kǫ̀k'èetì Ekwǫ̀ 2009-2018.[51]

In summary, while adult cow survival has increased since 2015, the Joint Proposal indicates that fecundity (percentage of breeding aged cows that calve) and calf survival are still less than that needed for recovery of the herd.[52] In addition, emigration has become a factor in the accelerated decline. Although the Joint Proposal acknowledged a role for emigration, analyses were not included but became available in July 2019.[53]

In June 2018, the Kǫ̀k'èetì ekwǫ̀ calving ground, for the first recorded time since about 1990, had low densities on either side of Bathurst Inlet. 2018 was also the first year that

[51] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[52] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[53] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.

3 of the 11 collared cows, identified as Kǫk'èetì ekwǫ̀ cows based on their 2017 calving location, moved to the neighboring Beverly/Ahiak's calving ground.[54] Subsequently, one of these cows died in July and the other two cows stayed with the Beverly/Ahiak herd. In June 2019, three different cows (of 17 cows collared) with previous calving locations on the Kǫk'èetì ekwǫ̀ calving ground moved to and calved on the Beverly/Ahiak herd's calving ground.[55]

GNWT used both computer modelling and field data to report on how the aforementioned emigration may represent almost a third of the breeding cows in 2018 emigrating to the Beverly/Ahiak calving ground.[56] The Board concludes that this emigration is contributing to the rate of decline for the Kǫk'èetì ekwǫ̀ herd. The Board does question however, the harvest levels used in modelling, which are a constant rate for 2010 to 2018 of 5 cows and 70 bulls compared to 5000 cows and 2000 bulls for 2001 to 2009.[57]

The Board acknowledges the encouraging trend for 2015-2017 in increased survival of adult cows but notes that pregnancy and calf survival vary annually. Given the continued decline and very small size of the Kǫk'èetì ekwǫ̀ herd, and despite the uncertainty about under-lying causes and the implications of emigration, the Board has no evidence to revise its 2016 determination for the zero TAH.

Determination #1-2019 (Kǫk'èetì Ekwǫ̀): Total Allowable Harvest
The Board determines that a TAH of zero for all users of the Kǫk'èetì ekwǫ̀ herd for 2019/20 and 2020/21 harvest seasons. For further clarification, the absolute number of ekwǫ̀ that can be harvested from the Kǫk'èetì ekwǫ̀ herd in Wek'èezhìı is zero.

The TG and GNWT Joint Proposal did not include evidence on the effectiveness of monitoring the zero TAH. While the Joint Proposal did acknowledge that *"few Bathurst or Bluenose-East Caribou were taken (based on the locations of reported kills relative to distributions of collared ʔekwǫ̀)"*[58] but no details were provided or referenced. The Joint Proposal did not provide a summary or reference to reports about the effectiveness of community monitors, check stations, patrols or monitoring results for the MCBCCA. The Joint Proposal also did not summarize or refer to evidence about the frequency and extent of overlap in neighboring herd's wintering distribution.

[54] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[55] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[56] Ibid.
[57] Ibid.
[58] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021. Appendix A.

The Joint Proposal's lack of evidence for the effectiveness of the harvest monitoring and whether the MCBCCA reduces the risk of inadvertent harvesting creates difficulties for the WRRB. Of particular concern is that the Joint Proposal does not assess or reference assessments of the annual degree of overlap of neighboring herds during the winter, which may increase the risk of inadvertent harvest of Kǫk'èetì ekwǫ̀. The Board is aware that given the herd's current low numbers and high rate of decline, even a low number of ʔekwǫ̀ inadvertently harvested could increase risk to the Kǫk'èetì ekwǫ̀ herd. The Board also notes that LKDFN and CARC questioned the effectiveness of the MCBCCA.[59]

While the Board notes that TG and GNWT propose to evaluate the MCBCCA and to report to WRRB sometime in 2019, the Board needs to be confident that the evaluation will meet the Board's concerns. To be specific, the Board has two concerns:

I. The annual variation and any trends in the extent and definition of the overlap in the winter distribution of neighboring herds; and,
II. How the community-based harvest monitoring and check stations are integrated into describing the effectiveness of the MCBCCA.

Recommendation #1-2019 (Kǫk'èetì Ekwǫ̀): Effectiveness of Mobile Zone
To determine if the MCBCCA is functioning as intended, GNWT and TG will analyze the extent of overlap of neighboring herds during early to late winter in order to complete a quantitative assessment to evaluate the effectiveness of the MCBCCA and the risk of inadvertent harvesting of Kǫk'èetì Ekwǫ̀ and report to the WRRB with this assessment by February 1, 2020.

The uncertainty about the harvest levels and why they vary so much annually will not be solved simply by improved reporting and analyses. The reported variability also suggests that a better understanding of harvesting from the community perspective is essential. This can be achieved by an increase in community monitoring and more detailed reporting.

Harvest monitors not only provide critical information on harvest, but they are also a link between communities and responsible governments. Harvest monitors are on the front lines and can collect real-time information from harvesters on the health of the animals, and the herd. However, if ʔekwǫ̀ are abundant around the community, harvest monitors can be overworked, which can be a safety concern.

[59] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou Proposal; and PR (BATH 2019): 004 - CARC to WRRB Re: Joint Management Proposal for Bathurst Caribou.

Recommendation #2-2019 (Kǫk'èetì Ekwǫ̀): Community Monitors
To utilize the expertise of harvesters to monitor any inadvertent harvest of Kǫk'èetì ekwǫ̀, TG will hire up to four community monitors per community to collect and report on harvest data monthly throughout the 2019/20 and 2020/21 harvest seasons.

7.3. Predators and Emigration

7.3.1. Introduction

ʔekwǫ̀ have always been subject to predation, but during a decline, the role of predators can become a contributing factor to the decline. While most of the attention is often focused on dìga as they follow the ʔekwǫ̀ year round, sahcho are also effective predators, especially on the calving grounds and during the summer. Nǫ̀gha and golden det'ǫcho are also predators for ʔekwǫ̀ but are rarely the focus of wildlife management. Predation of ʔekwǫ̀ has been a recurring theme in the Board's proceedings since 2010 as elders, managers, and the public have sometimes held divergent views on managing predation.

In addition to the problems posed by predation, emigration of caribou to neighbouring herds is a new and compounding factor. The TG and GNWT Joint Proposal outlines that Kǫk'èetì ekwǫ̀ emigration to neighboring herd's calving grounds started in 2018 after the herds had shared their winter range.[60] Just over a quarter of the collared cows emigrated in 2018, and then again in 2019, which suggests that emigration is a factor in the accelerated rate of decline and also, likely a consequence of the severity of the decline itself.[61] Typically, cows calve together on the traditional calving ground because there is protection from predators by being together; strength in numbers. For the Kǫk'èetì ekwǫ̀ herd, the number of cows on the calving ground is now so reduced that it is feasible to think that some cows are seeking this protection by moving to neighboring herd's calving grounds. It is worth remembering that in 2010 and 2016 hearings, emigration was discussed at length.

In May 2010, TG and GNWT recommended a targeted increase in dìga removal from about 40 dìga to 80-100 a year using a phased approach. This included increased hunting and trapping effort, and a wolf removal program if harvesting did not meet the annual dìga harvest targets and the Kǫk'èetì ekwǫ̀ herd continued to decline.[62] The removal program was to be focused at den sites and on the winter range, and included developing survey and monitoring methodology as well as experimental design for

[60] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[61] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[62] PR (BATH 2019): 037 - Report on a Public Hearing Held by the Wek'èezhìı Renewable Resources Board 22-26 March 20105-6 August 2010 Behchokǫ̀, NT.

removal of dìga on the winter range and at den sites by fall 2010.[63] The WRRB recommended the training and incentives for the harvesting but not the targeted removals.

During the 2016 public hearings, the public expressed frustration over the failure to manage predation while harvest was so strictly restricted.[64] The Board supported community-based dìga harvesting as a training program.[65] By November 2017, as a collaborative effort, a technical feasibility assessment for dìga management options was completed and made available to the public through WRRB's web site.[66]

7.3.2. Proponent's Evidence

The Joint Proposal suggests that the accelerated decline of the Kǫk'èetì ekwǫ̀ herd, despite the zero TAH, likely reflects predation reducing calf and adult survival.[67] However, evidence of this in the 2019 Joint Proposal is limited. The trend for Kǫk'èetì ekwǫ̀ numbers is based on calving ground surveys and included the 2018 data. The data for adult and calf survival in the proposal were only up to 2015 and the Board had to wait until July 2019 to see the most recent data and analysis.

The 2019 Joint Proposal lists five proposed management actions for dìga:

> (a) Joint dìga management proposal for Kǫk'èetì and Sahtì ekwǫ̀ ranges;
> (b) Continued TG program to train dìga harvesters;
> (c) Kǫk'èetì ekwǫ̀ dìga management feasibility assessment 2017;
> (d) Increased GNWT incentives for dìga harvesters; and,
> (e) Collaboration between NWT and NU managers about predator management.[68]

Three of these proposed actions, (b), (c) and (d) above, were carried over from 2010 and 2016. An additional proposed action is that TG and GNWT will provide a dìga management proposal in 2019 to recommend increasing the dìga harvest using more intensive dìga management techniques to a level that will influence ɂekwǫ̀ survival rates.[69] A second additional proposed action is that GNWT and TG are continuing on-

[63] PR (BATH 2019): 037 - Report on a Public Hearing Held by the Wek'èezhìı Renewable Resources Board 22-26 March 20105-6 August 2010 Behchokǫ̀, NT.
[64] PR (BATH 2019): 040 – Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part A.
[65] Ibid.
[66] PR (BATH 2019): 038 - Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd.
[67] Ibid.
[68] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[69] Ibid.

going discussions with Nunavut over predator management on the Kǫk'èetì ekwǫ̀ range.[70]

The Joint Proposal states that there have been a series of discussions between the GNWT and GN about the potential for collaboration centered on predator reduction on the Nunavut ranges of the Kǫk'èetì and Sahtì ekwǫ̀ herds. As the GNWT, TG, WRRB and other management organizations in the NWT have no management authority in Nunavut, potential predator management would need to consider the rights of Nunavut harvesters and Nunavut wildlife management processes.

7.3.3. Other Parties' Evidence

Alternatives North noted that one of the first considerations for intensive predator control is the assurance that TAH is at zero. The expansive range of the Kǫk'èetì ekwǫ̀ herd makes it very difficult to conduct predator controls. Alternatives North is concerned with predators multiplying if not all of the predators are harvested. They note that previous studies assessing the efficiency of predator control have been conducted on a small scale, while the area proposed to be managed to protect the Kǫk'èetì ekwǫ̀ is very large, which may cause it to be ineffective.[71]

LKDFN stated that based on their TK the dìga are not the cause of the Kǫk'èetì ekwǫ̀ herd's steep and steady decline and that dìga removal may at best slow the decline. LKDFN also requested GNWT report on the effectiveness of the dìga harvest incentive program since 2010.[72]

CARC did not raise concerns about the proposed predator control initiatives as presented in the Joint Proposal.

7.3.4. Analysis and Recommendations

The Joint Proposal stated that the cash incentives to increase dìga harvesting were ineffective.[73] However, no details were included. The role of the Tłı̨chǫ training program is not assessed. The Joint Proposal did not include evidence from dìga monitoring, and it was unclear if there was any such monitoring underway. The sighting rate of dìga and other predator observations during ʔekwǫ̀ surveys were not explained. The Joint Proposal also did not make use of the evidence in the dìga technical feasibility

[70] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[71] PR (BATH 2019): 006 - Alternatives North Submission to 2019 Bathurst Caribou Proposal.
[72] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou Proposal.
[73] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

assessment, which identified a sharp decline in dìga abundance and productivity on the summer ranges.
The Joint Proposal did not provide any evidence beyond that provided in the 2016 hearings where the evidence clearly indicated a long-term trend of more sahcho than dìga sightings on the Kǫk'èetì ekwǫ̀ calving grounds from 2006-2015. In June 2018, the sighting of six sahcho to each dìga seen on the Kǫk'èetì ekwǫ̀ calving ground is consistent with the information presented during the 2016 hearings.[74]

The 2019 Joint Proposal did not suggest management actions for sahcho, but the 2018 calving ground survey report suggested predator studies may be undertaken.[75] In 2016, TG and Tłı̨chǫ elders referred to sahcho predation on the summer range and the Board recommended further documentation of TK and a collaborative sahcho biological assessment once the dìga technical assessment was completed.[76]

The evidence for emigration of Kǫk'èetì ekwǫ̀ collared cows and how it has added to the decline in herd size is mentioned in the Joint Proposal but was only analysed in the 2018 calving ground survey report. That report also notes that the emigration continued in June 2019.[77] The analyses are clear and thoughtful and include details of how the densities of the cows have sharply declined on the calving grounds. However, neither the Joint Proposal nor the calving ground survey report give thoughts on the implications of the emigration on management of the Kǫk'èetì or Beverly/Ahiak ekwǫ̀ herds other than that emigration may reduce the likelihood of recovery.

Increasingly, Kǫk'èetì ekwǫ̀ may be faced with a changing situation regarding predation; however, not all the required information is available for management actions by governments or the Board. First, there is a gap in understanding what the ʔekwǫ̀ decline has meant to the predators and their levels of ʔekwǫ̀ predation. It is possible that dìga predation has declined on the summer range, which is reflected by higher adult ʔekwǫ̀ survival. The reduced dìga numbers may leave sahcho predation on the calving ground and summer range proportionately more important as a factor in low calf survival.

Secondly, the 2018 calving ground survey report suggests that emigration is a significant part of the 2018 and 2019 decline.[78] This analysis is a new development in

[74] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey; and PR (BATH 2019): 041 – Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part B.
[75] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[76] PR (BATH 2019): 041 – Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part B.
[77] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[78] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.

the story of the Kǫk'èetì ekwǫ̀ and there are implications for management of the Kǫk'èetì ekwǫ̀ herd, as well as the Beverly/Ahiak herd, which has received the immigrant cows. While the 2018 calving ground survey report provides detailed evidence describing the extent of emigration in 2018 and 2019, GNWT and TG did not offer any suggestions in the Joint Proposal on how the effects of emigration could be integrated into an adaptive management process. Given the scale of emigration, the WRRB is concerned especially by the failure of the governments to offer leadership in how to address emigration.

Recommendation #3- 2019 (Kǫk'èetì Ekwǫ̀): Emigration
By December 1, 2019, in order to provide the WRRB clarity on the status of the Kǫk'èetì ekwǫ̀, GNWT and TG are to provide, in plain language, their positions regarding the implications of emigration of Kǫk'èetì ekwǫ̀ to other herds, and how this emigration will influence adaptive management.

In 2014, when GNWT terminated monitoring of dìga at their dens, the monitoring had been showing marked decreases in the number of dens occupied and in pup survival.[79] Between 2006 and 2012, a computer model suggested a 95% decline in dìga on the Kǫk'èetì ekwǫ̀ summer range.[80] The Kǫk'èetì ekwǫ̀ summer range had contracted, and the dìga struggled to find enough ʔekwǫ̀. Unfortunately, the 2015 and 2018 calving ground survey reports only listed predators seen on the calving ground. These observations were not provided, as a sighting rate, and thus trends cannot be assessed.[81] The 2019 Joint Proposal did not provide any evidence of dìga population numbers or trends in the dìga sighting rate for late winter during the ʔekwǫ̀ sex and age surveys.

> "*And so, as -- as to how -- if the wildlife -- if we're going to harvest the wolves, we -- we really need to kind of annually know exactly how many numbers that we need to harvest, how many wolves we need to harvest. And if we're harvesting wolves annually, is it -- will it show how well we know that we are helping the caribou?"*[82] (Elder Joseph Judas, 2016)

Besides not having information on trends in dìga numbers as the ʔekwǫ̀ have declined, the Board also faces uncertainty in trends of the ʔekwǫ̀ winter distribution. The Joint

[79] PR (BATH 2019): 041 – Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part B.
[80] Ibid.
[81] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey; and PR (BATH 2019): 020 – An Estimate of Breeding Females and Analyses of Demographics for the Bluenose-East Herd of Barren-ground Caribou: 2015 Calving Ground Photographic Survey.
[82] PR (BATH 2019): 038 - Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd. Note: In 2016, Joseph Judas was a member of the Tłı̨chǫ Assembly and was not the Chair of the WRRB.

Proposal did not include or reference a report analyzing if there is a trend in overlap in the winter distribution of neighboring herds. If dìga accompany the herds to the overlap area, it is possible that dìga predation rates could increase. Additionally, it is difficult, when herds overlap, to predict how the increased dìga harvest will change adult ʔekwǫ̀ survival rates.

The trend for the decline based on the calving ground surveys is statistically robust and well- documented. The 2018 calving ground survey report included an updated analysis of adult survival which suggested that it had increased from 2015 to 2018 and had shifted from summer to winter timing of mortalities, although possible causes were not described.[83] Fall calf:cow ratios are not analysed in detail but appear relatively stable while late calf:cow ratios have higher annual variability. It is premature to relate the increase and change in timing of adult survival with a decline of dìga on the summer range, but it is a possibility.

The WRRB works within a broad ecological context and for that reason the Board is concerned about how the role of other predators may have changed as dìga populations have declined in response to the ʔekwǫ̀ decline. The role of scavengers such as nǫ̀gha will have changed, and nǫ̀gha may have become a more significant predator. Det'ǫcho are effective predators for newborn calves; as are sahcho. TK describes sahcho predation as extending outside of the calving grounds. Nǫ̀gha, sahcho and det'ǫcho are all relatively long-lived species and are opportunistic in their diet, which raises the possibility that their numbers could be slower to respond to the decline of the Kǫk'èetì ekwǫ̀ herd. The Board notes that there is a lack of information regarding nǫ̀gha, sahcho and det'ǫcho and, where information exists, it has not been compiled and shared. The Board is also conscious that as the herd has reached such low numbers, the herd trend may be more vulnerable to previously minor causes of ʔekwǫ̀ deaths.

After the Board had received the TG and GNWT Joint Proposal in January 2019, the Board was seriously concerned about the lack of progress on the role of predators relative to the ʔekwǫ̀ declines. Consequently, in February 2019, the Board reinforced the urgency and the extent of the decline of both the Kǫk'èetì and Sahtì ekwǫ̀ herds, by advancing its recommendations on predators to TG and GNWT. These recommendations and the response from TG and GNWT are included in Table 1 and Appendix G.

[83] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.

Table 1. WRRB Predator recommendation and TG/GNWT responses

	WRRB February 2019 predator recommendations	TG/GNWT Response	Variation (if applicable)
1	The WRRB supports continuing the ENR's dìga harvest incentive program and the TG's Community Based Dìga Harvesting Project as an education tool.	Accepted	
2	The WRRB recommends that dìga monitoring be undertaken so that population estimates, or indexes are generated. In addition, as much information as possible, including condition, diet, and reproductive status, should be collected from each harvested dìga.	Accepted	
3	The WRRB recommends that dìga management be undertaken in Wek'èezhìı. TG and ENR should review the *"Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd"* submitted in November 2017 to determine the most effective, humane and cost-efficient methods that would have the least impact and disturbance on the ekwǫ̀ herds themselves.	Accepted	
4	The WRRB recommends that dìga management should be closely monitored for effectiveness of halting or slowing the decline of the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds in order to provide future harvesting opportunities.	Accepted	
5	The WRRB recommends that the GNWT and TG work with the Government of Nunavut to enact predator management actions on the calving grounds of sahtì ekwǫ̀ and kokètì ekwǫ̀ in Nunavut.	Varied	Replace 'enact' with 'discuss'
6	The WRRB commits to striking a working group to begin work on a *sahcho* (grizzly bear) biological assessment by June 2019, specifically on the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds herd ranges. This working group will include at minimum the GNWT, TG and the Government of Nunavut. WRRB staff recommend that sahcho are monitored in order to determine if pressures are increasing on ekwǫ.	Varied	Accepted the Working Group Replace 'enact' with 'discuss
7	WRRB staff recommend that golden det'ǫcho (golden eagle) are monitored in order to determine if pressures of golden det'ǫcho are increasing on ekwǫ̀. WRRB staff recommends that TG and the GNWT work with the Government of Nunavut to support golden det'ǫcho monitoring.	Varied	Replace 'work with 'discuss'

Subsequent to the Board receiving TG and GNWT's responses to the Board's predator recommendations, the Board received further evidence in July 2019 when GNWT released its June 2018 calving ground survey report.[84] Given the way the evidence is presented, the Board remains concerned about the lack of reporting about the decline in dìga on the Kǫk'èetì ekwǫ̀ summer range, whether or how this decline will modify the level of dìga predation on the Kǫk'èetì ekwǫ̀ herd, and how it could affect the harvest of dìga. The importance of monitoring dìga was highlighted in the *"Wolf Tłı̨chǫ Knowledge and Perspective"* TK study where Tłı̨chǫ participants agreed it would be helpful to monitor dìga as *"packs of wolves usually follow caribou herds because they are part of the food chain for wolves so we need a good monitoring program for both animals*".[85] A first step toward integrating the different sets of information (rate of predator sightings, ʔekwǫ̀ winter distribution, and the two dìga harvest programs) is the basis for the following recommendations additional to the February 2019 recommendations.

Recommendation #4-2019 (Kǫk'èetì Ekwǫ̀): Predator Monitoring
To improve the understanding of the role of predators on the decline of the herd and increase adult and calf survival, GNWT and TG will provide the following to the WRRB: (1) sighting rates of dìga, sahcho, golden det'ǫcho, and nǫ̀gha during Kǫk'èetì ekwǫ̀ composition surveys by December 1 each year, beginning in 2019; and, (2) A set of criteria that will determine the numbers of predators to be targeted for annual removal, should the decision be made to do so, by December 1, 2020.

Recommendation #5-2019 (Kǫk'èetì Ekwǫ̀): Dìga Harvest
To ensure that harvest of dìga is contributing to the conservation of Kǫk'èetì ekwǫ̀: (1) TG and GNWT should provide to the WRRB the number of dìga to be targeted for removal during the harvest season from the Kǫk'èetì ekwǫ̀ winter range by December 1 each year, beginning in 2019; (2) TG and GNWT should determine the number of dìga to be targeted for removal based on (i) dìga sightings during Kǫk'èetì ekwǫ̀ composition surveys and (ii) likely exposure of Kǫk'èetì ekwǫ̀ to dìga associated with neighbouring herds during the winter season; and, (3) TG and GNWT will coordinate the *Enhanced North Slave Dìga Harvest Incentive Program* and the *Community-based Dìga Harvest Training Program* to determine their role in removing the targeted number of dìga.

[84] PR (BATH 2019): 015 - Estimates of Breeding Females & Adult Herd Size and Analyses of Demographics for the Bathurst Herd of Barren-Ground Caribou: 2018 Calving Ground Photographic Survey.
[85] PR (BATH 2019): 038 - Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd.

Recommendation #6-2019 (Kǫk'èetì Ekwǫ̀): *Enhanced North Slave Dìga Harvest Incentive Program*
To help the Board understand the effectiveness of the GNWT's *Enhanced North Slave Dìga Harvest Incentive Program* on Kǫk'èetì ekwǫ̀, TG and GNWT will provide a comprehensive report on the program to the WRRB by May 31 each year. The contents of this report will be developed in collaboration with the Board and will include, but not be limited to, the following information: (1) provide the location and number of dìga harvested as a part of the Harvest Incentive Program; and, (2) provide clear criteria to measure the effectiveness of the Harvest Incentive Program based on both scientific and TK.

Recommendation #7-2019 (Kǫk'èetì Ekwǫ̀): *Community-based Dìga Harvest Training Program*
To help the Board understand the effectiveness of the TG's *Community-based Dìga Harvest Training Program*, TG and GNWT will provide a comprehensive report on the program to the WRRB by May 31 each year. The contents of this report will be developed in collaboration with the Board and will include, but not be limited to, the following information: (1) provide the location and number of dìga harvested as a part of the Harvest Training Program; and, (2) provide an assessment of how the training will contribute to future dìga harvesting and management

While dìga pose significant threats to Kǫk'èetì ekwǫ̀ survival rates, nǫ̀gha, golden det'ǫcho, and sahcho are other predators which need to be assessed. TG and GNWT's Joint Proposal included no evidence on predator sighting rates on the calving grounds nor did the 2018 calving ground survey report. But the Joint Proposal did recommend increased support for predator monitoring as well as for on-the-land traditional monitoring programs like the Tłı̨chǫ Ekwǫ̀ Nàxoède K'è (formerly the Boots on the Ground) program.[86] GNWT's recommendation leads the WRRB to recommend monitoring predators on the calving grounds in collaboration with GN. In an effort to reduce disturbance to ʔekwǫ̀, this work should be done on the ground, and not via aircraft.

Nǫ̀gha can be found where their food is located. Some may consider nǫ̀gha to be a scavenger however, it is known that nǫ̀gha also actively hunt for their food. Nǫ̀gha share the barren-lands with ʔekwǫ̀ and, therefore, ʔekwǫ̀ can make up a significant portion of the nǫ̀gha diet through direct hunting or from carrion left by sahcho or dìga.

[86] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

As nǫ̀gha scavenge for ʔekwǫ̀, they tend to follow behind the ʔekwǫ̀ and dìga as they migrate through the barren-lands.[87]

Recommendation #8-2019 (Kǫk'èetì Ekwǫ̀): Nǫ̀gha (wolverines)
To determine the current abundance, trend and distribution of nǫ̀gha, GNWT and TG will compile existing TK and scientific information for nǫ̀gha in the NWT and Nunavut on the Kǫk'èetì and Sahtì ekwǫ̀ ranges by April 1, 2020. The data will be used by the Grizzly Bear Biological and Management Feasibility Working Group to expand the collaborative sahcho biological and management feasibility assessment to include nǫ̀gha.

The Board is disappointed by the lack of progress among TG, GNWT and GN in relation to management actions on predation and land management for the Kǫk'èetì ekwǫ̀ calving ground and summer ranges within Nunavut. These delays may be affecting the Kǫk'èetì ekwǫ̀ population. The Joint Proposal states that there has been *"a series of discussions involving GNWT and GN wildlife staff and more senior officials (ministers and deputy ministers) about the potential for collaboration centered on predator reduction on the NU ranges of the Bluenose-East and Bathurst herds"*.[88] While the Board is aware that NWT management authorities have no authority in Nunavut and any actions taken in Nunavut would need to be approved by the NWMB, GNWT and TG committed to pursuing these discussions further to develop and implement coordinated dìga removals across the Sahtì and Kǫk'èetì ekwǫ̀ herds.[89] The 2016 and 2019 Joint Proposals both stated that GNWT will remain in frequent contact with GN on these issues and participate where possible in the NWMB process on harvest issues.[90]

Recommendation #9-2019 (Kǫk'èetì Ekwǫ̀): Joint Management Agreement
The Board recommends GNWT and TG develop a draft agreement and timelines for joint management efforts to manage the Kǫk'èetì and Sahtì ekwǫ̀ and their ranges by February 29, 2020. This draft agreement should be developed in cooperation with the BCAC, the Advisory Committee for Cooperation on Wildlife Management, and discussed with the GN wildlife officials and NWMB as soon as possible.

[87] Species at Risk Committee. 2014. Species Status Report for Wolverine (Gulo gulo) in the Northwest Territories. Species at Risk Committee, Yellowknife, NT. https://www.nwtspeciesatrisk.ca/sites/default/files/wolverine_status_report_and_assessment_final_dec_2014_v2.pdf.
[88] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[89] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[90] Ibid.

7.4. Habitat and Land Use

7.4.1. Introduction

The annual range of Kǫk'èetì ekwǫ̀ encompasses land in both the NT and Nunavut, which introduces jurisdictional complexity. Calving and post-calving ranges in Nunavut do not have protection. Key habitats in the NWT also remain unprotected despite the WRRB recommendations in 2010 and 2016. The WRRB has consistently stated that the Kǫ̀k'èetì ekwǫ̀ will require intact habitat for recovery and sustained use.

The WRRB recognizes that habitat is complex as it includes more than vegetation. Habitat also is the landscapes that allow ʔekwǫ̀ to make choices to reduce risks from predators, parasites and other threats including weather. The elders consider anything linked to ʔekwǫ̀ as their habitat. This includes things such as *ʔı̨k'ǫǫ̀* (spiritual power); human behaviour; predators, such as dìga and people; pests, such as mosquitoes and flies; landscapes, such as muskeg, eskers, and smooth bedrock leading to areas to cross water; weather conditions that create particular kinds of snow and ice conditions; water, wind, and temperature; and favoured vegetation.[91] When suitable habitat is limited, pregnancy rates and calf survival can be reduced, which reduces the potential for herd recovery.

7.4.2. Proponent's Evidence

The Joint Proposal mentions ʔekwǫ̀ range contraction but does not provide evidence on changes in seasonal distribution or how changes in distribution may reflect changes in habitat. The 2019 Joint Proposal did identify habitat loss and change as a factor in the herd's decline as they stated that *"other factors including predation, disturbance from mining activities and infrastructure, roads, and climate factors have likely been key to the herd's continued decline since harvest restrictions"*.[92] The joint proposal mentions the need to identify important areas and critical habitat as the steps potentially leading to interim or long term habitat protection.

The Joint Proposal's primary proposed management action is the endorsement and implementation of the Bathurst Caribou Range Plan (BCRP).[93] Implementation actions outlined in the BCRP are to develop and apply effective policies within an adaptive management framework in order to address cumulative effects of range disturbance on the Kǫk'èetì ekwǫ̀ range. TG and GNWT outline the four main objectives of the BCRP are to ensure the integrity of important habitats; ensure connectivity between seasonal

[91] PR (BATH 2019): 028 - Caribou Migration and the State of their Habitat: Tłı̨chǫ Knowledge and Perspectives on ekwǫ̀ (Barrenland Caribou)
[92] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[93] Ibid.

ranges; ensure the amount of human-caused land disturbance is kept below certain levels; and, ensure the development, design and use of roads is managed with consideration of ʔekwǫ̀.[94]

7.4.3. Other Parties' Evidence

Alternatives North expressed their surprise to see the proponents recommend more work to identify key habitats for Kǫ̀k'èetì ekwǫ̀. With years of research already conducted, and resource development increasing, Alternatives North question the need for more work to assess the Kǫ̀k'èetì ekwǫ̀ range.[95] It is noted that the BCRP is mentioned in the Joint Proposal; however, there are no actions relating to habitat protections.

CARC also indicated its surprise to see the proponents calling for the identification of critical habitat as there is already critical habitat identified. CARC was happy to see the BCRP endorsed; however, they noted that there is no plan for how the BCRP will be approved and implemented.[96]

LKDFN supported aspects of the BCRP, such as protecting ʔekwǫ̀ habitat, the increased connectivity within the Kǫ̀k'èetì ekwǫ̀ range and mitigating resource exploration; however, LKDFN noted that it can not endorse the BCRP because the plan recommends additional disturbance as permissible despite the urgent conservation concerns with the Kǫ̀k'èetì ekwǫ̀.[97]

7.4.4. Analysis and Recommendations

The WRRB acknowledges that the BCRP is a comprehensive plan built on the knowledge of many people. However, the Board notes there are no dates for implementation of BCRP policies nor is there any framework or timelines to judge how or when this plan is expected to contribute to ʔekwǫ̀ recovery. In this, the Board agrees with Alternatives North and CARC. In order for the BCRP to be implemented, legal protections are required, and the Board is not aware of any advancement towards these requirements. The WRRB also notes that there should be an urgency to the implementation of the BCRP as two of five range assessment areas require enhanced management responses to address increased levels of disturbance.[98] In addition, the Board has previously recommended the need for calving and post-calving ground

[94] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[95] PR (BATH 2019): 006 - Alternatives North Submission to 2019 Bathurst Caribou Proposal.
[96] PR (BATH 2019): 004 - CARC to WRRB Re: Joint Management Proposal for Bathurst Caribou.
[97] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou Proposal.
[98] 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.

protection, which depends on Nunavut land managers. The BCRP does acknowledge this but the Joint Proposal indicates clearly to the WRRB that the need for habitat protection is now urgent.[99] In addition, the abandoning of traditional calving grounds may be further evidence of the need for protection and limiting of disturbance.

TG and GNWT's Joint Proposal offered no evidence about the state of the Kǫ̀k'èetì ekwǫ̀ habitat, such as the cumulative winter range modified by fire or the total linear length of roads. As TG and GNWT have identified in the Joint Proposal that they are working on the implementation of the BCRP, the WRRB accepts this and does not, at this time, have any further recommendations on habitat and land use.

7.5. Education

7.5.1. Introduction

Communications with, and the education of, harvesters, Tłı̨chǫ citizens, and the public is crucial in the management of Kǫk'èetì ekwǫ̀. These initiatives aim to increase compliance, improve hunter practices, and reduce wounding and wastage.

7.5.2. Proponent's Evidence

The proposal did include a table listing proposed educational activities including annual and possible meetings, GNWT website updates, posters, and radio interviews.[100] The Joint Proposal emphasized the importance of supporting on-the-land activities, which focus on the continued use and maintenance of traditional sites. TG plans to expand on their current on-the-land programs.[101]

7.5.3. Other Parties' Evidence

LKDFN expressed their belief that public awareness and education, based on the best available traditional and scientific knowledge, are essential to improve the public's understanding of Kǫk'èetì ekwǫ̀, as well as the management tools that are being used to protect them. LKDFN recommend that the GNWT share the results of the bi-annual population survey and the composition surveys in a meaningful way at in-person meetings in all communities.[102]

Alternatives North and CARC did not raise concerns about the proposed communication and education initiatives as presented in the Joint Proposal.

[99] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[100] Ibid.
[101] Ibid.
[102] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou Proposal.

7.5.4. Analysis and Recommendations

TG and GNWT's Joint Proposal offered no evidence about the frequency and effectiveness of education activities since the 2010 and 2016 proposals. Continuing efforts to increase awareness among Tłı̨chǫ communities and the public about the status of NWT ʔekwǫ̀ herds, the need for conservation actions and how harvesters can contribute to conservation, such as harvesting alternative species, is essential to promote recovery of the Kǫk'èetì ekwǫ̀ herd.

Recommendation #10-2019 (Kǫk'èetì Ekwǫ̀): Successes and Challenges of Ekwǫ̀ Nàxoède K'è
To increase community understanding of work being done for Kǫk'èetì ekwǫ̀, TG will report annually on the successes and challenges of Ekwǫ̀ Nàxoède K'è to Tłı̨chǫ communities and schools.

Recommendation #11-2019 (Kǫk'èetì Ekwǫ̀): Food Security
To ensure Tłı̨chǫ communities have access to nutritious, safe food that fits their lifestyle and provides a healthy diet throughout the year, and in light of a closed harvest on Kǫk'èetì ekwǫ̀, TG and GNWT will discuss priorities and solutions for food security issues, such as harvesting alternative country foods and/or implementing meat replacement programs, with each Tłı̨chǫ community by March 31, 2020.

Recommendation #12-2019 (Kǫk'èetì Ekwǫ̀): Public Consultation
To increase public understanding of the need for ʔekwǫ̀ management actions, starting in January 2020, TG and GNWT will: (1) exchange information about Kǫk'èetì and Sahtì ekwǫ̀ with Tłı̨chǫ communities, via focus groups and community meetings; and, (2) produce and distribute educational materials, via radio, television, social media and workshops, to the general public about the reasons for the Kǫk'èetì and Sahtì ekwǫ̀ population declines and the factors affecting the declines, including emigration.

7.6. Research and Monitoring

7.6.1. Introduction

Ongoing research and monitoring actions are required to make informed and timely management decisions for the Kǫk'èetì ekwǫ̀, including the proposed implementation of the Tłı̨chǫ Research and Monitoring Program. Adaptive management is the mechanism whereby monitoring results are used to inform management decisions as well as to determine the effectiveness of management actions. The WRRB already utilizes adaptive management principles in its operations and decision-making. However, an

adaptive management framework with clear thresholds may lead to specific management actions that could lead to timelier implementation of management and monitoring actions. The WRRB is aware that as the Kǫk'èetì ekwǫ̀ herd continues to decline, the urgency of effective management increases.

7.6.2. Proponent's Evidence

TG and GNWT's Joint Proposal describes (a) biological monitoring; (b) an expansion of TG's Ekwǫ̀ Nàxoède K'è program; (c) support for research on the drivers of changes in ʔekwǫ̀ abundance; and, (d) an adaptive management framework under the Bathurst Caribou Range Plan.[103] More specifically, the proposed actions are:

> (a) The biological monitoring included a change to calving ground surveys taking place every two years rather than every three years; an increase in the number of collars to 70; an increase to annual monitoring of calf survival; harvest compliance monitoring; dropping the calving ground reconnaissance surveys and the addition of pregnancy monitoring.[104]
>
> (b) TG is proposing to expand the Ekwǫ̀ Nàxoède K'è program to span the entire ice-free period on the lakes.[105]
>
> (c) TG and GNWT recognize the need for research into the complexity of factors driving the declines of ʔekwǫ̀ herds using both TK and science as well as university partners.[106]
>
> (d) Implementation actions outlined in the BCRP should be initiated in 2019 to develop and apply effective policies and practices within an adaptive management framework and 5-year review interval, which will help address potential cumulative effects of range (habitat) disturbance and land use on Kǫk'èetì ekwǫ̀.[107]

7.6.3. Other Parties' Evidence

Alternatives North is concerned that with the increasing impacts related to climate change that the herd is facing, any harvest of the herd at all will increase their vulnerability significantly.[108]

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[103] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[104] Ibid.
[105] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[106] Ibid.
[107] Ibid.
[108] PR (BATH 2019): 006 - Alternatives North Submission to 2019 Bathurst Caribou Proposal.

CARC noted that with a greater than 50% decline of Kǫ̀k'èetì ekwǫ̀ between the last two surveys and an overall decrease of 95% from peak levels, it indicates the *"desperately inadequate management over the past 10 years plus and the need for critical review".*[109]

LKDFN supports biological monitoring; however, they would like to see other Indigenous governments and organizations engaged in the harvest compliance monitoring. Additionally, LKDFN believes that Indigenous monitors should be trained in fecal sample collections. LKDFN supports the expansion of the Ekwǫ̀ Nàxoède K'è (Boots on the Ground) program and would like to see the GNWT support the LKDFN's Caribou Stewardship Plan. They support collaborative research partnerships; however, LKDFN notes that the time needed to conduct routine studies is too long for Kǫ̀k'èetì ekwǫ̀.[110]

7.6.4. Analysis and Recommendations

The WRRB's approach to making monitoring and research recommendations was developed in response to three requirements. First, delays in government implementation of management actions do not slow the decline in ʔekwǫ̀ numbers. This is the basis for the WRRB's recommendation to improve the implementation of adaptive management. Secondly, the WRRB is also concerned as to how TK and community experience is used in monitoring and adaptive management. Third, there is the requirement to balance the perspective of respecting and leaving the ʔekwǫ̀ alone against the need for monitoring information for management.

The Board is put in a difficult position trying to balance the apparent need for more monitoring of ʔekwǫ̀ and the elders who say we should leave the ʔekwǫ̀ alone. Evidence from Tłı̨chǫ elders during the 2007 TG workshop, suggest a willingness to restrict harvest, and leave the ʔekwò alone.[111] Leaving ʔekwǫ̀ alone, to the elders, includes all activities that stress or bother those remaining. As Elder Romie Wetrade summarizes:

> *"White people raise animals. So they are always thinking about what to do with them. Tłı̨chǫ do not raise animals. Caribou migrate all over the land. Because of white people we are now talking negatively about caribou. For me that is not right. Talking all the time about how we will fix it. How will they migrate back to us? What will happen to the young? We should leave them alone and let them be."*[112]

The Board also notes the difficulty of reconciling views over collaring ʔekwǫ̀. However, the Board acknowledges that increasing the number of collars on cows provides more

[109] PR (BATH 2019): 004 - CARC to WRRB Re: Joint Management Proposal for Bathurst Caribou.
[110] PR (BATH 2019): 012 - Łutsel K'e Dene First Nation Submission to 2019 Bathurst Caribou. Proposal.
[111] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd.
[112] PR (BATH 2019): 029 - Monitoring the Relationship between People and Caribou.

reliable annual estimates of cow survival rates, as well as determining the effectiveness of the MCBCCA and overlap in winter distribution, assigning harvest to herds reliably, and providing evidence for emigration. The BGCTWG has stated that an effective MCBCCA requires, at minimum, 40 collars and biological monitoring will need a total of 70 collars on cows and bulls.

As a rationale for increasing the frequency of the calving ground estimates to every two years, the GNWT cites the rapid decline of the herd and possible dìga management implementation.[113] The Board understands that increasing the frequency of calving ground surveys is potentially a mixed blessing as statistical differences in population numbers may be more difficult to detect. However, the WRRB considers that this possible disadvantage of the increased survey frequency can be reduced by using rates of adult and calf survival to also interpret trends. Thus, the WRRB agreed with the management action proposed by GNWT and TG.

Recommendation #13-2019 (Kǫk'èetì Ekwǫ̀): Population Surveys
To ensure timely adaptive management, GNWT will conduct population surveys for Kǫk'èetì ekwǫ̀ every two years at the same time as Sahtì ekwǫ̀ and Beverly/Ahiak surveys. Therefore, the next population surveys will take place in June 2020.

While GNWT did refer to a change in tracking seasonal calf survival three times a year, they did not mention the need to increase sample size to reliably monitor pregnancy rates, which is the first step in monitoring calf survival.[114] Hence, the need for WRRB's agreement that pregnancy rates should be monitored through fecal pellet sampling. Dene harvesters are comfortable with the collection of fecal pellets to determine genetic material as well as monitoring pregnancy.[115] This is especially relevant when Dene experts' knowledge of ɂekwǫ̀ histories, movements and identities is respected. When knowledges are heard, respected and used, individuals are more likely to accept the results of others.[116] In the not so distant past, fecal pellets were examined in conjunction with examining vegetation in the months and stomachs of ɂekwǫ̀.[117] The WRRB also notes that pregnancy rates are a sensitive indicator to conditions including climate change on the summer ranges and thus can be related to observations from TG's Ekwǫ̀ Nàxoède K'è program.

[113] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[114] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd.
[115] PR (BATH 2019): 028 - Caribou Migration and the State of their Habitat: Tłı̨chǫ Knowledge and Perspectives on ekwǫ̀ (Barrenland Caribou).
[116] PR (BATH 2019): 31 - Łeghágots'enetę (learning together): the importance of indigenous perspectives in the identification of biological variation
[117] PR (BATH 2019): 028 - Caribou Migration and the State of their Habitat: Tłı̨chǫ Knowledge and Perspectives on ekwǫ̀ (Barrenland Caribou).

Recommendation #14-2019 (Kǫk'èetì Ekwǫ̀): Pregnancy Monitoring
To better monitor the pregnancy rates of the Kǫk'èetì ekwǫ̀ herd, GNWT and TG should implement Kǫk'èetì ekwǫ̀ pregnancy monitoring through fecal pellet collection in the winter months, every year starting January 2020. Community members should have the opportunity to participate in the collection of fecal pellets on the Kǫk'èetì ekwǫ̀ winter range.

Indigenous people across Canada emphasize they monitor the land by living with it. In other words, using the natural resources it offers on a regular basis and, in doing so, watch everything on the land.[118] The elders' stories tell of change in the past. Harvesters must have ongoing, daily experiences and spiritual relations with all that is part of the ecosystem so they can watch for and see inconsistencies and change – whether rapid or slow.[119] This is maintained through walking and watching ʔekwǫ̀ habitat and harvesting in culturally appropriate ways.

Tłı̨chǫ participants in the *"Wolf Knowledge and Perspective"* TK study questioned the effectiveness of using GNWT's techniques, *"wolves are not going to wait to be monitored; they are very smart and fast"*.[120] In contrast to periodic scientific monitoring, monitoring based on Tłı̨chǫ experiential knowledge – observing, experiencing and sharing stories – is done on a regular and consistent basis by harvesters who know the land.[121]

By putting the Tłı̨chǫ Research and Monitoring Program in place, harvesters and elders will once again be in their intellectual and spiritual role to watch and experience the land so they can share what they observe and ensure people can respond quickly to occurrences that will impact their lives.

[118] PR (BATH 2019): 023 - "These Trees Have Stories to Tell" Linking Denésǫ̨liné Knowledge and Dendroecology in the Monitoring of Barren-ground Caribou Movements in the Northwest Territories, Canada; PR (BATH 2019): 027 - Tłı̨chǫ Knowledge of Environmental Changes: Implications for Caribou Hunting; PR (BATH 2019): 028 - Caribou Migration and the State of their Habitat: Tłı̨chǫ Knowledge and Perspectives on ekwò̧ (Barrenland Caribou); PR (BATH 2019): 029 - Monitoring the Relationship between People and Caribou; PR (BATH 2019): 030 - Renewing our traditional laws through joint ekwǫ (caribou) management; 031 - Łeghágots'enetę (learning together): the importance of indigenous perspectives in the identification of biological variation; PR (BATH 2019): 033 - Boots on the Ground Caribou Monitoring Program 2017 Results; PR (BATH 2019): 034 - Boots on the Ground Caribou Monitoring Program - Monitoring Results 2016; PR (BATH 2019): 035 - "We Watch Everything" A Methodology for Boots on the Ground Caribou Monitoring; and PR (BATH 2019): 036 - Ekwò zò gha dzô nats'êdè "We Live Here For Caribou" Cumulative Impacts Study on the Bathurst Caribou.

[119] PR (BATH 2019): 029 - Monitoring the Relationship between People and Caribou; PR (BATH 2019): 030 - Renewing our traditional laws through joint ekwǫ (caribou) management; PR (BATH 2019): 032 - "We monitor by living here": Developing monitoring methods based in Indigenous knowledge; PR (BATH 2019): 033 - Boots on the Ground Caribou Monitoring Program 2017 Results; PR (BATH 2019): 034 - Boots on the Ground Caribou Monitoring Program - Monitoring Results 2016; and PR (BATH 2019): 035 - "We Watch Everything" A Methodology for Boots on the Ground Caribou Monitoring.

[120] PR (BATH 2019): 038 - Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd.

[121] Ibid.

"We find our voices in the land where we have something to say, where we can contribute something."[122] (Dr. John B. Zoe, 2019)

Recommendation #15-2019 (Kǫk'èetì Ekwǫ̀): Tłı̨chǫ Research and Monitoring Program
To ensure that both ʔekwǫ̀ and ʔekwǫ̀ habitat monitoring, and realistic harvesting numbers are recorded in a culturally appropriate manner, and to contribute adaptive management, TG will implement the Tłı̨chǫ Research and Monitoring Program, starting in January 2020 (See Appendix H).

The WRRB is aware that the effects of climate change are already being felt and that the changes on the ʔekwǫ̀ ranges are measurable. The question now is what can be done about the effects of climate change on ʔekwǫ̀, and their ecological relationships, including people. The WRRB sees this as best answered by having more observers on the ground[123] and then ensuring that their observations are integrated into adaptive management for the herd. The WRRB believes that using more people on the ground (as indexed, for example by the number of observer days) is essential for adaptive management.

Tłı̨chǫ harvesters' and elders' holistic knowledge of the environment allows them to place the behaviour of humans into the ecosystem, which is why they can understand the reality of climate change.[124] Tłı̨chǫ harvesters and elders know that ʔekwǫ̀ will not migrate to places where there is no food. For example, dry conditions (high temperatures and low precipitation), wildfires, and lack of vegetation are indicators of climate change that harvesters can see on the land.

Recommendation #16-2019 (Kǫk'èetì Ekwǫ̀): Climate Change
To better understand the effects of climate change on ʔekwǫ̀, TG will systematically collect on-the-ground climate change observations including but not limited to (i) dry conditions, (ii) wildfires, and (iii) lack of vegetation, during the Ekwǫ̀ ı̨Nàxoède K'è program and the Tłı̨chǫ Research and Monitoring Program. Results of the monitoring programs should be designed to contribute an adaptive management framework and be reported to the WRRB and GNWT annually.

The Joint Proposal's Table 4 summarises the biological monitoring indicators, frequency, rationale, and options for management actions.[125] In the context of adaptive management, the WRRB finds that only four of the nine biological indicators in Table 4

[122] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd.
[123] PR (BATH 2019): 033 - Boots on the Ground Caribou Monitoring Program 2017 Results.
[124] PR (BATH 2019): 027 - Tłı̨chǫ Knowledge of Environmental Changes: Implications for Caribou Hunting).
[125] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.

have corresponding adaptive monitoring options and even those four are generalized rather than specific actions. The table is similar to that proposed for the Sahtì ekwǫ̀ in the 2019 Joint Proposal. When asked during the public hearing about the possibility of expanding and revising the table to make it more detailed and responsive for that herd, GNWT stated that they would need to discuss with their senior level management and pointed to the *Taking Care of Caribou Management Plan.*[126]

Given the 29% annual rate of decline for the Kǫ̀k'èetì ekwǫ̀ herd, there is an urgent need to increase the speed in which managers react to changes in the herd and implement management actions. The WRRB is concerned about delays in implementation of management actions and the failure to implement the majority of the WRRB's recommendations. TG and GNWT acknowledged the need to speed up management responses. In the Joint Proposal, they propose increasing reviews of management actions from every three years to annually.[127] However, no mechanism is proposed. An adaptive management framework could minimize delay in the implementation of management action and proposals. An adaptive management framework must involve the Board for the reasons set out in Section 12.5.1 of the Tłı̨chǫ Agreement.[128] Such an approach provides for pre-identified management actions based on thresholds agreed to by management authorities, which then can be implemented in a timelier matter.

Adaptive management is now a standard part of management although in practice, it has sometimes struggled in the implementation phase.[129] The WRRB is of the view that such a framework can be developed in collaboration with governments. The Joint Proposal has already provided a rationale for specific monitoring thresholds and the management decisions that those thresholds trigger.[130]

The Joint Proposal refers to an *"integrated suite of recovery management actions"* but does not supply a mechanism for integration.[131] There is no evidence which describes how the individual management actions will be integrated, which is problematic as there will be trade-offs between them depending on monitoring results. The WRRB suggests that the integration of management actions should be achieved through an adaptive management framework. The framework should also identify how to integrate on-the-ground observations and climate change into management activities. The strength of an

[126] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd.
[127] Ibid.
[128] See Section 12.5.1 of the Tłı̨chǫ Agreement.
[129] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd.
[130] PR (BATH 2019): 001 - Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021.
[131] Ibid.

adaptive management framework is to build it collaboratively, which is the basis of the WRRB recommendation.

Recommendation #17-2019 (Kǫk'èetì Ekwǫ̀): Adaptive Management Framework
To ensure timelier implementation of management and monitoring actions, WRRB, TG and GNWT will collaborate to develop a herd-specific adaptive management framework with the thresholds linked to specific management actions by January 2020, with the WRRB taking a lead role for herds in Wek'èezhìı. The framework will take into consideration Tłı̨chǫ and scientific knowledge, existing management plans, and decisions and recommendations from Boards and governments.

7.7. Implementation of Recommendations from 2010, 2016 and 2019

The WRRB is troubled by the time it has taken governments to implement approved Board recommendations given that the Kǫk'èetì ekwǫ̀ herd has been declining by 19 to 29% every 3 years since 2012.

Based on the Board's previous proceedings, 60 recommendations were submitted in 2010 to TG and GNWT.[132] In 2016, the WRRB submitted 26 recommendations and one determination to the two governments.[133] The Board notes that, to date, only the determination and 25 of the 82 recommendations accepted or varied by TG and GNWT have been fully implemented (Appendix D and F). Consequently, the WRRB is of the view that perhaps a different approach will be more effective. The Board believes that a more intensive application of an adaptive management framework is needed to capitalize on the Board's and government's collective efforts. Given the urgency of decisive management action for the Kǫk'èetì ekwǫ̀ herd, it is the Board's opinion that an adaptive management framework would lead to more timely and effective management actions, which are essential to address the herd's decline.

Recommendation #18-2019 (Kǫk'èetì Ekwǫ̀): Implementation
To track the progress of implementation of the Board's recommendations, TG and GNWT will provide to the WRRB the following: (1) an implementation plan for the 2019 recommendations by January 31, 2020; (2) a summary report, within one year of the acceptance or variance of the Board's 2019 recommendations, on proposed management actions, including an evaluation of the success of implementation of management actions; and,

[132] PR (BATH 2019): 037 - Report on a Public Hearing Held by the Wek'èezhìı Renewable Resources Board 22-26 March 20105-6 August 2010 Behchokǫ̀, NT.
[133] PR (BATH 2019): 040 - Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part A; and PR (BATH 2019): 041 - Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst ekwǫ̀ (Barren-ground caribou) Herd - Part B.

(3) an updated implementation plan for the 2010 and 2016 recommendations and an evaluation of all outstanding recommendations by January 31, 2020.

The Board notes that continued implementation of the TK recommendations is both mandatory and essential to ensure that the WRRB and other wildlife managers in Wek'èezhìı have appropriate information to make balanced decisions.

8.0. Conclusion

With the Kǫk'èetì ekwǫ̀ herd in a critical state, there is an urgent need to implement effective management actions to halt the decline as soon as possible. The Board's decisions in this report have been structured to have the least impact on ʔekwǫ̀ users and the greatest benefit to ʔekwǫ̀ that we can provide at this time.

> *"… a way of life, in relation to the caribou is described in the Tłı̨chǫ Agreement, which is 12.1.1, which encompasses our livelihood and we try to capture that in our agreement to ensure that we always have a connection to the caribou, the activity around the caribou and the ceremonial games that happen around the -- the caribou and the travel. Everything that we -- that we had was in relation to the caribou".*[134] (Dr. John B. Zoe, 2019)

Users, managers and governments must act now, in whatever way possible, to protect the herd and its habitat so that future recovery may be possible. The need is urgent. The Kǫk'èetì ekwǫ̀ herd has declined to the point where some cows, possibly to have the best chance to raise their calves, have emigrated to a neighboring herd's calving ground. These changes increase uncertainty for co-managers and governments. A collaborative and adaptive management is essential to ensure a future for Kǫk'èetì ekwǫ̀.

[134] PR (BATH 2019): 039 - WRRB Reasons for Decision Final Report w/ Corrected Appendix – Sahtì Ekwǫ̀ (Bluenose-East Caribou) Herd

APPENDIX A 2019 Joint Proposal

Mr. Joseph Judas, Chair
Wek'èezhìi Renewable Resources Board
4504 49TH AVENUE
YELLOWKNIFE NT X1A 1A7

Dear Mr. Judas:

Joint Management Proposal for Bathurst Caribou

The Tłı̨chǫ Government and the Department of Environment and Natural Resources, Government of the Northwest Territories would like to submit to the Wek'èezhìı Renewable Resources Board (WRRB) a management proposal for the period of July 2019 to July 2021 for the Bathurst herd.

We look forward to hearing from the WRRB on our proposal on these caribou management and monitoring actions.

Sincerely,

Mr. Michael Birlea, Manager Lands
Protection & Renewable Resources
Department of Culture and Lands
Protection, Tłı̨chǫ Government
Behchokǫ̀, NT
MichaelBirlea@tlicho.com

Mr. Bruno Croft, Superintendent,
North Slave Region
Environment and Natural Resources
Yellowknife, NT
Bruno_croft@gov.nt.ca

Attachment

c. Honourable Robert R. McLeod
Premier

Mr. Gary Bohnet, Principal Secretary
Executive and Indigenous Affairs

Mr. Mike Aumond, Secretary to Cabinet/Deputy Minister
Executive and Indigenous Affairs

Ms. Shaleen Woodward, Deputy Secretary
Indigenous and Intergovernmental Affairs
Executive and Indigenous Affairs

Dr. Joe Dragon, Deputy Minister
Environment and Natural Resources

Ms. Rita Mueller, Assistant Deputy Minister, Operations
Environment and Natural Resources

Dr. Brett Elkin, Director, Wildlife
Environment and Natural Resources

Grand Chief George Mackenzie
Tłı̨chǫ Government

Chief Clifford Daniels
Community Government of Behchokǫ̀
Tłı̨chǫ Government

Chief David Wedawin
Community Government of Gamètì
Tłı̨chǫ Government

Chief Charlie Football
Community Government of Wekweètì
Tłı̨chǫ Government

Chief Alfonz Nitsiza
Community Government of Whatì
Tłı̨chǫ Government

Ms. Laura Duncan, Tłı̨chǫ Executive Officer
Tłı̨chǫ Government

Ms. Tammy Steinwand-Deschambeault, Director, Culture and Lands Protection
Tłı̨chǫ Government

Chief Maurice Moses
Pehdzéh Kı́ First Nation

Chief Edward Sangris and Band Council
Yellowknives Dene First Nation (Detah)

Chief Ernest Betsina and Band Council
Yellowknives Dene First Nation (N'Dilǫ)

Chief Darryl Marlowe and Band Council
Lutsel K'e Dene First Nation

Chief Louis Balsillie and Band Council
Deninu Kue First Nation

Ms. Ethel Liske, ADFN Negotiations Coordinator
Akaitcho Dene First Nations

Chief Frieda Martselos
Salt River First Nation #195

Grand Chief Gladys Norwegian
Dehcho First Nation

President William (Bill) Enge
North Slave Metis Alliance

President Garry Bailey
Northwest Territory Metis Nation

President Clem Paul
Mountain Island Metis

Ms. Jody Pellissey, Executive Director
Wek'èezhìi Renewable Resources Board

Mr. George Barnaby, Interim Chair
Sahtú Renewable Resources Board

Ms. Deborah Simmons, Executive Director
Sahtú Renewable Resources Board

Mr. Jozef Carnogursky, Chair
Gwich'in Renewable Resources Board

Ms. Amy Amos, Executive Director
Gwich'in Renewable Resources Board

Mr. Larry Carpenter, Chairperson
Wildlife Management Advisory Council-NWT

Ms. Jody Pellissey
Advisory Committee for Cooperation on Wildlife Management

Mr. Vernon Amos, Chairperson
Inuvialuit Game Council

Ms. Jodie Maring, Resource Coordinator
Wildlife Management Advisory Council (NWT)

Mr. Ron Robillard, Chief Negotiator & President
Athabasca Denesuline Né Né Land Corporation

Mr. Daniel Shewchuk, Chairperson
Nunavut Wildlife Management Board

Ms. Aluki Kotierk, President
Nunavut Tunngavik Inc.

Mr. Larry Adjun, Chair
Kugluktuk Hunters and Trappers Organization

Mr. Sam Kapolak, Chair
Burnside Hunters and Trappers Organization (Bathurst Inlet)

Mr. Peter Kapolak, Chair
Umingmaktok Hunters and Trappers Organization (Bay Chimo)

Mr. Attima Hadari, Chair
Kitikmeot Regional Wildlife Board

Mr. Stanley Anablak, President
Kitikmeot Inuit Association

Mr. Steve Pinksen, Deputy Minister
Department of Environment, Government of Nunavut

Mr. Drikus Gissing, Wildlife Director
Department of Environment, Government of Nunavut

Wek'èezhìi Renewable Resource Board
Management Proposal

1. Applicant Information
Project Title: Government of the Northwest Territories and Tłı̨chǫ Government Joint Proposal on Management Actions for the Bathurst Ekwǫ̀ (Barren-ground caribou) Herd: 2019 – 2021
Contact Persons: **Organization Names:** **Addresses:** **Phone/Fax Numbers:** **Email addresses:** Michael Birlea Lands Protection and Renewable Resources Manager Department of Culture and Lands Protection Tłı̨chǫ Government (TG) Behchoko, NT. X0E 0Y0 Phone: 867-392-6381 Ext: 1355 Fax: 867-392-6406 MichaelBirlea@Tłı̨chǫ.com Bruno Croft Regional Superintendent North Slave Region Department of Environment & Natural Resources (ENR) Government of the Northwest Territories 2nd Floor, ENR Main Building P.O. Box 2668 3803 Bretzlaff Drive Yellowknife, NT. X1A 2P9 Phone: 867-767-9238 Ext: 53234 Fax: 867-873-6260 Bruno_Croft@gov.nt.ca

2. Management Proposal Summary	
Start Date: July 1, 2019	**Projected End Date:** July 1, 2021
Length: 2 years	**Project Year:** 1 of 2
A June 2018 photographic calving ground survey of the Bathurst herd shows that the population has continued to decline by ~58% since the previous survey in 2015. The June 2018 Bathurst caribou survey estimates were 3,636 ± 1,253 (95% CI) breeding females and an overall herd estimate of 8,207 ± 3,008 (95% CI) caribou. Low rates of survival in adult female caribou, and low and variable rates of productivity (due to a combination of low fecundity and poor calf survival rates) are the main reasons for the continued decline. This joint management proposal for the Bathurst herd has been prepared as an update to the December 2015 proposal submitted to the Wek'èezhìi Renewable Resource Board (WRRB).	

The proposal describes 11 management recommendations according to the following five themes: 1) harvest management, 2) wolf (díga) management, 3) habitat and land use, 4) education, and 5) monitoring and research.

1) Harvest Recommendations for Bathurst Ekwǫ̀

- TG and ENR recommend that the Total Allowable Harvest (TAH) for the Bathurst herd remain at zero (0) in the Northwest Territories, and be reviewed within 2 years, following completion of the next Bathurst calving ground survey and analyses of available demographic data (as per WRRB Determination #1-2016; WRRB 2016a).

- TG and ENR recommend continuation of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA – also referred to as the 'Bathurst mobile conservation area') as the means for managing and implementing the TAH of zero for the Bathurst herd.

- TG and ENR recommend continuation of regular aerial and ground-based surveillance of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA) through the fall and winter harvest seasons.

2) Wolf (díga) Management

- ENR and TG are developing a joint proposal for diga management on the Bathurst and Bluenose-East (BNE) ekwǫ̀ ranges, which will be submitted as a separate joint management proposal to the WRRB in 2019.

3) Habitat and Land Use

- ENR and TG acknowledge the multi-year work completed by the Bathurst Caribou Range Plan (BCRP) Working Group and recommend that the BCRP (ENR 2018) be finalized, endorsed, and implemented by governments, the WRRB, industry, communities and other Range Plan partners. Recommended implementation actions in the BCRP should be initiated in 2019 to develop and apply effective policies and practices within an adaptive management framework and 5-year review interval, which will help address potential cumulative effects of range (habitat) disturbance and land use on Bathurst caribou.

- TG and ENR recommend that additional work be done by indigenous governments and organizations across the Bathurst range through TK research to continue identifying key landscape features and specific areas (eg: ekwǫ̀ no'oke – water crossings, tataa – land crossings, important unburned winter habitat, and important migration routes and habitats in seasonal ranges) that are important to caribou and may require conservation measures to manage potential disturbance and/or protect habitat areas.

4) Education

- Despite the recommendation for a TAH of zero for the Bathurst herd, TG and ENR suggest a coordinated suite of education/public awareness initiatives to improve general public knowledge of ekwǫ̀, and to promote respectful hunting practices that would reduce wounding and wastage in other areas where ekwǫ̀ are harvested.

- Tłı̨chǫ Government plans to continue and expand its delivery of programs focused on cultural practices on-the-land. These programs emphasize continued use and maintenance of traditional sites and trails. ENR will collaborate and support these programs through its the On-The-Land unit.

5) Monitoring and Research of Bathurst Ekwǫ̀

- Updated biological monitoring of the BNE and Bathurst herds, mostly led by ENR, is proposed for 2019-2021. A key focus of the increased monitoring is to provide annual information on productivity and survival of caribou calves and adult cows, as well as increased surveys to estimate herd size. This enhanced monitoring is in part proposed to help assess effectiveness of wolf management actions.

- TG and ENR recommend expansion of the Tłı̨chǫ "Boots on the Ground" traditional knowledge monitoring and guardianship program on the Bathurst range.

- TG and ENR recommend increased research into underlying drivers of change in Bathurst herd abundance through collaboration with academics and other researchers (including remote sensing specialists), using both scientific and traditional knowledge approaches.

Please list all permits required to conduct proposal.

NWT and Nunavut (NU) Wildlife Research Permits will be required annually to conduct monitoring recommended in this proposal.

The WRRB may hold a hearing to review management of Bathurst caribou, including a Total Allowable Harvest.

3. Background

3.1 BATHURST CARIBOU STATUS IN 2018

The June 2018 calving ground photographic survey resulted in an estimate of 3,636 ± 1,253 (95% CI) breeding females and an overall herd estimate of 8,207 ± 3,008 caribou in the Bathurst herd (Figure 1) (GNWT unpublished data). This result indicates that the herd has declined by ~58% since the last survey in June 2015, which estimated 8,075 ± 3,467 breeding females and an overall herd size of 19,769 ± 7,420 caribou in the Bathurst herd (Boulanger et al. 2017). A basic comparison of the two recent population estimates suggests that the Bathurst herd has declined at an annual rate of approximately 29% per year over the last three years.

A comparison of the June 2018 and 2015 estimates suggests that the Bathurst herd may have declined at a faster rate in the last three years than the annual rate of decline of approximately 19% observed between surveys in 2015 and 2012. As a basis for comparing these trends, if a caribou population were to continue declining at annual rates of 29% or 19%, it would be half of its size within ~2.5 years and ~3.7 years respectively.

Based on a recent assessment and status report (SARC 2017), the NWT Conference of Management Authorities listed barren-ground caribou as *Threatened* in the Northwest Territories in February 2018. As a previously large migratory barren-ground caribou herd that sustained an annual harvest of thousands of caribou (Case et al. 1996), the management implication for the Bathurst herd at its current size and trend is that it may not recover for decades to a size that could sustain a meaningful level of hunting. Indeed, it is almost ten years since the first harvest restrictions were placed on the Bathurst herd in winter 2010.

Based on a comparison of the 2009 and 2018 population estimates, the overall extent of decline for the Bathurst herd within the past 10 years is ~74%, which meets the population criterion of "endangered" (Table 2 in COSEWIC 2015). If the recent annual rate of decline

observed between 2015 and 2018 (~29% per year) were forecast 10 years in to the future, the herd status would meet the population criterion of "critically endangered" (Table 2 in COSEWIC 2015). Thus, the current small and declining number of mature caribou in the Bathurst herd is a critical conservation status that requires implementation of an integrated suite of recovery management actions that continue and support the Total Allowable Harvest (TAH) of zero (0) established in 2016 (Determination #1-2016 in WRRB 2016a) along with enhanced monitoring. It is also worth noting that the current small size and trend of the Bathurst herd place it well below the low management threshold (i.e., red phase of low numbers) as defined for the Bluenose East and West herds by the Advisory Committee for Cooperation on Wildlife Management (ACCWM 2014).

Despite variability and small sample sizes in available datasets, the key population processes in the Bathurst herd that have likely contributed to its continued and rapid rate of decline are:
1) relatively low rates of survival (i.e. high rates of mortality) in adult female caribou; and
2) low and variable rates of productivity that generally reflect a combination of low fecundity and poor calf survival rates (i.e., calf recruitment).
A third potential contributing factor to the continued observed rate of decline is a recent increase in the proportion of satellite-collared Bathurst females that switched calving grounds in June 2018 to the coastal calving area along the Queen Maud Gulf.

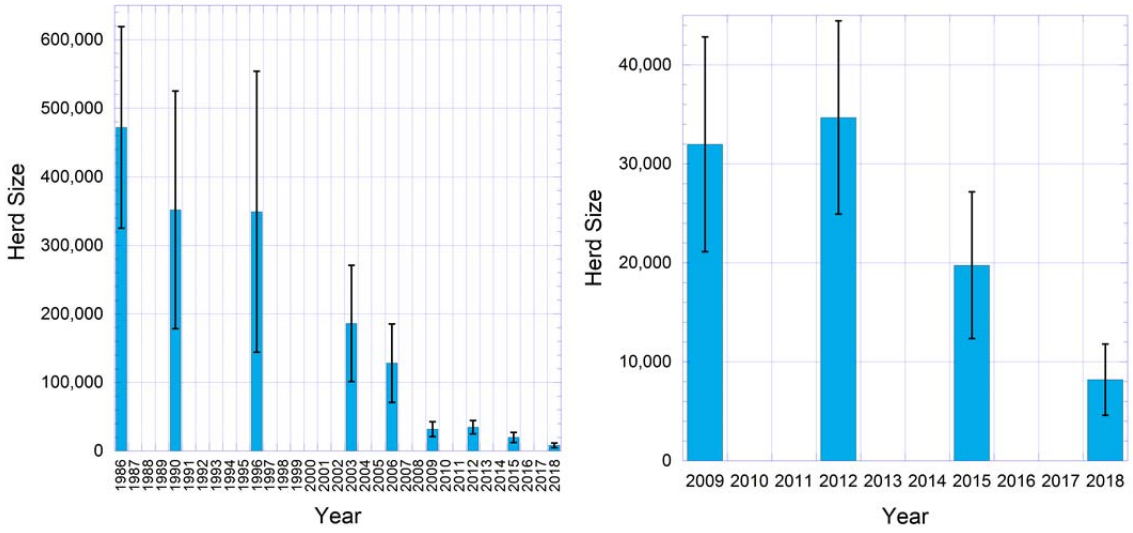

Figure 1. Trend of Bathurst caribou herd 1986-2018 (left) and 2009-2018 (right) based on calving ground photographic surveys.

(a) Adult female survival, calf survival (recruitment), and fecundity

A detailed demographic analysis by Boulanger et al. (2011), used an ordinary least squares (OLS) model to illustrate that adult female survival of Bathurst caribou declined from 0.86 in 1985 to 0.76 in 2006, followed by an accelerated decline down to 0.67 in 2009 for a net reduction of 19% (Figure 2 in Boulanger et al. 2011). More recent results using the same methodology, suggest that the adult female survival rate has increased to 0.78 (95% CI = 0.76-0.80) from 2009-2015 (Boulanger et al. 2017), which was concomitant with the implementation of harvest management of the herd (WRRB 2010, WRRB 2016a,b). However, this low adult female survival rate combined with low productivity of the herd (after 2011) have been primary drivers for the continued observed decline in the herd.

Although additional OLS model analyses are underway to include the June 2018 Bathurst survey results and other recent demographic data, the previous assessments suggested that the estimate of adult female survival in 2015 (Boulanger et al. 2017) was similar to that estimated from the 2012 calving ground survey (Boulanger et al. 2014). Based on the June 2018 survey results and the continued rapid decline of the herd, it is unlikely that adult female survival rates have improved; indeed, the more concerning case is that adult female survival may have declined.

Late winter composition surveys in late March or early April are used to estimate the proportion of calves that have survived their first year of life upon which their survival rate is assumed to be equal to that of adults. The age ratio data (i.e, calf:cow ratios) from these surveys are reported as the number of calves seen per 100 cows and are used to estimate recruitment of calves to yearlings; although it is also important to consider the possible effect of changing adult female survival rates on observed ratios. Compared to the mid-1980s and mid-1990s, late winter calf:cow ratios for the Bathurst herd dropped throughout the early 2000s (Figure 20a in SARC 2017), and rebounded from 2007 to 2011, and have returned to low levels since 2012 (Figure 2).

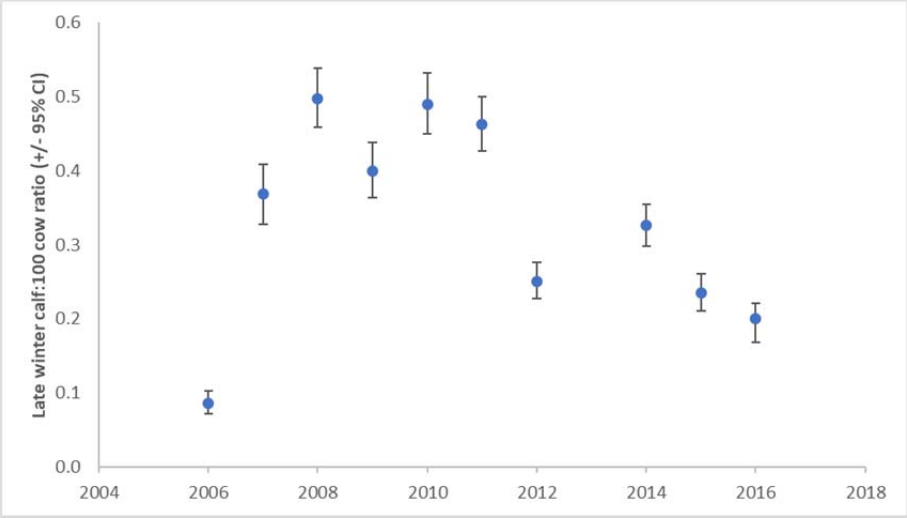

Figure 2. Bathurst caribou calf:cow ratios (+/- 95% CI) from late winter composition surveys (Mar-Apr). Data source: Cluff et al. (2016).

Combined with estimates of adult female survival (*S*), calf recruitment estimates (*R*) derived from late winter composition surveys may be used to estimate the finite rate of increase (λ) for the caribou population, where: $\lambda = S / (1 - R)$ (Hatter and Bergerud 1991, and see detailed methodology and assumptions in DeCesare et al. 2012). Thus, based on available information, the Bathurst herd will continue to decline without marked improvements in adult female survival and calf recruitment. Table 1 illustrates that given an estimated low adult female survival rate of 0.78, even during years with comparatively good calf recruitment (*i.e.*, 44 calves:100 cows observed in late winter), the population would decline at a rate of ~5% per year (λ = 0.952). Using the same assumption for adult female survival, the rate of decline is much steeper (~13% annual rate of decline or λ = 0.877) when recruitment rates are low (*i.e.*, 25 calves:100 cows observed in late winter), such as those observed recently from 2012-2016 (Figure 2). As a reference example, a population with an adult female survival rate of ~0.85 and late winter composition of ~35 calves:100 cows would be stable; and improvements in either parameter value would result in population increases.

Table 1. Deterministic population growth rates (λ and *r*) based on an average adult female survival rate (*S*) of 0.78, and comparatively high and low rates of calf recruitment (R_{RM}). High and low recruitment rates were

estimated from geometric means of calf:cow ratios (X) observed during late winter composition surveys for the Bathurst herd in 2007-2011, and 2012-2016, respectively (see Figure 2). Calculations were based on methods described by DeCesare et al. 2012 (and see Gunn et al. 2005).

	Average Calf:Cow Ratio (2007-2011)	Average Calf:Cow Ratio (2012-2016)
Calf:Cow Ratio (X)	0.440	0.249
Ad F Survival (S)	0.780	0.780
Adjusted Recruitment (R_{RM})	0.180	0.111
1-R_{RM}	0.820	0.889
finite rate of increase (λ)	0.952	0.877
exponential rate of increase *(r)*	-0.050	-0.131
(+) doubling or (-) halving time (years)	-14.0	-5.3

Fecundity is the proportion of breeding aged females that successfully give birth to a viable live calf. Pregnancy rates are a useful index of fecundity, although the rate of live births in breeding-aged females is generally lower because of *in utero* mortality of fetuses due to absorptions or abortions, and early mortality of neonates including stillbirths. Spring composition surveys on the calving grounds conducted during or shortly after the peak of calving may be used to estimate fecundity in barren-ground caribou and is based on the ratio of counts of productive females (i.e., cows with newborn calves, distended udders, and/or with hard antlers) to total adult females (Boulanger et al, 2011). Fecundity is a key demographic parameter because it reflects the reproductive potential for growth of a population, which for the Bathurst herd has been trending downward (Table 2). Combined with estimates of calf survival (i.e., recruitment), estimates of fecundity provide an understanding of the productivity of a caribou population. Figure 3 illustrates a declining pattern of productivity for Bathurst caribou due to declining trends of calf survival and fecundity from 2007 to 2014; this analysis is currently being updated to include recent data from 2015 to 2018.

Table 2. Estimates of fecundity from composition surveys conducted in conjunction with June calving ground photographic surveys

Calving Ground Survey Year	2009	2012	2015	2018
Fecundity (% of breeding females relative to total females)	84%	82%	61%	72%

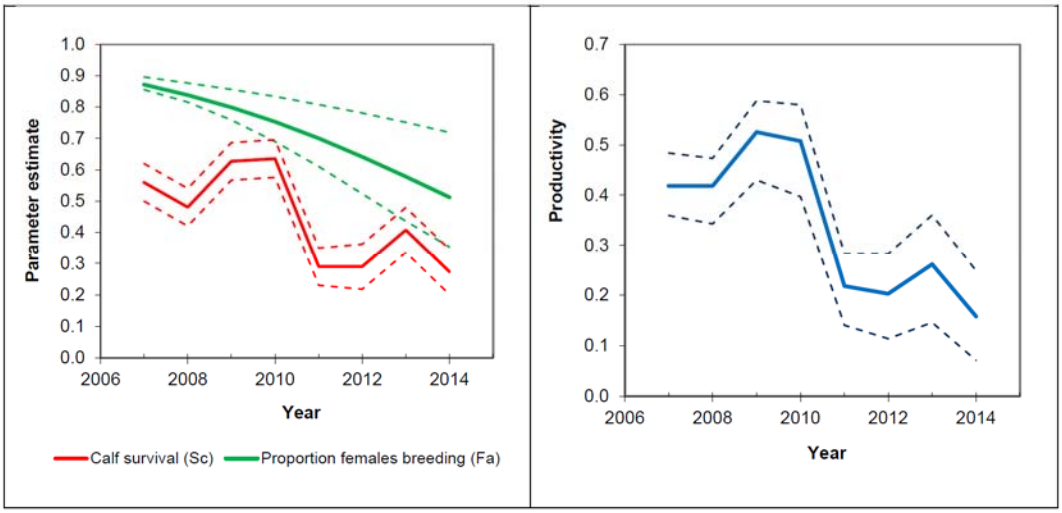

Figure 3. Trends in productivity of the Bathurst caribou herd, where productivity is the product of calf survival and fecundity. The trend lines for calf survival, fecundity and productivity are the most supported demographic parameters OLS model results in Boulanger et al. 2017 (Table 20, Model 1). Data source: Figure 30 in Boulanger et al. (2017).

(b) Calving ground fidelity

As summarized by Gunn and Miller (1986), there is convincing empirical evidence that female barren-ground caribou generally have strong fidelity to their calving grounds, and that fidelity to a calving ground is a reliable basis for defining and monitoring caribou herds. For migratory barren-ground caribou in the Northwest Territories and Nunavut, datasets from collared adult females tracked over multiple calving events illustrate that fidelity to calving grounds is consistent, with limited rates of switching occurring between neighboring herds.

An important assumption of demographic analyses on the Bathurst herd has been that net movement of Bathurst caribou to or from adjacent calving grounds (Bluenose-East and Beverly-Ahiak) is low to negligible, and that the main drivers of population change are rates of calf production and survival of caribou (Boulanger et al 2017). This assumption has been tested by documenting and evaluating the frequency by which collared caribou cows switch to or from neighbouring calving grounds. And up until June 2018, switching of parturient Bathurst female caribou to adjacent calving grounds has been very low and was unlikely to account for the declining trend observed through 2015 (Figure 4).

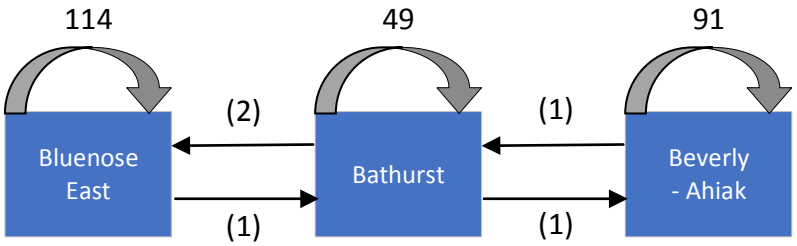

Figure 4 (Figure 30 in Boulanger et al. 2017). Rates of switching between calving grounds of collared caribou cows from Bathurst and neighbouring herds where at least two consecutive June locations were known, 2008-2015. Each pair of locations represents one data point. The numbers of cases where a cow returned to the same calving ground are shown above the curved grey arrows, and the cases where cows moved away from or on to the Bathurst calving ground are indicated by the straight black arrows with associated numbers in parentheses. Based on these data, ~94% (49/52) of paired calving locations for collared Bathurst cows exhibited fidelity to the Bathurst calving ground, while ~6% (3/52) showed switching behavior of Bathurst cows to adjacent calving areas.

During the calving period in June 2018, 3 of 11 known collared Bathurst cows (their locations in June 2017 or earlier were known) were located on the Queen Maud Gulf (QMG) coastal calving area of the Beverly-Ahiak herd. During winter 2017-2018, the collared Bathurst cows and bulls were heavily mixed with collared cows and bulls of the Beverly-Ahiak caribou that calve in the QMG. Additional analyses are being done to evaluate the demographic implication of the three collared Bathurst cows switching to the Queen Maud Gulf coastal calving area. However, the observed switching of the Bathurst cows was likely a consequence of the herd's small size and ongoing decline due to low adult female survival and calf productivity, rather than a previously undetected range shift being a cause of the decline. The large size disparity between the 2 herds may have contributed to the gregarious movement of the much smaller Bathurst herd with its larger eastern neighbor (8,200 Bathurst caribou as reported here vs about 100,000 Beverly/Ahiak caribou; M. Campbell, Government of NU, pers. comm. Oct. 2018).

As described by Gunn et al. (2012), gregariousness of female caribou during calving is a strategy for reducing predation risk and is a principal reason for high densities of breeding females on a calving ground. But as a population of migratory barren-ground caribou declines below a small threshold size, spatial fidelity to a calving area may start to break down resulting in a partial or complete shift in use of a calving area. Indeed, Adamczewski et al. (2015) suggested that a rapid numerical decline in abundance of the Beverly herd driven mainly by low cow survival and poor calf productivity led remaining Beverly cows, *circa* 2006, to switch to the coastal calving ground utilized by the larger, neighboring Ahiak herd. Due to the range shift of remaining few Beverly caribou, Adamczewski et al. (2015) posited that the Beverly herd no longer exists as a distinct herd.

Initial review of Bathurst calving ground surveys illustrates that densities of breeding females within photographic strata declined sharply in 2009 (3.5 breeding females/km^2) and have remained low with the 2018 survey having the lowest observed density (2.7 breeding females/km^2) (Figure 5). At this juncture, the key issues are 1) whether the initial observed rate of switching will continue and increase in subsequent calving periods especially if the Bathurst herd continues to decline; and 2) whether the switching observed for three Bathurst cows in June 2018 was an isolated occurrence and the rate of switching resumes at previously observed low levels and spatial fidelity to that Bathurst calving ground is maintained. The management implication of an increase in the rate of switching by Bathurst cows is that it may result in a breakdown of spatial fidelity and a shift in calving distribution, which in turn may accelerate the herd's numerical decline because an increasing proportion of Bathurst cows become integrated in to the calving and seasonal distribution of Beverly-Ahiak caribou. If this were to happen it would further reduce the likelihood of recovery for the Bathurst herd.

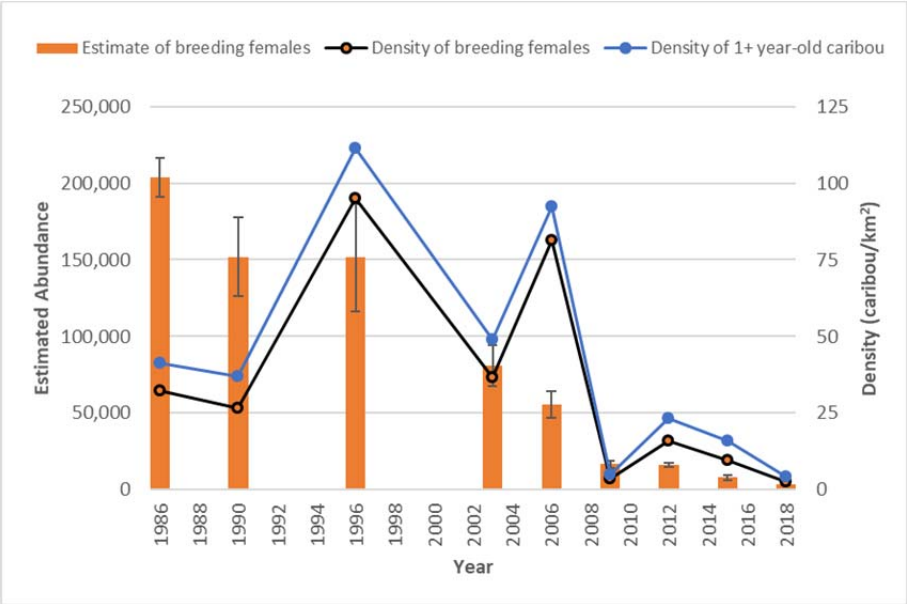

Figure 5. Estimates of breeding females (± SE) and associated average densities from 9 photographic calving ground surveys of the Bathurst caribou herd (1986-2018). Average caribou densities were derived from estimated abundance of caribou within the area (km^2) of photographic strata (mean 1.8; range 1-4 strata) that contained most of the breeding females for a survey (mean 95%; range 86%-100%).

3.2 OVERALL MANAGEMENT PROCESS

Chapter 12 of the Tłı̨chǫ Agreement requires that WRRB, TG, GNWT, and Canada develop an overall long-term management planning process for the Bathurst herd. This process is being developed with those parties that have jurisdiction over any part of the Bathurst range and with Aboriginal peoples who traditionally harvest the herd. Organizational meetings to define this long-term process began in 2012 and a Bathurst Caribou Advisory Committee (BCAC) was recently established in 2016. Further meetings in 2017 and 2018 resulted in agreement to update the 2004 management plan for the herd.

TG and ENR are committed to implementing the Tłı̨chǫ Agreement through continued collaboration with the WRRB and other partners in developing a comprehensive management process, which will include a Bathurst caribou management plan. Short term proposals such as this current one, include perspectives for management and monitoring of harvest and predators, as well as for management of development activities, caribou habitat, and other potential factors affecting the herd. This proposal is not intended to pre-empt any part of the comprehensive planning process for the Bathurst herd.

(a) Range planning and environmental assessment processes for the Bathurst herd

In recognition of the importance of habitat conservation and management, and in light of the scale of current and proposed development on the Bathurst herd's annual range, work to develop a range plan for the Bathurst herd was initiated by ENR in 2013. The purpose of the range plan is to provide guidance on how to monitor, assess and manage cumulative effects of human disturbance on the historic range of the Bathurst herd. This plan was developed through a multi-partner collaborative process and will eventually need to be included under the comprehensive management process required by the Tłı̨chǫ Agreement. A completed version of the Bathurst Caribou Range Plan is under review of the GNWT Cabinet (ENR 2018).

(b) Joint Management Proposals and WRRB recommendations 2007-2016

This proposal defers to the WRRB's Reasons for Decision (WRRB 2016a and 2016b) for a comprehensive overview of previous proceedings (2007, 2010, 2016) and board determinations and recommendations regarding the management of the Bathurst ekwǫ herd. These WRRB documents emphasize the need to manage the herd in a comprehensive, holistic manner and this proposal has been developed to address monitoring and management in a comprehensive manner.

(c) Scope of the current joint TG-ENR management proposal

This proposal continues and builds on management and monitoring recommendations that were developed in the 2015 joint TG-ENR joint management proposal and is meant to be consistent with the WRRB's previous determination on a total allowable harvest for the Bathurst ekwǫ herd (WRRB 2016a), and other management recommendations (WRRB 2016a and 2016b).

Results from the June 2018 Bathurst calving ground photographic survey show that the herd has continued to rapidly decline; those survey results and preliminary demographic analyses provide the basis for this updated joint management proposal from TG and ENR.

4. Description of Proposed Management Action

4.1 GOAL OF MANAGEMENT ACTIONS

The short-term goal of the proposed management actions is to halt the Bathurst herd's decline and promote recovery. In the 2015 proposal, the stated goal was to halt the Bathurst herd's decline within 3 years. Based on the 2018 survey results, the management goal has not been met as the herd has declined further. Nevertheless, this proposal maintains an ambitious timeframe for stabilization of the herd to highlight the need for implementing challenging but timely management actions, and to reflect a proposed increase in frequency of calving ground surveys (i.e., 2-year interval). The term of the proposal is 2 years, in part to reflect the 2-year interval on population surveys, but also to allow closer monitoring and assessment of whether management actions are effective.

Over the longer-term, the recovery goal is to enable sustainable caribou harvesting that addresses Indigenous community needs levels across this herd's range. Within Wek'èezhìi, the goal is to allow the exercise of Tłı̨chǫ rights to harvest caribou throughout Mǫwhì Gogha Dè Nı̨ı̨tłèè.

Recommended actions in this section are summarized initially in bulleted form followed by a brief narrative describing rationale and perspective. The recommendations are structured according to five key themes: 1) harvest management, 2) wolf (díga) management, 3) habitat and land use, 4) education, and 5) monitoring and research.

4.2 HARVEST RECOMMENDATIONS FOR BATHURST EKWỌ̀

(a) <u>Recommended harvest for the Bathurst herd</u>

- TG and ENR recommend that the Total Allowable Harvest (TAH) for the Bathurst herd remain at zero (0) in the Northwest Territories, and be reviewed within 2 years, following completion of the next Bathurst calving ground survey and analyses of available demographic data (as per WRRB Determination #1-2016; WRRB 2016a).

(b) <u>Bathurst harvest management</u>

- TG and ENR recommend continuation of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA – also referred to as the 'Bathurst mobile conservation area') as the means for managing and implementing the TAH of zero for the Bathurst herd.

Through the Barren-ground Caribou Technical Working Group (BGCTWG), staff from TG, ENR, and the WRRB have updated the "Rules for Definition of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA) for winter 2017-2018" (revised Dec. 16, 2017; Appendix A). As part of the BGCTWG's adaptive management process, two specific recommendations have been developed with respect to harvest management:

1) 40 or more collars should be placed on the Bathurst herd to define its distribution during the harvest season with confidence; and
2) the implementation and effectiveness of the MCBCCA should be evaluated using available information and data since its inception.

The recommendation for increasing the number of collars on the Bathurst herd is developed further in this proposal under the section "Monitoring and Research." The recommendation for an evaluation of the MCBCCA is being undertaken by ENR and TG staff, with a summary report to be completed and provided to the WRRB in 2019.

(c) Monitoring of Bathurst mobile conservation area and compliance

- TG and ENR recommend continuation of regular aerial and ground-based surveillance of the Mobile Core Bathurst Caribou Conservation Area through the fall and winter harvest seasons.

The MCBCCA is monitored regularly (sometimes weekly) until the end of the winter hunting season by aerial reconnaissance flights to increase knowledge of the Bathurst herd's distribution and relative abundance, and to check for any activity (including hunting) on the winter roads to the mines. ENR wildlife officers also regularly conduct ground-based patrols to ensure compliance with the no-harvest regime. Aerial and ground-based surveillance by ENR would continue throughout the winter harvest season in 2019-2020 and in future years.

(d) Nunavut harvest of Bathurst caribou

In June 2016, a TAH of 30 bulls was established by the Nunavut Wildlife Management Board (NWMB) for Bathurst caribou in Nunavut. The June 2018 calving ground survey results indicate a further steep decline in the Bathurst herd, which have been provided to the Government of Nunavut (GN) and other wildlife management authorities in Nunavut.

GN has been working with the Kitikmeot Regional Wildlife Board, local Hunters and Trappers Organizations, communities and the NWMB on these caribou harvest issues; the process in NU includes a needs assessment and community consultation. ENR will remain in frequent contact with GN on these issues and participate where possible in the NWMB process.

4.3 WOLF (DÍGA) MANAGEMENT

(a) Joint Wolf Management Proposal for BNE and Bathurst Ranges

- ENR and TG are developing a joint proposal for diga management on the Bathurst and Bluenose-East (BNE) ekwǫ̀ ranges, which will be submitted as a separate joint management proposal to the WRRB in 2019. An overview of the rationale and strategies for díga management are highlighted in the section below.

The continued rapid decline in the Bathurst and BNE herds 2015-2018 occurred despite a very limited harvest of both herds between the NWT and NU. Low adult and calf survival rates in the herds suggest that predation is a key limiting factor. Since wolves are the primary predator of barren-ground caribou, several wolf management strategies are outlined below that are under consideration.

In addition to joint management proposals for the two caribou herds (including this document), a separate joint proposal for wolf management is currently under development that will include the ranges of both herds. Efforts to date to increase wolf harvest in the North Slave region, including GNWT incentives for wolf harvesters and the TG program to train wolf harvesters in culturally appropriate ways to hunt wolves, have not resulted in a meaningful increase in numbers of wolves taken. The new proposal will recommend ways to ensure that wolf harvest is increased to a level where caribou survival rates will be measurably increased. This will require more intensive wolf removal programs because small-scale wolf reductions are generally ineffective at increasing caribou survival rates.

(b) Continued TG program to train wolf harvesters

In January 2016, A pilot project proposal by TG and ENR described the approach that was initiated to train Tłı̨chǫ wolf hunters from the 4 communities in harvesting wolves using culturally appropriate methods. This program will be redesigned as a contributing component to the joint management proposal on wolves that is currently under development.

(c) Bathurst wolf management feasibility assessment 2017

A collaborative feasibility assessment of wolf management options for the Bathurst caribou range led by the WRRB, ENR and TG was completed in 2017 (Wolf Feasibility Assessment Technical Working Group 2017). The assessment considered 11 options including lethal and non-lethal methods, their potential effectiveness, costs and humaneness. This feasibility assessment will provide a basis for developing wolf management strategies for the Bathurst and Bluenose-East ranges.

(d) Increased GNWT incentives for wolf harvesters

In 2010, GNWT increased incentives for wolf harvesters to reduce predation and promote caribou recovery. The incentives were increased in 2015 and at that time, the incentives included $200 for an intact unskinned wolf, $450 for a wolf pelt skinned to traditional standards and up to $800 for a wolf pelt skinned to taxidermy standards. Overall, wolf harvest levels across the NWT and in the North Slave region showed no meaningful increase in wolf harvest because of these incentives. A substantial portion of the wolves that were taken were near community landfills, thus not from caribou winter ranges. Recognizing that the incentives to date have been ineffective, GNWT is proposing to increase them to $900 for an unskinned wolf, $1300 for a wolf pelt skinned to traditional standards and $1650 for a pelt skinned to taxidermy standards (Figure 6).

These higher incentives would apply in an area in the North Slave region centered on the collar locations of wintering BNE and Bathurst caribou. Wolf hunters would be required to check in and out of the wolf harvesting zone with increased incentives at winter road access points. This would ensure that wolves taken under the higher incentives are associated with the two caribou herds. The incentives are proposed in part to help increase interest in the TG program to train wolf harvesters from the Tłı̨chǫ training program described above.

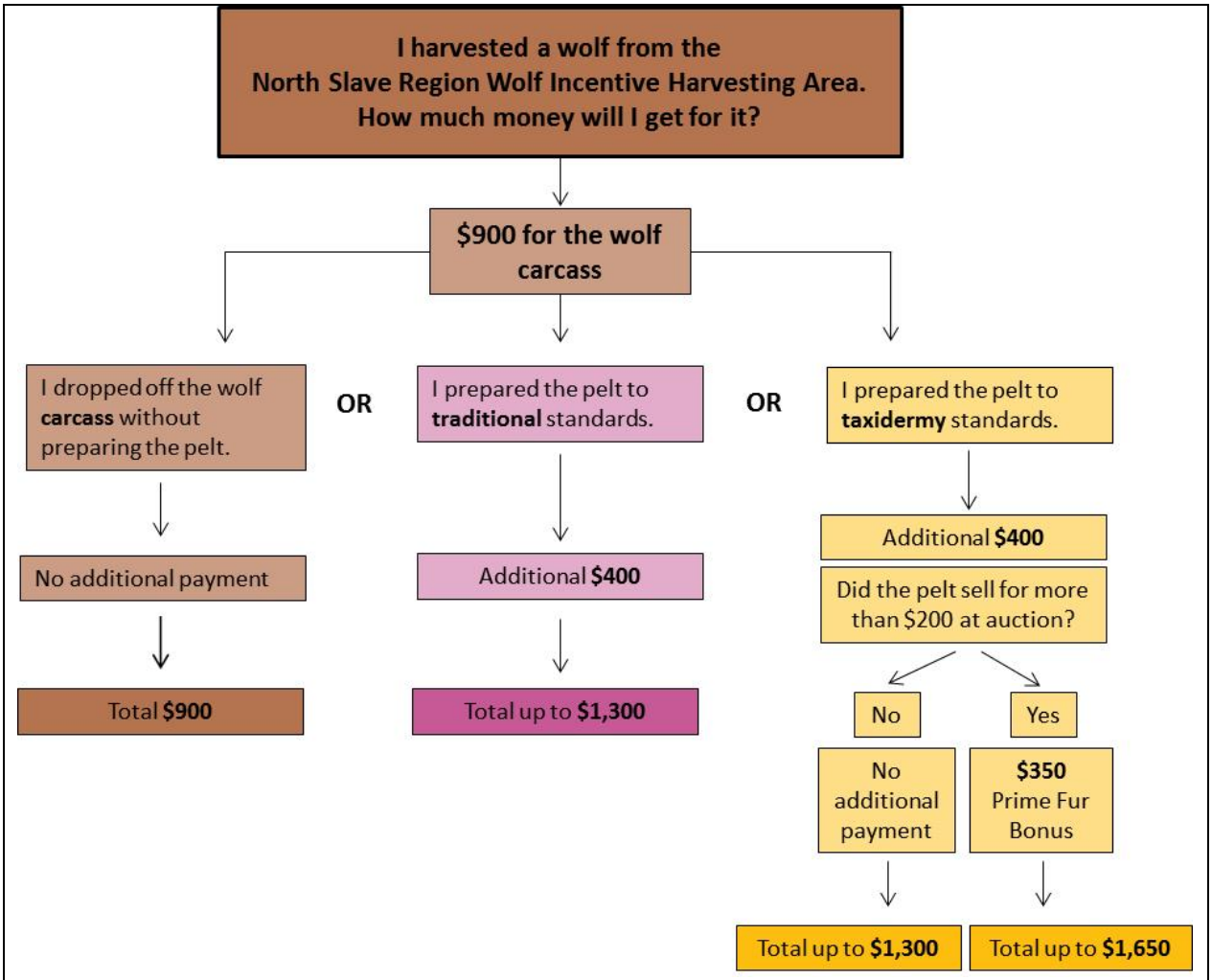

Figure 6. Proposed new incentives for wolf harvesters in North Slave region in areas with BNE and Bathurst caribou.

(e) Collaboration between NWT and NU managers about predator management

The calving grounds and a large portion of the summer ranges of the BNE and Bathurst caribou herds are in Nunavut. At these times of year (June-August), the herds are generally well separated and their ranges well-defined spatially. In contrast, winter ranges tend to be larger and more variable from year to year, but they are also more accessible to hunters and trappers. Range overlap of wintering caribou herds has often included extensive overlap between neighbouring herds; for example, the BNE, Bathurst and Beverly/Ahiak collared caribou were well mixed in December 2018. Wolf removals on calving and summer ranges would affect the targeted caribou herds directly. Wolf removals on the winter range is challenged by the overlap of caribou herds and mixing of the wolves associated with these herds; in this situation the overall number of wolves associated with the caribou herds will be larger and likely require more wolf removals to be effective.

There has been a series of discussions involving GNWT and GN wildlife staff and more senior officials (ministers and deputy ministers) about the potential for collaboration centered on predator reduction on the NU ranges of the BNE and Bathurst herds. As with harvest management or other possible management actions in NU, the GNWT, TG, WRRB and other management organizations in the NWT have no management authority in NU and potential predator management would need to consider NU processes and be approved by the NWMB.

However, coordinated harvest and wolf removal actions across jurisdictional boundaries are key to effectiveness and likelihood for caribou recovery. Harvesters associated with the Kugluktuk Hunters and Trappers Organization have expressed interest in contributing to recovery of the BNE and Bathurst herds by reducing wolf numbers. GNWT and TG will pursue these discussions further to develop and implement coordinated wolf removals across the BNE and Bathurst herd ranges.

4.4 HABITAT AND LAND USE

(a) <u>Endorse and Implement the Bathurst Caribou Range Plan</u>

- ENR and TG acknowledge the multi-year work completed by the Bathurst Caribou Range Plan (BCRP) Working Group and recommend that the BCRP (ENR 2018) be finalized, endorsed, and implemented by governments, the WRRB, industry, communities and other Range Plan partners. Recommended implementation actions in the BCRP should be initiated in 2019 to develop and apply effective policies and practices within an adaptive management framework and 5-year review interval, which will help address potential cumulative effects of range (habitat) disturbance and land use on Bathurst caribou.

To support recovery of the Bathurst herd a suite of management strategies is required. Harvest and predator management strategies are needed to improve survival of caribou. Concomitant range management strategies are needed to manage disturbance and maintain the land in a healthy condition so that habitat may continue to support survival and future growth (i.e., calf production) of the caribou herd over the long term.

In the context of range management, the BCRP reflects four main objectives which are to a) ensure the integrity of important habitats, b) ensure connectivity between seasonal ranges, c) ensure the amount of human-caused land disturbance is kept below certain levels, and d) ensure the development, design and use of roads is managed with consideration to caribou. The BCRP recommends a cumulative land disturbance framework that provides over-arching landscape-level management benchmarks along with management tools that are based on the importance of habitat areas and the levels of habitat disturbance. The seven management tools include the following:

1) community guardianship
2) habitat conservation
3) mobile caribou conservation measures
4) road planning / management
5) offsetting / compensatory mechanisms
6) wildfire and fuels management
7) online map staking

Endorsement and implementation of the BCRP would also help to formally acknowledge and start addressing some of the specific concerns raised by TG, ENR, and indigenous community elders and representatives. This proposal outlines the following actions (consistent with the BCRP) to support conservation of healthy habitat:

- promoting the protection of the Bathurst herd's calving grounds in Nunavut;
- participating in development of the wildlife management plan for road access into Bathurst herd range, such as the Tibbitt-to-Contwoyto winter road (limiting speed limits, traffic and other mitigations for caribou);
- participating in environmental assessments and land use planning in NWT and NU that may affect this herd's range; and
- identifying key unburned habitat on the winter range to be included in the Values at Risk hierarchy for fire management during the fire season.

(b) Identification and protection of key caribou habitats

- TG and ENR recommend that additional work be done by indigenous governments and organizations across the Bathurst range through TK research or guardianship programs to continue identifying key landscape features and specific areas (eg: ekwǫ̀ no'oke – water crossings, tataa – land crossings, important unburned winter habitat, and important migration routes and habitats in seasonal ranges) that are important to caribou and may require conservation measures to manage potential disturbance and/or protect habitat areas.

Currently, few areas of the Bathurst range are protected from industrial development. Traditional knowledge emphasizes the negative impacts from industrial development on caribou, and Tłı̨chǫ Government and GNWT suggest there is a need for establishing conservation or protected areas for Bathurst ekwǫ̀ in the Wek'èezhìi Management Area.

As a working example, the BCRP defined the centre of habitation for the Bathurst herd using empirical data from collared caribou and Traditional Knowledge. *The centre of habitation is a core use or refuge area that includes important habitats and migration paths, which a caribou population occupies and uses when it is at low numbers in its natural cycle. It is the core use area from which caribou extend their seasonal movements and gradually use more areas and travel greater distances as the population increases in abundance.*

In conjunction with the numerical decline, the Bathurst herd has contracted its range. Within recent years in Wek'èezhìi, Bathurst ekwǫ̀ tend to stay closer to its center of habitation on the barrenlands, between Contwoyto lake, Lac de Gras, Point lake, and into the treeline south of Wekweètì during winter months. With a focus on the core use area, additional work based on Tłı̨chǫ knowledge, Inuit Qaujimajatuqangit, and other indigenous TK sources should be done to identify and define important areas and *critical habitat*. A definition of *critical habitat* would potentially provide a basis for establishing interim or long-term protected areas under the Northwest Territories *Wildlife Act*.

4.5 EDUCATION

(a) Education and public awareness

- Despite the recommendation for a TAH of zero for the Bathurst herd, TG and ENR suggest a coordinated suite of education/public awareness initiatives to improve general public knowledge of ekwǫ̀, and to promote respectful hunting practices that would reduce wounding and wastage in other areas where ekwǫ̀ are harvested.

Tłı̨chǫ elders have emphasized the need for promoting respect for ekwǫ̀, and adopting traditional practices which includes using all parts of harvested ekwǫ̀ and minimizing wastage. TG and ENR recognize that continuing effort is needed to increase awareness among harvesters, communities and the public about the status of NWT caribou herds, the need for conservation actions to promote recovery and how people can contribute to conservation. This awareness and understanding is important because harvest effort for ekwǫ in the NWT will likely shift to the Beverly-Ahiak herd and respectful hunting practices will be needed. The following are education/public awareness initiatives to improve hunter practices and reduce wounding and wastage:

- Continue to work with the communities, in particular more closely with schools, on promoting Indigenous laws and respecting wildlife, including how to prevent wastage; and
- Invite elders to work with the youth to teach traditional hunting practices and proper meat preparation.

Posters, pamphlets, media and road signs will be used to better inform the public about respecting wildlife, traditional hunting practices, wastage, poaching and promoting bull harvest. Table 3 below summarizes the TG and ENR objectives for increased public engagement and hunter education.

ENR has promoted sound hunter harvest practices, preventing meat wastage, harvesting bulls instead of cows, and implementing related conservation education in NWT communities for a number of years. In response to community requests, ENR has developed a Hunter Education program that is meant to be tailored to the needs of individual communities and organizations.

An important area to emphasize will be ensuring that information on the status and management of regional caribou herds is provided in appropriate ways and on an on-going basis to harvesters, elders and other community members.

Table 3. Summary of approaches and objectives for increased public engagement and hunter education for caribou in Wek'èezhìi.

General Approach	Description & Objective	Lead (Support)
Community meetings	At least 1 meeting per year in each Tłı̨chǫ community to discuss and update wildlife management issues and actions	TG and ENR
Radio programs	When needed radio announcements, interviews and/or updates on wildlife management in Tłı̨chǫ language during winter hunting season (annual)	TG & ENR
Sight-in-your-rifle programs	Conduct community-based conservation education programs with an objective of 1 workshop / Tłı̨chǫ community / hunting season (annual)	ENR and TG; need to coordinate with community leaders
Boots on the Ground and other Traditional Knowledge monitoring and guardianship programs	Highlight the programs and their results with Tłı̨chǫ communities and the public (annual)	TG and ENR
Outreach through internet and social media	Regular updates (10 updates per season) on government websites and social media during fall and winter hunting seasons (Facebook & Tłı̨chǫ website)	TG, ENR (WRRB)
Poster campaign	Produce posters for distribution in each Tłı̨chǫ community: posters to be developed annually as needed	TG and ENR

(b) Cultural programs – Supporting on-the-land activities

- Tłı̨chǫ Government plans to continue and expand its delivery of programs focused on cultural practices on-the-land. These programs emphasize continued use and maintenance of traditional sites and trails including: hunting and trapping cabins, traditional canoe trails from the communities to cultural sites and harvesting locations on the barrenlands; winter skidoo trails to caribou hunting areas and other trails and cabin sites to be identified through program delivery.

Harvesting ekwǫ̀ is fundamental for the practice of Tłı̨chǫ culture on the land. Harvest restrictions were implemented for the Bathurst herd in 2010, and a total allowable harvest of zero has been in place for Bathurst ekwǫ̀ since 2015; and it is likely that the TAH of zero will continue in to the near future. Consequently, many young people and community members are growing up without the direct cultural experience of harvesting ekwǫ̀ and travelling and knowing dé (the land), as their parents and grandparents did. This has negative impacts on the continuity of Tłı̨chǫ culture, language and way of life and must be addressed.

The TG's long-term aim is to implement projects that transfer traditional knowledge of dé and ekwǫ̀ by bringing elders and youth together on the land. By maintaining traditional trails and rebuilding old harvesting cabins, youth and elders would work together and share knowledge of these important cultural and geographic locations along the Tłı̨chǫ trail system (see Andrews and Zoe 1997, Andrews et al. 1998). These sites are developed in relation to ekwǫ̀ harvesting, thus revisiting and maintaining these sites are important to maintain the people's knowledge base (Legat et al. 2001). On these trips, the elders teach the youth about the cultural and traditional knowledge of ekwǫ̀ and the land. This provides a vital learning opportunity for youth and community members to be immersed in Tłı̨chǫ language and culture (Steinwand 2007, Zoe 2007). Such projects are critically important for maintaining cultural identity and knowledge transfer especially under the current TAH of zero for the Bathurst herd. Maintenance of cultural identity, knowledge, and respectful practices will be key for Tłı̨chǫ when Bathurst ekwǫ̀ recover and hunting resumes. ENR's new On-The-Land unit will take a lead role for GNWT in supporting these initiatives.

4.6 MONITORING AND RESEARCH OF BATHURST EKWǪ̀

Three aspects of monitoring and research are described in this section: (a) biological monitoring, (b) expansion of the Tłı̨chǫ Boots on the Ground caribou monitoring, and (c) support for biological or TK research that helps explain drivers of change in caribou abundance.

(a) Biological monitoring

Table 4 lists updated biological monitoring of the BNE and Bathurst herds, mostly led by ENR, proposed for 2019-2023. A key focus of the increased monitoring is to provide annual information on productivity and survival of caribou calves and adult cows, as well as increased surveys to estimate herd size. The increased monitoring in part anticipates more intensive wolf management, for which assessment of effectiveness in improving caribou survival rates will be needed. The table includes a rationale for changes from previous monitoring as in the 2015 joint proposal for this herd. Changes are also described, and a brief rationale given for them below.

I. *Population surveys every 2 years*: In recent years, calving photo surveys for the BNE and Bathurst herds have been carried out every 3 years and the new population estimates have been benchmarks for revised management. The continued rapid decline of the two herds and expected increase in wolf management are the main rationale for proposing population surveys every 2 years

for the two herds, i.e. in 2020 and 2022.

II. *Collar increase to 70/herd*: The total number of collars recommended is 70 (50 cows and 20 bulls). A technical rationale for increasing the number of collars on the Bathurst herd to 65 (50 cows and 15 bulls) was provided by Adamczewski and Boulanger (2016). Some applications, such as monitoring cow survival rates with good precision, would require 100 collared caribou, while other applications can be addressed reliably with 50 or fewer collars (i.e., the MCBCCA). At this time, increasing the number of collars on cows to 50 would provide more reliable annual estimates of cow survival rates, as well as increasing confidence in defining distribution of caribou throughout the year, assigning harvest to herd reliably, and monitoring of cow fidelity to calving grounds. Range use by bulls shows patterns that vary from those of cows, thus maintaining the 20 bull collars used in recent years will also be important. The collars may also assist in determining where and when predators should be removed as well as in monitoring whether predator management actions are influencing the herd.

III. *Annual composition surveys in June, October and March/April*: To date composition surveys have been carried out on a nearly annual basis for the Bathurst herd in late winter, as an index of calf survival to 9-10 months of age. Composition surveys on the calving grounds have been carried out every 3 years as part of the calving photo surveys and provide a measure of fecundity. Fall composition surveys have been carried out every 2-3 years to monitor the bull:cow ratio, which is needed to convert the estimate of cows from the June calving photo surveys to an overall herd estimate. Fall composition surveys also provide a calf:cow ratio that gives a measure of how many calves have survived the first 4-5 months. The recommended increase to annual June, October and late-winter composition surveys will provide annual information on initial birth rates of calves along with survival rates of calves to the fall and late-winter periods. Increased survival of adults and calves are the key changes that need to happen for this herd to stabilize and potentially increase. Increased survival will also be a key indicator of effectiveness of predator management.

IV. *Suspension of June calving reconnaissance surveys in years between photo surveys*: Reconnaissance surveys over the calving grounds have been used for the Bathurst and Bluenose-East herds in years between photographic population surveys as a way of tracking the numbers of cows on the calving grounds. In most years they have tracked trend from the more complete photo surveys well. However, the variance on these surveys has usually been high, which reduces confidence in the estimates. In some years the recon surveys have resulted in questionable results. In June 2017 a recon survey of the BNE calving grounds suggested that the decline had ended and the herd had increased from 2015; the June 2018 survey showed that the herd had in fact declined further by about half. In view of the high variance on these surveys and the questionable 2017 results, these surveys are being discontinued.

V. *Harvest compliance monitoring*: Accurate monitoring and compliance with a TAH of zero for Bathurst caribou is a high priority. TG and ENR will work together to ensure that all ekwǫ̀ harvest by Tłı̨chǫ harvesters occurs outside the MCBCCA and is reported based on authorization cards for Bluenose East and community monitors. ENR will continue overall monitoring of harvest via check-stations at Gordon Lake and McKay Lake, regular patrols by officers on the ground and periodic aerial monitoring. ENR will continue to monitor compliance within the

Bathurst mobile conservation area using the check-stations and patrols as in previous winters.

VI. *Caribou pregnancy monitoring:* Because of the TAH of zero for the Bathurst herd, there are no opportunities to directly monitor body condition and health of caribou from hunter-kills. However, sample collections of fecal pellets in winter that would be associated with late-winter composition surveys and capture of females during collaring, may provide a useful baseline dataset to estimate pregnancy rates in adult females from fecal hormone levels (Joly et al. 2015, Morden et al. 2011). Community-based sampling may be incorporated in to sample design and would require coordination and training of individuals. This approach may complement to June composition surveys that will measure calf-cow ratios at or near the peak of calving.

(b) Expansion of "Boots on the Ground" TK monitoring program:

- TG and ENR recommend expansion of the Tłı̨chǫ "Boots on the Ground" traditional knowledge monitoring and guardianship program on the Bathurst range.

The Boots on the Ground program was established to inform NWT decision makers on quality of Bathurst ekwǫ̀ summer range habitat, predation levels by wolves, bears and eagles, impacts from mining infrastructures and activities, and effects from climate change on caribou behaviour, herd demographics and migration. The program has operated successfully for the past three years since its inception (TRTI 2018). It is based on placing Tłı̨chǫ monitors (i.e., guardians) on the summer range of the Bathurst herd for six weeks through July and August. Currently, the monitoring program relies on two boats located at Contwoyto Lake and Fry Inlet. The boats enable access to a larger area around these two large water bodies. During recent summer field seasons, the Bathurst herd occurred in the Contwoyto Lake area, and monitors observed ekwǫ̀ by walking inland from lakes that had boats and were accessible by floatplane. However, when the ekwǫ̀ travel greater distances from these lakes, the monitors are unable to follow in a timely manner.

The Tłı̨chǫ Government proposes to expand the program to span the entire ice-free time period on the lakes, from approximately mid-July to end of September, but this will depend on availability of staff, elders and other resources. A third field team would be added to extend the monitoring period by an additional three weeks. With this extra field effort, Tłı̨chǫ monitors will be able observe Bathurst ekwǫ̀ from spring melt to freeze-up. TG is considering plans to also expand its monitoring effort across more locations within the herd's range. Additional boats would be placed on other larger lakes on the summer and fall Bathurst range. By placing boats on other larger lakes, field teams and equipment can be mobilized to these new locations and continue monitoring Bathurst ekwǫ̀. Furthermore, with boats at several lakes, multiple monitoring teams can operate at the same time when the ekwǫ̀ are spread over larger areas. The locations for additional placement of boats will be based on areas used by collared caribou and Tłı̨chǫ harvesters' knowledge. Depending on available resources, program expansion will be phased in through upcoming field seasons, along with capacity building through training of new monitors.

(c) Research on drivers of change in caribou abundance:

- TG and ENR recommend increased research into underlying drivers of change in Bathurst herd abundance through formal partnership and collaboration with academics and other researchers (including remote sensing specialists), using both scientific and traditional knowledge approaches.

Where possible, research opportunities should be undertaken as important educational and professional development opportunities for Tłı̨chǫ and other northern students. To the extent possible, research and monitoring should involve community members which should help project management and increase participants' knowledge and sense of involvement.

TG and ENR recognize that there are likely multiple factors that have contributed to the Bathurst herd's decline. While annual harvest levels of 3000-5000 cows and 1000-2000 bulls likely contributed to the Bathurst herd's decline up until 2010 (Boulanger et al, 2011), harvest was closed in 2010, limited to a harvest target of 300 from 2011-2014 and has essentially ceased in the NWT since winter 2014/2015. Therefore, other factors including predation, disturbance from mining activities and infrastructure, roads, and climate factors have likely been key to the herd's continued decline since harvest restrictions were implemented in winter 2009/2010.

Adverse environmental conditions may be important in some years to the herd's vital rates. For example, a drought year in 2014 potentially led to poor feeding conditions, poor cow condition and a low pregnancy rate in winter 2014-2015. A study by Chen et al. (2014) suggested that spring calf:cow ratios in the Bathurst herd were correlated with indices of summer range productivity one and a half years earlier; the mechanism proposed was that cows with poor summer feeding conditions were likely to be in poor condition during the fall breeding season, leading to low pregnancy rates and low June calf:cow ratios. An assessment by Boulanger and Adamczewski (2017) of relationships between environmental climate variables from a remote sensing database and demographic rates of the BNE and Bathurst herds demonstrated that climate variables such as the summer warble fly index, summer drought index, and winter climate indicators such as snow depth can help explain trends in cow survival, calf survival and pregnancy rate.

A further area of importance is monitoring and research focused on caribou health, which includes nutrition, condition and etiological (disease-causing) agents such as external and internal parasites, and bacterial and viral pathogens. There is also concern about the risk of transmission of etiological agents (including prions) that occur in southern animal populations to northern caribou herds. In summary, there is a need to better understand predation rates, impacts from mining activities and infrastructure and their significance to Bathurst caribou, along with the environmental and etiological factors affecting caribou health, condition and population trend, and the effects of climate change on these dynamic relationships.

Table 4. Biological monitoring of Bathurst herd (ENR and/or TG lead)

Indicator(s)	Rationale	Desired Trend	Adaptive Management Options	How Often	Notes
1. Estimate of breeding cows and extrapolated herd size from calving ground photo survey	Most reliable estimate for abundance of breeding cows and and total number of cows & can be extrapolated to herd size based on sex ratio.	Stable or increasing trend in numbers of breeding cows and herd size in 2023.	If trend in breeding cows increasing, continue as before; if trend stable-negative, re-consider management.	Every 2 years	Last survey 2018, next surveys in 2020 and 2022. Trend in breeding females is key indicator of herd trend.
2. Cow fecundity; composition survey on calving ground in spring (June)	Proportion of breeding females in June at peak of calving establishes initial fecundity or approximate pregnancy rate.	Proportion of breeding cows at least 80%.	Low ratio indicates poor fecundity and suggests poor nutrition in previous summer; survey data integrates fecundity & neonatal survival.	Annual	Essential component of calving ground photographic survey. Proposed increase to annual survey to monitor initial calf production and subsequent survival
3. Fall sex ratio and calf:cow ratio; composition survey (October)	Tracks bull:cow ratio and fall calf:cow ratio. Fall calf:cow ratio provides an index of calf survival from birth through initial 4.5 months.	Bull:cow ratio above 30:100; calf:cow ratio of more than 40:100.	If bull:cow ratio below target, consider reducing bull harvest. Low fall calf:cow ratios suggest poor calf survival.	Annual	Sex ratio needed for June calving ground extrapolation to herd size.
4. Calf:cow ratio in late winter (March-April); composition survey	Herd can only grow if enough calves are born and survive to one year, i.e., calf recruitment is greater than mortality.	At least 30-40 calves:100 cows on average.	Sustained ratios ≤ 30:100, herd likely declining; may re-assess management.	Annual	Calf productiion & survival vary widely year-to-year, affected by several variables, including weather.
5. Caribou pregnancy monitoring from late winter fecal sampling	Fecal pellet samples collected during late winter composition surveys (and caribou captures for collaring) may be used to estimate pregnancy rates. This would complement June composition surveys.	Pregnancy rates of at least 80%.	Low pregnancy rates indicate poor fecundity and low potential for calf production.	Annual	Preliminary sampling conducted to date. Sampling depends on minimal herd overlap on winter ranges, as reflected by collared cows
6. Cow survival rate estimated from OLS model and annual survival estimates from collared cows	OLS model-based cow survival estimate (2007-2014) was 78% (CI= 76-80%). Need survival rate of 85% (combined with ~35 calves:100 cows) for stable herd. Increased collar number to 50 cows should improve annual estimation.	At least 83-86% by 2022.	If cow survival continues <80%, herd likely to continue declining.	Annual	Population trend highly sensitive to cow survival rate; recovery will depend on increased cow survival.
7. Total harvest from this herd by all users groups (numbers & sex ratio)	To achieve a TAH of zero for Bathurst herd, accurate monitoring of all ekwǫ̀ harvest is essential and to determine whether management objectives are achieved, and actions are effective.	All harvest reported accurately and within agreed-on limits.	Re-assess recommended harvest annually; if herd continues to decline, re-assess harvest limit.	Annual	Multiple factors other than harvest may contribute to decline but harvest is one of the few factors humans control.
8. Maintain up to 70 satellite/GPS collars on herd (50 on cows, 20 on bulls)	Collar information is key to reliable surveys, evaluating fidelity to calving grounds, tracking seasonal movements, defining range/habitat use, monitoring survival and implementing harvest management in the Bathurst mobile conservation area (MCBCCA).	Additional collars added every March/April to maintain up to 70 collars on herd.		Annual additions to keep total of 70.	Information from collared caribou is essential to monitoring and management of all N. America caribou herds.
9. Wolf Harvest on Bathurst range	Several Indigenous governments and communities have expressed interest in increasing wolf harvest by hunters and trappers to increase caribou survival.	Increased harvest of wolves	If herd continues to decline, consider increased focus on wolf harvest to slow herd decline and increase likelihood of recovery.	Annual	Herd overlap in winter likely means mixing of wolves associated with those herds and may influence effectiveness of wolf removals.

5 Consultation

A letter with results of the Bluenose-East and Bathurst June 2018 surveys was sent from ENR by email to Indigenous governments, boards and other key stakeholders on Nov. 20, 2018, with an offer for organizations to speak to the minister or deputy minister of ENR in person or by phone. A letter was also sent to the minister of Environment with the Government of Nunavut on the same day with an offer of further discussion in person or by phone. Senior leadership from the Sahtu region (SSI and other organizations) met with the GNWT premier and other senior officials on Nov. 20 to discuss barren-ground caribou among other matters. A media briefing on the Bluenose-East and Bathurst survey results was also held at the NWT legislature on Nov. 20. ENR officials presented to the GNWT Standing Committee on Economic Development and the Environment (SCEDE) on the status and proposed management of the Bathurst and BNE herds on Jan. 16, 2019 to increase GNWT-wide understanding of the caribou herds' status and management.

Staff from the Government of Nunavut (GN) and observers from Kugluktuk participated in the June 2018 surveys of the BNE and Bathurst herds. Staff from GN and Nunavut Tunngavik Incorporated (NTI) worked with ENR staff at a technical meeting Oct. 16 and 17, 2018 to review results of the GNWT-led surveys of the BNE and Bathurst herds and the GN-led survey of the Beverly herd in the Queen Maud Gulf in June 2018. This meeting was a continuation of collaboration between GN and GNWT staff on trans-border caribou issues.

TG and ENR staff began to meet in late November 2018 and continuing into December 2018 and January 2019 to develop joint management proposals for the two caribou herds. Between these meetings, staff met with leaders and more senior staff of the two governments to discuss specific items to include in the management proposals.

TG, ENR and WRRB staff met monthly in fall and winter 2018-2019 to talk about status and management of the Bluenose-East, Bathurst and Beverly/Ahiak caribou herds; these 3 groups comprise the Barren-Ground Caribou Technical Working Group.

Meetings in the four Tłı̨chǫ communities are planned for January 2019. These will include the Tłı̨chǫ chiefs and senior officials from ENR to talk about the caribou herds and proposed management.

Once the joint management proposals on Bathurst and Bluenose-East caribou have been submitted to WRRB in Jan. 2019, further consultation with affected Indigenous organizations will be done.

6 Communications Plan

TG and GNWT leadership will, together, hold an information session in each of the 4 Tłı̨chǫ communities. Emphasis will be placed on visual aids that are easily understood and on hearing from community members.

Table 3 (listed earlier in this proposal) describes approaches and objectives for increased public engagement and hunter education for caribou in Wek'èezhìi.

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8 Relevant Background Supporting Documentation

Appendix A. Rules for Definition of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA) for winter 2017-2018

- ENR, TG and WRRB, revised Nov. 16, 2018

1. Background:

The Mobile Core Bathurst Caribou Conservation Area (MCBCCA; hereafter referred to as the mobile zone) was first used in the winter of 2014-2015 to protect Bathurst caribou in the NWT from hunter harvest. The mobile zone was built as a minimum convex polygon (MCP; essentially a line drawn around the outside of all collars) with a buffer of 20-30km to account for other caribou in the herd associated with the collared animals.

A key assumption of defining the mobile zone is that the collared Bathurst caribou are truly representative of the distribution and movements of most animals in the herd. Based on this assumption being correct, the mobile zone offered two advantages over the two large fixed zones used 2010-2014: (1) the restricted area was much smaller than the two large zones, limiting harvest restriction in the region, and (2) the restricted area focused on where the herd was at any given time. In previous winters some Bathurst collars were west and east of the large fixed zones, thus potentially exposed to higher harvest pressure in those areas.

Prior to the 2016-2017 harvest season, delineation of the mobile zone included a 60km buffer (see Appendix A of this document). The rationale for this modification was to provide more certainty and clearer information to hunters about location of the mobile zone. The use of a larger mobile zone would allow for movement of caribou inside the zone between collar data acquisitions without creating the need for a new map every four days. Thus, if Bathurst collared caribou moved around within this expanded mobile zone, the boundaries could remain unchanged for extended periods, as compared to a new zone and boundaries that changed weekly.

However, in the winter of 2016-2017, the distribution of collared caribou from the Bathurst, Bluenose-East and Beverly and Ahiak herds showed an exceptional degree of overlap, which meant that the mobile zone for Bathurst caribou with a 60 km, 40 km or 30 km buffer also enclosed most of the neighbouring herds (based on collars) and would have severely limited Aboriginal hunting opportunities. As a result, the size of the buffer on the mobile zone was reduced to 20 km and then 10 km to give hunters reasonable opportunities to hunt the Beverly and Ahiak herds (where there is currently no harvest restriction in the NWT) and the Bluenose-East herd (which has a Total Allowable Harvest in place of 750 bulls in Wek'èezhìı). For a part of the winter, the single mobile zone was changed to two sub-zones, a main one in the west and a smaller one in the east. Overall, monitoring by officers and community monitors indicated that few Bathurst or Bluenose-East caribou were taken (based on the locations of reported kills relative to distributions of collared caribou) and that harvest was primarily Beverly and Ahiak caribou with a large proportion of bulls.

At a meeting of the Barren-Ground Caribou Technical Working Group Sept. 15, 2017, the unforeseen conditions and changes to the mobile zone in winter 2016-2017 were reviewed and a revised set of rules was developed. The group recognized that a balance might be needed between conservation (no harvest) of the Bathurst herd, which will likely be promoted by larger buffers, and limiting harvest restrictions on neighbouring herds, which may be enabled by smaller buffers if there is overlap. Plans need to be adaptive, depending on whether the

Bathurst herd is relatively well separated from neighbouring herds (Situation A) or well mixed with either one or both of the neighbouring herds (Situation B). These rules are an update on Appendix A from June 29, 2016 TG & ENR response to the WRRB's Bathurst Caribou Final Report, Part A. The wildlife regulation for the mobile zone is in Appendix B.

2. Situation A: Bathurst herd is largely separate from neighbouring herds

In some winters (e.g. 2015-2016; see Figure 1), the Bathurst collared caribou have been well separated from the Bluenose-East and Beverly and Ahiak caribou. Under these conditions (i.e. Situation A), hunter access to alternate herds is not restricted substantially by the mobile zone. Under these conditions, the following rules will be applied.

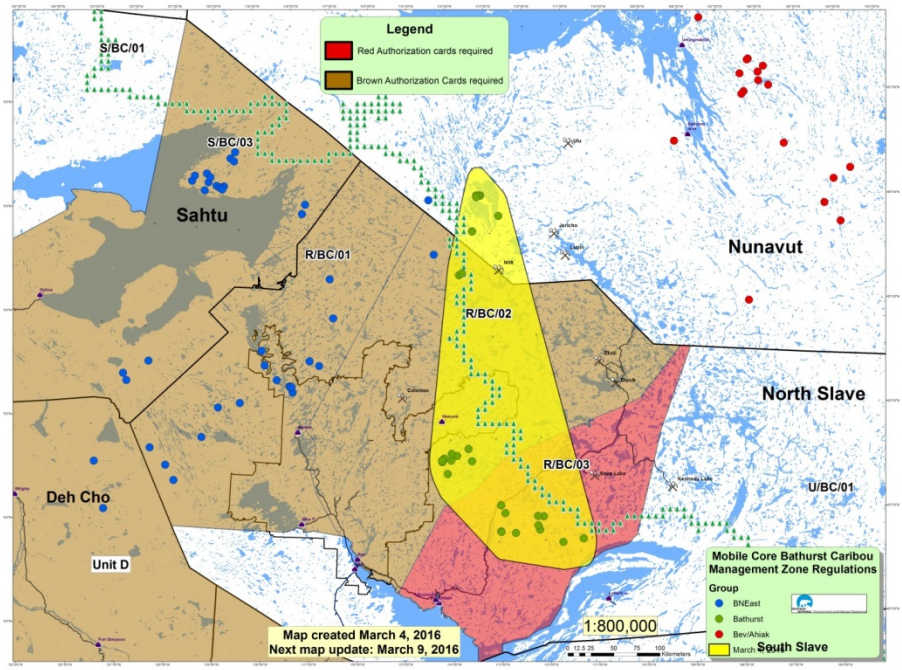


Figure 1. Mobile zone and collared caribou locations in March 2016. Bluenose-East collared locations are blue, Bathurst green and Beverly and Ahiak red. Map B. Croft, GNWT ENR.

- The mobile zone boundary will be defined from a minimum convex polygon (MCP) around all functioning collars on Bathurst caribou (cows and bulls) plus a 60 km buffer around the MCP.
- A recommended number of collars for the Bathurst herd to define its distribution with confidence is 40 or more, based on analyses by J. Boulanger and others (see Adamczewski and Boulanger 2016 for details and further references).
- With fewer collars, consideration should be given to a larger buffer on the mobile zone as there is a greater chance that a portion of the herd's distribution is not well defined.
- An approximately equal number of collars on the two neighbouring herds is also recommended to define their distribution with confidence.
- Collar locations will be updated weekly.
- The mobile zone will be defined based on all active Bathurst collars, including any in Nunavut (although the no harvest zone will only apply in NWT).
- In general, separation of the mobile zone into two or more sub-zones will be avoided and will be considered only when there is substantial overlap between herds. An example of

substantial overlap from winter 2016-2017 is in Fig. 2; similar situations will be considered on a case-by-case basis.

- Once established, the mobile zone boundaries will not change as long as all the collared Bathurst caribou remain within the mobile zone and no collars are less than 20 km from the boundary.
- If one or more collared Bathurst caribou move to within 20 km of the boundary of the zone or move out of the mobile zone, the mobile zone will be re-defined based on the same method described above (60 km buffer), and the new zone boundaries will be in effect as long as all collared Bathurst caribou remain within the new boundaries.
- With respect to areas where collared Bathurst caribou may overlap with collared Bluenose-East or Beverly and Ahiak caribou, the WRRB determination of a zero (0) Total Allowable harvest (TAH) on the Bathurst herd means that no caribou will be harvested within the mobile zone, regardless of herd affiliation.
- The mobile zone will be defined in the NWT prior to the fall harvest season and will continue until the end of the winter harvest season.
- TG and ENR will explore ways of modifying zone boundaries to use natural features such as rivers or lake edges as a way of making the zone more practical for hunters, provided that there is no significant reduction in protection for the Bathurst herd.
- TG and ENR will also explore ways of making information about the mobile zone location more easily accessible to hunters by making it available in formats for GPS devices and Google Earth, and by using signs on the winter road to show the direction of the zone boundary.

3. Situation B: Bathurst herd shows overlap with neighbouring herds

During winter 2016-2017, a 40km buffer on the Bathurst mobile zone would have nearly eliminated hunter access to Beverly and Ahiak caribou and severely restricted access to Bluenose-East caribou in Wek'èezhìı (see Figure 2). Under these conditions, reduction of the mobile zone buffer may be considered under the following rules.

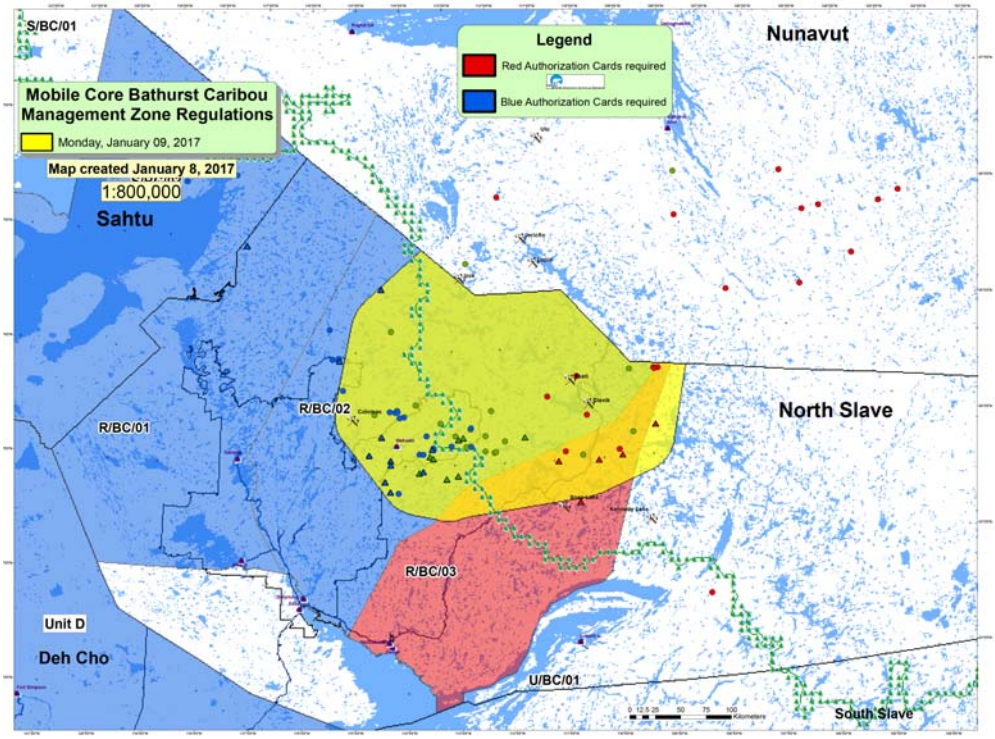


Figure 2. Mobile zone and collared caribou locations January 9, 2017 – 40 km buffer. Bluenose-East collared locations are blue, Bathurst green and Beverly and Ahiak red. Map B. Croft, GNWT ENR.

- The mobile zone boundary will initially be defined from a minimum convex polygon (MCP) around all functioning collars on Bathurst caribou (cows and bulls) plus a 60 km buffer around the MCP.
- Collar locations will be updated weekly.
- A recommended number of collars for the Bathurst herd to define its distribution with confidence is 40 or more, based on analyses by J. Boulanger and others (see Adamczewski and Boulanger 2016 for details and further references).
- With fewer collars, consideration should be given to a larger buffer on the mobile zone as there is a greater chance that a portion of the herd's distribution is not well defined.
- An approximately equal number of collars on the two neighbouring herds is also recommended to define their distribution with confidence.
- The mobile zone will be defined based on all active Bathurst collars, including any in Nunavut (although the no harvest zone will only apply in NWT).
- The minimum buffer under any conditions on the mobile zone will be 20 km[i].
- Hunter access to Beverly and Ahiak caribou or Bluenose-East caribou will be considered sufficient if at least 50% of active collars on either of these two herds in the NWT are outside the mobile zone.
- If more than 50% of the collared caribou from either the Bluenose-East or Beverly and Ahiak herds, found within the NWT, are within the mobile zone, then reduction of the mobile zone buffer can be considered.

[i] Based on experience of flying the Bathurst mobile zone in winters with little overlap (e.g. 2015-2016), the collars consistently are associated with the main wintering concentrations of the herd, and very few caribou are found more than about 20 km away from collars.

- Under these conditions, the mobile zone buffer may be reduced in 10km increments until less than 50% of the collars from the neighbouring herd are within the zone. A minimum of 20km on the buffer will be maintained at all times.
- Use the range and median distance traveled by the collared caribou over the preceding seven days to help determine the size of the buffer.
- In general, separation of the mobile zone into two or more sub-zones will be avoided.
- However, delineation of two or more sub-zones may be considered if there are two or more widely separated groups of collared caribou. The minimum distance between nearest-neighbour collars in proposed sub-zones will be 80km[ii].
- A sub-zone would need to have a minimum of 3 collared Bathurst caribou; this is the minimum needed to define a polygon.
- If one or more collared Bathurst caribou move to within 20 km of the boundary of the zone or move out of the mobile zone, the mobile zone will be re-defined.
- With respect to areas where collared Bathurst caribou may overlap with collared Bluenose-East or Beverly and Ahiak caribou, the WRRB determination of a zero (0) TAH on the Bathurst herd means that no caribou will be harvested within the mobile zone, regardless of herd affiliation.
- The mobile zone will be defined in the NWT prior to the fall harvest season and will continue until the end of the winter harvest season.
- TG and ENR will explore ways of modifying zone boundaries to use natural features such as rivers or lake edges as a way of making the zone more practical for hunters, provided that there is no significant reduction in protection for the Bathurst herd.
- TG and ENR will also explore ways of making information about the mobile zone location more easily accessible to hunters by making it available in formats for GPS devices and Google Earth, and by using signs on the winter road to show the direction of the zone boundary.

4. Review of Mobile Zone definition:

To assist in adaptive decision-making about the mobile zone, the Barren-Ground Caribou Technical Working Group will plan to meet in December and January to review collar data and mobile zone definition(s), and recommend to TG, ENR, and WRRB any changes to be made. By this time in the winter, collared caribou have usually ended most directional movement until April. The working group will periodically review information on harvest locations and amounts to check on herd assignments for harvest and check on the possibility of Bathurst caribou being harvested.

Reference:

Adamczewski, J. and J. Boulanger. 2016. Technical rationale to increase the number of satellite collars on the Bathurst caribou herd. Environment and Natural Resources, Government of Northwest Territories, Yellowknife, Northwest Territories, Canada, Manuscript Report no. 254.

[ii] With a 20km buffer, collared caribou 40km apart would have buffers that touch; the 80km separation would mean that the sub-zones with a 20 km buffer would be separated by 40km.

APPENDIX "A" from June 29, 2016 TG & ENR response to the WRRB's Bathurst Caribou Final Report, Part A

As a result of a number of discussions between TG and ENR, the approach to defining the Bathurst Mobile Core Conservation Zone (MCBCMZ) has been modified slightly from the initial two winters to reduce the number of times that the zone is re-defined, and make the zone more predictable and practical for hunters. The criteria for defining the zone for the 2016-2017 harvest season are expected to be as follows:

- The mobile zone boundary will be defined from a minimum convex polygon (MCP) around all functioning collars on Bathurst caribou (cows and bulls) plus a 60 km buffer around the MCP.
- Where collared Bathurst caribou show distinct, well-separated sub-groups, the mobile zone can be shaped as 2 or more parts of the mobile zone.
- Once established, the mobile zone boundaries will not change as long as all the collared Bathurst caribou remain within the mobile zone.
- If one or more collared Bathurst caribou move to within 5 km of the boundary of the zone or move out of the mobile zone, the mobile zone will be re-defined based on the same method described above, and the new zone boundaries will be in effect as long as all collared Bathurst caribou remain within the new boundaries.
- With respect to areas where collared Bathurst caribou may overlap with collared Bluenose-East or Beverly and Ahiak caribou, the WRRB determination of a zero (0) harvest on the Bathurst herd means that no caribou will be harvested within the mobile zone, regardless of herd affiliation. The possibility of dividing the mobile zone into two or more parts provides some flexibility with respect to identifying areas where collared caribou from neighbouring herds may be found and where some harvest is possible provided there are not Bathurst collars in the area.
- The mobile zone will be defined in the NWT beginning when collared Bathurst caribou move back into the NWT, potentially as early as mid-summer, and will continue until the end of the winter harvest season.
- TG and ENR will explore ways of modifying zone boundaries to use natural features such as rivers or lake edges as a way of making the zone more practical for hunters, provided that there is no significant reduction in protection for the Bathurst herd. Review of the mobile zone boundaries from winter 2015-2016 suggests that from about the end of November to the end of March, there was little directional movement of collared Bathurst caribou and a relatively fixed zone may be possible. Boundaries on the land that are readily recognized by hunters would be very helpful to both harvesters and enforcement officers.

TG and ENR will also explore ways of making information about the mobile zone location more easily accessible to hunters by making it available in formats for GPS devices and Google Earth, and by using signs on the winter road to show the direction of the zone boundary.

Appendix B: GNWT Wildlife Regulation for Bathurst Mobile Zone.

WILDLIFE ACT

MOBILE CORE BATHURST CARIBOU MANAGEMENT ZONE REGULATIONS
R-006-2016
In force January 23, 2016

AMENDED BY

LOI SUR LA FAUNE

RÈGLEMENT SUR LA ZONE DE GESTION DU NOYAU DE POPULATION MOBILE DU CARIBOU DE BATHURST
R-006-2016
En vigueur le 23 janvier 2016

MODIFIÉ PAR

WILDLIFE ACT

MOBILE CORE BATHURST CARIBOU MANAGEMENT ZONE REGULATIONS

The Commissioner, on the recommendation of the Minister, under sections 88 and 173 of the *Wildlife Act* and every enabling power, makes the *Mobile Core Bathurst Caribou Management Zone Regulations*.

1. The Mobile Core Bathurst Caribou Management Zone is established as a wildlife management zone for barren-ground caribou, consisting of one or more areas delimited as follows:

(a) from the date that these regulations come into force to January 25, 2016, in accordance with the area shaded in yellow in the map in the Schedule;

(b) from January 26, 2016 and thereafter, in accordance with a map of the area or areas, which shall be

(i) available for public inspection and lodged with the Superintendent at Yellowknife and each of the regional offices of the Department of Environment and Natural Resources, and

(ii) posted in a conspicuous place in each community in or near which the area or areas are located.

2. (1) No person shall harvest barren-ground caribou in an area that is part of the Mobile Core Bathurst Caribou Management Zone.

(2) For greater certainty, these regulations prevail over the *Big Game Hunting Regulations* in respect of the authorization to harvest barren-ground caribou in those wildlife management zones or areas that overlap with any area that is part of the Mobile Core Bathurst Caribou Management Zone.

3. The *Mobile Core Bathurst Caribou Conservation Area Regulations*, established by regulation numbered R-006-2015, are repealed.

LOI SUR LA FAUNE

RÈGLEMENT SUR LA ZONE DE GESTION DU NOYAU DE POPULATION MOBILE DU CARIBOU DE BATHURST

Le commissaire, sur la recommandation du ministre, en vertu des articles 88 et 173 de la *Loi sur la faune* et de tout pouvoir habilitant, prend le *Règlement sur la zone de gestion du noyau de population mobile du caribou de Bathurst*.

1. La zone de gestion du noyau de population mobile du caribou de Bathurst est désignée à titre de zone de gestion de la faune du caribou des toundras et est composée d'une ou plusieurs des régions décrites comme suit :

a) à compter de l'entrée en vigueur du présent règlement, soit le 25 janvier 2016, en conformité avec l'aire ombragée en jaune sur la carte à l'annexe;

b) à compter du 26 janvier 2016 et, par la suite, en conformité avec la carte de la région ou des régions qui est, à la fois :

(i) disponible à l'examen public et déposée auprès du surintendant à Yellowknife et de chaque bureau régional du ministère de l'Environnement et des Ressources naturelles,

(ii) affichée dans un endroit bien en vue dans chaque collectivité dans, ou près de, laquelle la région ou les régions sont situées.

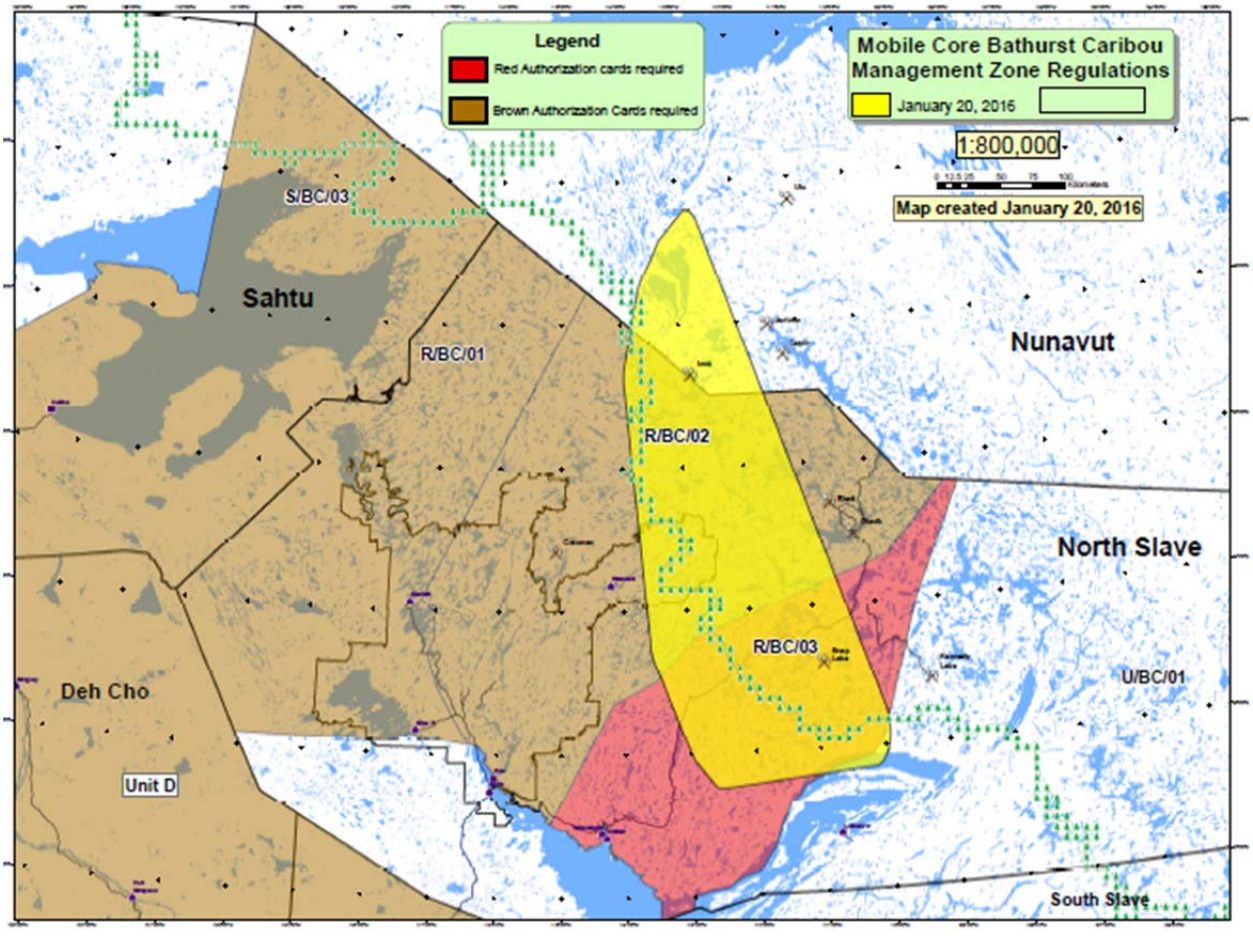
2. (1) Il est interdit à toute personne de récolter le caribou des toundras dans une région qui fait partie de la zone de gestion du noyau de population mobile du caribou de Bathurst.

(2) Il est entendu que le présent règlement l'emporte sur le *Règlement sur la chasse au gros gibier* qui traite de l'autorisation de récolter le caribou des toundras dans ces zones ou régions de gestion de la faune qui chevauchent toute région qui fait partie de la zone de gestion du noyau de population mobile du caribou de Bathurst.

3. Le *Règlement sur la région de conservation du noyau de population mobile du caribou de Bathurst*, pris par le règlement n° R-006-2015, est abrogé.

4. These regulations come into force January 23, 2016.

4. Le présent règlement entre en vigueur le 23 janvier 2016.



9 Time Period Requested
Identify the time period requested for the Board to review and make a determination or provide recommendations on your management proposal. July 2019 - July 2021; the next Bathurst calving ground photographic survey is scheduled for June 2020, which may lead to a new management proposal that year. Management actions should be reviewed annually or when key new information is available.

10 Other Relevant Information
If required, this space is provided for inclusion of any other relevant project information that was not captured in other sections. n/a

11 Contact Information
Contact the WRRB office today to discuss your management proposal, to answer your questions, to receive general guidance or to submit your completed management proposal. Jody Pellissey Executive Director Wek' èezhìi Renewable Resources Board 102A, 4504 – 49 Avenue Yellowknife, NT. X1A 1A7 Phone: (867) 873-5740 Fax: (867) 873-5743 Email: jpellissey@wrrb.ca

APPENDIX B Review of 2007 Proceeding & Decisions

B.1. Receipt of 2006 Joint Proposal

In December 2006, ENR submitted a management proposal recommending management actions to reduce harvest levels in a manner consistent with the Tłı̨chǫ Agreement and the Bathurst Caribou Management Plan for the WRRB's consideration. The proposed management actions were intended to limit the harvest to 4% of the 2006 herd size for a total of 5120 ʔekwǫ̀, including eliminate all commercial meat tags held by Tłı̨chǫ communities, reduce number of tags for non-resident hunters and non-resident alien hunters from 2 to 1, and reduce tags for all non-Hunters' & Trappers' Association (HTA) and HTA outfitters from 1559 to a total of 350.

Due to the significance of the management actions proposed, and the fact that the WRRB, as a new organization, had not yet heard from other Parties affected by the ENR proposal, the Board decided to conduct a public hearing before making any decisions on the proposal. The WRRB held the public hearing on March 13-14, 2007 in Behchokǫ̀, NT.

During the course of the hearing, ENR officials admitted that the Minister and Department had not consulted the Tłı̨chǫ Government about their proposal, as required in the Tłı̨chǫ Agreement, before it was submitted to the Board. Once the evidentiary phase of the proceeding was completed, the Board decided to adjourn the proceeding in order to give ENR and the Tłı̨chǫ Government time to initiate a consultation process. Specifically, ENR and the Tłı̨chǫ Government were directed to report to the WRRB on the outcome of their consultations by April 23, 2007.

On April 20, 2007 and April 23, 2007 respectively, the Tłı̨chǫ Government and ENR filed letters with the WRRB indicating that the consultation process had not been concluded, thereby requiring an additional 90 days to finish the consultations. The WRRB advised ENR and the Tłı̨chǫ Government, in early May 2007, that it had decided to extend the period of adjournment in the proceeding by 30 days to permit the Parties to conclude the consultations by June 1, 2007. The Board indicated that if the consultation efforts were not producing substantial progress, it would bring the proceeding to a close and prepare its Recommendations Report for submission to the Minister of ENR and the Tłı̨chǫ Government.

B.2. Emergency Measure

On April 17, 2007, the Minister of ENR advised the Tłı̨chǫ Government and the WRRB that the Big Game Hunting Regulations had been amended to reduce the number of tags available for outfitted hunts for ʔekwǫ̀ in Unit "R" to 750 for the 2007 season. The

letter noted that this decision was made under the authority of Section 12.5.14 of the Tłı̨chǫ Agreement as ENR considered its action necessary due to an emergency situation regarding declining populations of the ʔekwǫ̀.

B.3. 2007 Board Decision

On May 30, 2007 and June 4, 2007 respectively, the Tłı̨chǫ Government and ENR submitted letters to the Board indicating that they were making substantial progress but required an extension to September 28, 2007 in order to develop a new joint ʔekwǫ̀ management proposal. The WRRB was concerned that any further adjournments could adversely affect the interests of other Parties affected by the proposal. ENR had already taken steps to implement portions of its proposal on the grounds that an emergency situation existed. Further extension of the proceeding to accommodate consultation which, in the Board's view should have taken place before the proposal was advanced, seemed inconsistent with the urgency asserted by ENR. For these reasons, the WRRB decided not to grant a further adjournment of its proceeding.

Based on the WRRB's review of the evidence presented during the proceedings, the Board recommended that ENR's proposal to undertake management actions to reduce the harvest of the Bathurst ʔekwǫ̀ herd not be implemented as submitted. The WRRB strongly encouraged ENR and the Tłı̨chǫ Government to continue their consultations towards the development of a Joint Proposal for the management of the Bathurst ʔekwǫ̀ herd. Additionally, the WRRB indicated that any future management actions that propose to limit any component of the harvest to a particular number, including zero, would be treated as a proposal for the establishment of a total allowable harvest.

B.4. Barren-ground Outfitter's Association Tag Request

In October 2007, the Barren-ground Caribou Outfitter's Association requested that the tag quota for ʔekwǫ̀ outfitters be restored to 1260 for the non-HTA outfitters and 396 for the HTA outfitters due to financial hardships experienced by the outfitters and supporting businesses. The Board did not recommend the tag increase to the GWNT as the WRRB is not mandated to address issues of economic viability. Further, the WRRB considered any requests for changes to tag quotas to be premature prior to the submission of a Joint Proposal regarding the management of ʔekwǫ̀ in Wek'èezhìı by ENR and Tłı̨chǫ Government.

APPENDIX C Review of 2010 Proceeding & Decisions

C.1. Receipt of 2009 Joint Proposal

On November 5, 2009, TG and GNWT submitted the *Joint Proposal on Caribou Management Actions in Wek'èezhìı*, which proposed nine management actions and eleven monitoring actions, including harvest limitations, for the Bathurst, Bluenose-East and Ahiak ʔekwǫ̀ herds. While there was agreement on the majority of actions proposed, there was no agreement reached on the proposed levels of Indigenous harvesting.

Upon review of the proposal, the WRRB held that any restriction of harvest or component of harvest to a specific number of animals would constitute a TAH. Thus, the Board ruled that it was required to hold a public hearing. Registered Parties were notified on November 30, 2009 of the Board's decision to limit the scope of the public hearing to Actions 1 through 5 of the Joint Proposal, which prescribed limitations on harvest. All other proposed actions were addressed through written submissions to the Board.

On January 1, 2010, GNWT implemented interim emergency measures, which included the closure of ʔekwǫ̀ commercial, outfitted,[135] and resident harvesting in the North Slave regions. In addition, all harvest was closed in a newly established no-hunting conservation zone (Figure B-1). This decision was made by the Minister of GNWT under the authority of Section 12.5.14 of the Tłı̨chǫ Agreement. The Board was informed of the Minister's decisions on December 17, 2009.

[135] Non-residents and non-resident aliens require an outfitter to hunt big game (but not small game). Outfitters provide licenced guides for the hunters they serve. A non-resident is a Canadian citizen or landed immigrant who lives outside the NWT or has not resided in the NWT for 12 months; a non-resident alien is an individual who is neither an NWT resident nor a non-resident. GNWT. 2015. Northwest Territories Summary of Hunting Regulations, July 1, 2015 to June 30, 2016.

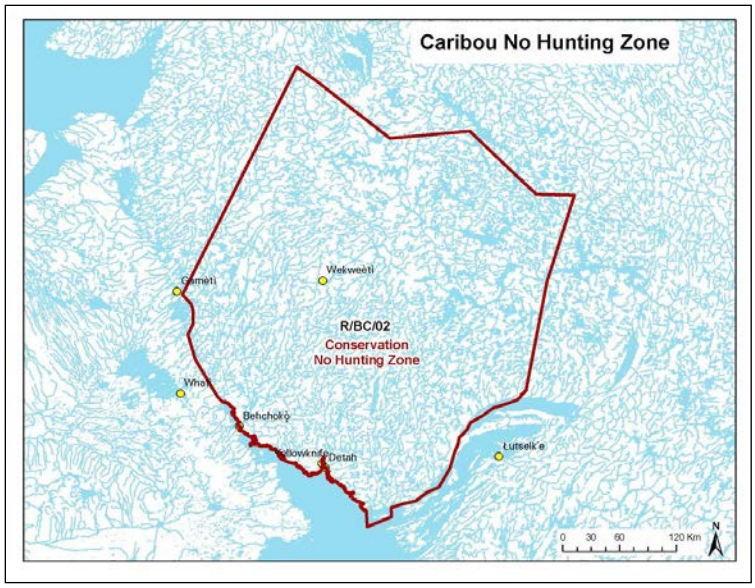


Figure C-1. No-Hunting Conservation Zone, R/BC/02, January 1, 2010 to December 8, 2010.[136]

Originally scheduled for January 11-13, 2010, the public hearing took place March 22-26, 2010 in Behchokǫ̀, NT. Once the evidentiary phase of the proceeding was completed, TG requested the WRRB adjourn the hearing in order to give TG and GNWT time to work collaboratively to complete the joint management proposal. The Board agreed to grant the application for adjournment with the condition that any revised proposal be filed by May 31, 2010 and that such a proposal address both harvest numbers and allocation of harvest for both the Bathurst and Bluenose-East ʔekwǫ̀ herds.

On May 31, 2010, TG and GNWT submitted the *Revised Joint Proposal on Caribou Management Actions in Wek'èezhìı*. This revised proposal changed the original management and monitoring actions and incorporated an adaptive co-management framework and rules-based approach to harvesting. TG and GNWT were able to reach an agreement on Indigenous harvesting. Following review of the information and comments from registered Parties, the WRRB accepted the revised proposal. Therefore, the WRRB reconvened its public hearing on August 5-6, 2010 in Behchokǫ̀, NT, where final presentations, questions and closing arguments were made.

C.2. 2010 Board Decision

On October 8, 2010, the WRRB submitted its final recommendations and Reasons for Decision Report to TG and GNWT. Many of the recommendations were related to the

[136] GNWT-GNWT 2010. http://www.GNWT.gov.nt.ca/_live/documents/content/No-Hunting_Conservation_Zone_Map.pdf

Bathurst ʔekwǫ̀ herd and relevant management actions vital for herd recovery, including harvest restrictions.

The Board recommended a harvest target of 2800 (± 10%) Bluenose-East ʔekwǫ̀ per year for harvest seasons 2010/11, 2011/12, and 2012/13 in Wek'èezhìı. Further, the Board recommended that the ratio of bulls harvested to cows should be 85:15. Although the evidence suggested that the Bluenose-East herd had not continued to decline, the Board concluded that a limited harvest of 2520-3080 ʔekwǫ̀ with 420 or fewer cows was a cautious management approach based on the current herd size and trend.

The Board recommended that all commercial, outfitted and resident harvesting of the Bluenose-East ʔekwǫ̀ herd in Wek'èezhìı be set to zero. The Board also made harvest recommendations for the Ahiak ʔekwǫ̀ herd.

The WRRB made additional ʔekwǫ̀ management and monitoring recommendations to TG and GNWT, specifically implementation of detailed scientific and Tłı̨chǫ knowledge monitoring actions and implementation of an adaptive co-management framework.

The WRRB also recommended to the Minister of CIRNAC (formerly Indian and Northern Affairs Canada (INAC)) and GNWT to collaboratively develop best practices for mitigating effects on ʔekwǫ̀ during calving and post-calving, including the consideration of implementing mobile ʔekwǫ̀ protection measures, and for monitoring landscape changes, including fires and industrial exploration and development, to assess potential impacts to ʔekwǫ̀ habitat.

The Board recommended that the harvest of dìga should be increased through incentives but that focused dìga control not be implemented. The Board understood if TG and GNWT were to plan for focused dìga control in the future, a management proposal would be required for WRRB consideration.

The Minister's emergency interim measures remained in effect until the WRRB's recommendations on ʔekwǫ̀ management in Wek'èezhìı were implemented on December 8, 2010. On January 13, 2011, TG and GNWT responded to the Board's recommendations, accepting 35, varying 22 and rejecting three of the 60 recommendations. TG and GNWT submitted an implementation plan to the WRRB on June 17, 2011, which the Board formally accepted on June 30, 2011.

APPENDIX D Review of 2010 WRRB Recommendations

Review of 2010 WRRB Recommendations				
No.	**WRRB Recommendation**	**TG/GNWT Response**	**Management Objective**	**Status**
1	TG and GNWT report annually on the overall success of the harvest target approach in meeting the objectives of effective collaborative management and the long-term recovery of the Bathurst caribou herd.	Accepted - GNWT and TG will provide a report on the overall success of the harvest target approach in June 2011.	Increase communication among the management authorities. Provide an opportunity to review the efficacy of management actions and make revisions if necessary.	Incomplete; no recommendations provided
2	All commercial harvesting of Bathurst caribou within Wek'èezhìı be set to zero for 2010-2013.	Accepted - As per changes to the Big Game Hunting Regulations made on January 1, 2010.	Reduce harvest of the Bathurst caribou herd and set priority to Aboriginal harvest.	Completed
3	All outfitted harvesting of Bathurst caribou within Wek'èezhìı be set to zero for 2010-2013.	Accepted - As per changes to the Big Game Hunting Regulations made on January 1, 2010.	Reduce harvest of the Bathurst caribou herd and set priority to Aboriginal harvest.	Completed
4	GNWT and TG, prior to the next survey of the Bathurst caribou herd, provide the Board and make public their positions with regard to the reinstatement of outfitting within Wek'èezhìı.	Varied - This will be addressed in the development of a long-term management plan for the Bathurst herd. The target date for the long-term management plan is the end of 2012.	Make criteria for reinstating Outfitted and Resident harvest public.	Incomplete; no criteria developed
5	All resident harvesting of Bathurst caribou within Wek'èezhìı be set to zero for 2010-2013.	Accepted - As per changes to the Big Game Hunting Regulations made on January 1, 2010.	Reduce harvest of the Bathurst caribou herd and set priority to Aboriginal harvest.	Completed
6	GNWT and TG, prior to the next survey of the Bathurst caribou herd, provide the Board and make public their positions with regard to the reinstatement of resident harvesting within Wek'èezhìı. In developing this position, the Governments will review, assess, and implement, where conservation permits, a limited-entry draw system to facilitate the reinstatement of resident harvesting at the earliest opportunity.	Varied - This will be addressed in the development of a long-term management plan for the Bathurst herd. The target date for the long-term management plan is the end of 2012.	Make criteria for reinstating Outfitted and Resident harvest public.	Incomplete; no criteria developed

7	Establishment of a harvest target of 300 Bathurst caribou per year for 2010-2013.	Accepted - This was implemented on December 8, 2010 through a regulation change that established limited harvest zones inside and outside of Wek'èezhìı to reflect the current wintering area for the Bathurst caribou herd.	Set a level of harvest that can be sustained by the Bathurst herd.	Completed
8	Allocating the annual harvest target of Bathurst caribou between Tłı̨chǫ Citizens (225) and members of an Aboriginal people with rights to hunt in Mǫwhì Gogha Dè Nı̨ı̨tłèè (75)	Varied - As per prior agreement with TG to share a limited harvest of Bathurst caribou equally (150 animals for Tłı̨chǫ citizens and 150 caribou outside of Wek'èezhìı)	Establish a sharing of harvest between the Tłı̨chǫ and other Aboriginal hunters that is equitable.	Completed
9	The harvest of Bathurst caribou should target an 85:15 bull/cow ratio, i.e. the annual harvest of Bathurst caribou cows should be less than 45	Varied - GNWT and TG both agree that the harvest should focus on bulls but would prefer to use a target ratio of 80:20 males: females as agreed in revised Joint Proposal (cow harvest of 60). The modeling projections suggest that small changes in the harvest sex ratio would have negligible impacts on the Bathurst herd's likely trend.	Set a harvest sex ratio that can be sustained by the Bathurst herd.	Incomplete (excludes unknowns); target exceeded in all three years
10	TG and GNWT have information to suggest that the harvest of Bathurst caribou has or will in the near future exceed the harvest target of 300 by 10% or more, then regulations should be put in place to close all harvesting in areas occupied by the Bathurst herd.	Accepted - GNWT and TG will be closely monitoring harvest levels throughout the fall and winter hunting seasons and will keep communities and the WRRB informed.	Closely monitor and report harvest such that if it exceeds the target, actions can be taken to ensure no further harvest occurs	Not required
11	TG and GNWT have information to suggest that the harvest of Bathurst caribou has or will or in the near future materially exceed 45 cows, then regulations should be put in place to close all harvesting in areas occupied by the Bathurst herd.	Varied (as per response #9) - GNWT and the TG will monitor the sex ratio of the harvest and work with hunters to target male caribou, wherever possible.	Closely monitor and report harvest such that if it exceeds the target, actions can be taken to ensure no further harvest occurs	Incomplete; targets exceeded, and no regulations implemented

12	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual fall hunt, areas within which the harvest will be attributed to the Bathurst caribou herd.	Accepted - There will be ads in the local newspaper to inform the public about the new management zones within which Bathurst caribou harvest is limited. Detailed information on recent locations of radio-collared caribou will not be publicized.	Ensure that the public know where the Bathurst and Bluenose-East caribou herds reside such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time
13	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual winter hunt, areas within which the harvest will be attributed to the Bathurst caribou herd.	Accepted - There will be ads in local newspaper to inform the public about the new management zones where Bathurst caribou harvest is limited.	Ensure that the public know where the Bathurst and Bluenose-East caribou herds reside such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time
14	All commercial, outfitted and resident harvesting from the Bluenose-East caribou herd within Wek'èezhìı be set to zero for 2010-2013.	Accepted - As per changes to the Big Game Hunting Regulations made on January 1, 2010.	Reduce harvest of the Bluenose-East caribou herd and set priority to Aboriginal harvest.	Completed
15	Establishment of a harvest target of 2800 Bluenose-East caribou per year for 2010-2013, with the annual harvest target and its allocation finalized in discussions between the existing wildlife co-management boards and Aboriginal governments in the Sahtú, Dehcho and Tłı̨chǫ.	Varied - Based on new 2010 estimate of the Bluenose-East herd's size, wildlife co-management boards are reviewing information and the proposed harvest targets recommended by the WRRB. GNWT and TG will be working together to promote harvest of bulls, monitor the harvest closely throughout the winter and keep the communities, as well as WRRB, SRRB and Nunavut informed.	Set a level of harvest that can be sustained by the Bluenose-East herd. Establish as sharing of harvest between the Tłı̨chǫ and other Aboriginal hunters that is equitable.	Incomplete
16	The harvest of Bluenose-East caribou should target an 85:15 bull/cow ratio, i.e. the annual harvest of Bluenose-East caribou cows should be less than 420 – Original recommendation varied to 80:20 bull/cow harvest (cow harvest of 560)	Varied (as per response #9 and #15) - GNWT and TG agree the harvest should focus on bulls but would prefer a target of 80:20 males: females as agreed to in the revised joint proposal.	Set a harvest sex ratio that can be sustained by the Bluenose-East herd.	Incomplete (excludes unknowns); target exceeded in 2 of 3 years

17	TG and GNWT have information to suggest that the harvest of Bluenose-East caribou has or will in the near future exceed the target by 10% or more, then regulations should be put in place to close all harvesting in areas occupied by the Bluenose-East herd.	Varied - Based on new 2010 estimate of the Bluenose-East herd, wildlife co-management boards and Aboriginal governments are reviewing information and the proposed target recommended by the WRRB and plan to develop a strategy which will be shared with affected wildlife co-management boards.	Closely monitor and report harvest such that if it exceeds the target, actions can be taken to ensure no further harvest occurs	Incomplete; targets exceeded, and no regulations implemented
18	TG and GNWT have information to suggest that the harvest of Bluenose-East caribou has or will or in the near future materially exceed 420 cows, then regulations should be put in place to close all harvesting in areas occupied by the Bluenose-East herd.	Varied (as per response #15) - Based on new 2010 estimate of the Bluenose-East herd, wildlife co-management boards are reviewing information and proposed harvest targets recommended by WRRB.	Closely monitor and report harvest such that if it exceeds the target, actions can be taken to ensure no further harvest occurs	Incomplete; targets exceeded, and no regulations implemented
19	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual fall hunt, areas within which the harvest will be attributed to the Bluenose-East caribou herd.	Accepted (as per response # 12)	Ensure that the public know where the Bathurst and Bluenose-East caribou herds reside such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time
20	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual winter hunt, areas within which the harvest will be attributed to the Bluenose-East caribou herd.	Accepted (as per response #13)	Ensure that the public know where the Bathurst and Bluenose-East caribou herds reside such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time

21	TG and GNWT do not provide harvester assistance and/or incentives to access the Bluenose-East herd.	Rejected - GNWT and TG agree that conservation measures for the Bluenose-East herd are required. However, GNWT had previously agreed to provide support to construct a winter road to Hottah Lake so that people from Wekweètì could access the Bluenose-East herd as a measure to reduce pressure on Bathurst caribou herd, whose numbers are still very low.	Allow for alternative harvest opportunities while not placing undo pressure on adjacent herds.	Recommendation rejected - CHAP funding provide to assist harvesters for fall hunts to access Bluenose-East caribou.
22	TG consider negotiating caribou harvesting overlap agreements with Nunavut and the Sahtú region to make certain that existing relationships endure.	Varied - TG will consider.	Ensure informal traditional harvest sharing agreements among Aboriginal groups continue to be respected into the future.	Incomplete; no agreements negotiated
23	All commercial, outfitted and resident harvesting from the Ahiak caribou herd within Wek'èezhìı be set to zero in order to prevent incidental harvest of Bathurst caribou for 2010-2013.	Accepted	Reduce harvest of the Ahiak caribou herd and set priority to Aboriginal harvest. Reduce incidental harvest of Bathurst caribou herd.	Completed
24	TG and GNWT do not provide harvester assistance and/or incentives to access the Ahiak herd.	Rejected - GNWT and TG did not provide support for fall caribou harvests in 2010. However, for GNWT, it may be necessary to provide some assistance as part of accommodation for limiting harvest of the Bathurst herd. GNWT is working with harvesters to carefully monitor the harvest of the Ahiak herd.	Allow for alternative harvest opportunities while not placing undo pressure on adjacent herds.	Recommendation rejected - CHAP funding provide to assist harvesters for fall hunts to access Ahiak caribou.
25	TG consider negotiating caribou harvesting overlap agreements with Nunavut and the Akaitcho region to make certain that existing relationships endure.	Varied (as per recommendation # 22 for overlap agreements with Nunavut) - TG currently has a boundary agreement with Akaitcho.	Ensure informal traditional harvest sharing agreements among Aboriginal groups continue to be respected into the future.	Incomplete; no agreement negotiated with Nunavut; overlap agreement in place with Akaitcho.

26	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual fall hunt, areas within which the harvest will be attributed to the Ahiak caribou herd.	Accepted (as per response #12)	Ensure that the public know where the Ahiak caribou herd resides such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time
27	GNWT should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual winter hunt, areas within which the harvest will be attributed to the Ahiak caribou herd.	Accept (as per response #13)	Ensure that the public know where the Ahiak caribou herd resides such that requirements for harvest restrictions and reporting are known.	Incomplete; information not consistently provided on time
28	TG implement the Special Project, Using Tłı̨chǫ Knowledge to Monitor Barren Ground Caribou of the overall TK Research and Monitoring Program.	Varied - TG will be implementing the project based on its obligations and commitments pursuant to the provisions in the Tłı̨chǫ Agreement. Start date of the TK Research and Monitoring Program is anticipated in summer 2011.	Harvest monitoring to be controlled at community level and done in a manner that is consistent with Tłı̨chǫ cultures of sharing information and building knowledge.	Incomplete; not implemented

PREAMBLE: (#29-39) - The Tłı̨chǫ Government agrees with the recommendations 28-42 of the Recommendation Report related to the Revised Joint Proposal on Caribou Management Actions in Wek'èezhìı. We are committed to documenting and reporting on observations and trends observed by caribou harvesters and elders. Implementation of the Tłı̨chǫ Knowledge Research and Monitoring Program: Special Project, Using Tłı̨chǫ Knowledge (to Monitor Barren Ground Caribou' will take approximately eight months. The traditional monitoring system continues among the harvesters and elders. Nevertheless, the logistics of realizing a system that will rigorously and accurately document and report harvesters' observations and trends have yet to be initiated. The program requires trained Tłı̨chǫ researchers, offices, and equipment, all of which requires a realistic annual budget and extensive fundraising with those who will also benefit from Tłı̨chǫ knowledge research and monitoring.				
29	TG and GNWT implement the *spring calf survival* monitoring action as identified for TK and SK.	Scientific: Accepted - GNWT will provide the Board with a power analysis of how frequently spring composition surveys are required. GNWT has not recently used collars to assess cow mortality rate. GNWT would appreciate any suggestions from the Board on alternative methods to estimate cow mortality. Because the existing numbers of radio-collars on the Bathurst herd are insufficient to reliably monitor cow mortality rates, the Joint Proposal emphasized annual calving reconnaissance surveys to monitor the trend in the herd's numbers of breeding cows. High mortality rates in cows would translate to a declining trend in numbers of cows on the calving ground: low cow mortality rates would translate to increasing numbers of cows on the calving ground. TK – See Preamble	Ensure scientific monitoring of the Bathurst, Bluenose-East and Ahiak herds is conducted on an annual cycle such that management authorities can assess the status of the herd with the best available information at hand. This includes spring composition, calving reconnaissance, calving ground composition and fall composition. Calving or post-calving population surveys are to be completed in spring/summer 2012.	TK - Incomplete; Special Project not implemented SK - Completed

30	TG and GNWT implement the *health and condition* monitoring action as identified for TK and SK.	Scientific: Accepted - GNWT expects that some Bathurst cows will be taken by hunters; therefore, sample kits will be available to all hunters to record basic information on health, condition and pregnancy rates of cows. Details of samples to be collected will be provided to TG community caribou monitors and GNWT staff. Typically, community hunts are an opportune time to take such samples. TK – See Preamble	Monitor the health and condition of Bathurst, Bluenose-East and Ahiak caribou in a way that does not increase the harvest of cows or take away from community harvest of cows.	TK - Incomplete; Special Project not implemented SK -Incomplete; no systematic approach
31	TG and GNWT implement the *birth rate* monitoring action as identified for TK and SK.	Scientific: Varied - Birth rate information will be collected in different ways for different herds. - For example, the size of the Ahiak and Bathurst caribou herds is estimated using the calving ground photo census surveys. Birth rate is estimated from a composition survey that is conducted on the calving ground right after the photo census. - This photo census technique is not usually used for the Bluenose-East herd (rather, herd size is estimated from a post-calving ground photo census survey). Instead, pregnancy rates are based on information collected from harvested Bluenose-East cows, and indirectly from composition surveys that assess the calf:cow ratio. TK – See Preamble	Ensure scientific monitoring of the Bathurst, Bluenose-East and Ahiak herds is conducted on an annual cycle such that management authorities can assess the status of the herd with the best available information at hand. This includes spring composition, calving reconnaissance, calving ground composition and fall composition. Calving or post-calving population surveys are to be completed in spring/summer 2012.	TK - Incomplete; Special Project not completed SK - Completed

32	TG and GNWT implement the *adult sex ratio and fall calf survival* monitoring action as identified for TK and SK.	Scientific: Accepted - The result of the fall composition survey is one of the parameters used to determine a population estimate for the Bathurst and Ahiak herds. Fall adult sex ratio surveys for these herds are planned for 2011 and 2012 prior to photographic survey scheduled for 2011 (Ahiak/Beverly) and 2012 (Bathurst). The next Bluenose-East fall adult sex ratio survey is planned for 2011 to get more basic information on the number of bulls and cows for this herd. TK – See Preamble	Ensure scientific monitoring of the Bathurst, Bluenose-East and Ahiak herds is conducted on an annual cycle such that management authorities can assess the status of the herd with the best available information at hand. This includes spring composition, calving reconnaissance, calving ground composition and fall composition. Calving or post-calving population surveys are to be completed in spring/summer 2012.	TK - Incomplete; Special Project not implemented SK - Incomplete; survey not conducted annually
33	TG and GNWT implement the *estimate of herd size* monitoring action as identified for TK and SK.	Scientific: Accepted - GNWT will work with all partners to undertake the: • Bathurst calving ground photo survey in June 2012. • Ahiak calving ground photo survey in 2011. • Bluenose-East post calving ground survey in 2012 or 2013. TK – See Preamble	Ensure scientific monitoring of the Bathurst, Bluenose-East and Ahiak herds is conducted on an annual cycle such that management authorities can assess the status of the herd with the best available information at hand. This includes spring composition, calving reconnaissance, calving ground composition and fall composition. Calving or post-calving population surveys are to be completed in spring/summer 2012.	TK - Incomplete; Special Project not implemented SK - Completed

34	TG and GNWT implement the *wolf abundance (den occupancy)* monitoring action as identified by TK and SK.	Scientific: Varied - GNWT will continue with current wolf den surveys, which provide an index of wolf abundance. GNWT in consultation with the TG will provide a proposal with potential options and costings that are relevant to wolf monitoring, research, and management. The Parties will continue to explore new options with respect to monitoring and managing wolves. TK – See Preamble	Monitor wolf abundance as well as health and condition as it relates to productivity.	TK - Incomplete; Special Project not implemented SK - Completed
35	TG and GNWT implement the *wolf condition and reproduction* monitoring action as identified by TK and SK.	Scientific: Accepted - Through the Genuine Mackenzie Valley Fur Program the GNWT provides harvesters $200 for each intact wolf carcass and will provide a collection report to the WRRB and TG in June 2011 on the carcass collection. TK – See Preamble	Monitor wolf abundance as well as health and condition as it relates to productivity.	TK - Incomplete; Special Project not implemented SK - Completed, but no report
36	TG and GNWT implement the *wolf harvest* monitoring action as identified by TK and SK.	Scientific: Accepted - GNWT will provide a report to the WRRB and TG in June 2011 on wolf harvest data. TK – See Preamble	Monitor wolf harvest to assess if harvest incentives have led to changes in harvest.	TK - Incomplete; Special Project not implemented SK - Completed
37	TG and GNWT implement the *state of habitat* monitoring action as identified by TK and SK.	Scientific: Varied - GNWT will continue to provide an annual report to the WRRB and TG on fire activity. GNWT expects a number of research projects investigating the impact of fires on caribou habitat to be completed in 2012 and will provide an annual progress report to the WRRB and TG. GNWT will continue to explore new ways to monitor landscape change	Ensure the landscape is managed in such a way that considers the sustainability of the Bathurst, Bluenose-East and Ahiak caribou herds.	TK - Incomplete; Special Project not implemented SK - Incomplete; no report provided

		driven by industrial exploration and development with our partners (e.g., INAC). TK – See Preamble		
38	TG and GNWT implement the *pregnancy rate* monitoring action as identified by TK and SK.	Scientific: Accepted - Note: GNWT will make available, sample kits to hunters so that any Bathurst or Bluenose-East cows that are harvested can be tested to determine pregnancy rates. The community hunts are opportune times to do this work. TK – See Preamble	Monitor the health and condition of Bathurst, Bluenose-East and Ahiak caribou in a way that does not increase the harvest of cows or take away from community harvest of cows.	TK - Incomplete; Special Project not implemented SK -Completed
39	GNWT implement the *density of cows on calving ground* monitoring action as identified.	Scientific: Varied - GNWT will undertake these surveys for the Bluenose-East, Bathurst and Ahiak herd in 2011 and 2012. TK – See Preamble	Ensure scientific monitoring of the Bathurst, Bluenose-East and Ahiak herds is conducted on an annual cycle such that management authorities can assess the status of the herd with the best available information at hand. This includes spring composition, calving reconnaissance, calving ground composition and fall composition. Calving or post-calving population surveys are to be completed in spring/summer 2012.	Completed
40	TG implement the *caribou harvest* monitoring action as identified.	Varied - GNWT and TG will continue to work with harvesters to report harvests. Methods will be based on the last 2 years of harvest monitoring in the Tłı̨chǫ communities. A community-based program will be developed in the 2010/11 season.	Harvest monitoring to be controlled at community level and done in a manner that is consistent with Tłı̨chǫ cultures of sharing information and building knowledge.	Incomplete; information not consistently provided

41	TG and GNWT reporting on monitoring results to the WRRB and the general public a minimum of three times per year in April, September and December. April meeting changed to late-May.	Accepted -To make information available to the public, GNWT will also post reports provided to the WRRB on the GNWT website.	Share information in a timely manner with management authorities and the public.	Incomplete; information not consistently provided
42	TG develop and implement a TK conservation education program to support the relationship and respect Tłı̨chǫ have for caribou.	Accepted - TG has developed a Tłı̨chǫ Ekwo Working Group (TEWG) which held its orientation workshop on Dec 13-15. This group will assess and make recommendations for the TK conservation education program.	Ensure Tłı̨chǫ and other Aboriginal harvesters follow traditional practices with respect to appropriate harvest practices. Ensure that harvesters are not wasting or wounding animals that are not retrieved.	Incomplete; not implemented
43	GNWT develop and implement a scientific conservation education program to foster an increased appreciation of the resource.	Accepted - GNWT will undertake this work jointly with TG in Wek'èezhìı and with other Aboriginal groups outside of Wek'èezhìı. GNWT will prepare facts sheets that will be posted on the GNWT website. GNWT has developed an interactive Caribou Educational Program that can be used in schools for youth to learn about scientific management practices.	Ensure Tłı̨chǫ and other Aboriginal harvesters follow traditional practices with respect to appropriate harvest practices. Ensure that harvesters are not wasting or wounding animals that are not retrieved.	Completed
44	TG and GNWT implement a process of information flow, review and assessment.	Varied - The flow chart from the WRRB recommendation on page 44 suggests that the TK and scientific programs will be developed independently of one another. TG and GNWT would like to see a more integrated strategy between science and TK as discussed in the joint revised proposal.	Establish a process for sharing information in a timely manner among management authorities, to discuss the implementation of management actions and how well they are working. Increase communication among the management authorities. Provide an opportunity to review the efficacy of management actions	Completed: Barren-ground Caribou Technical Working Group created

			and make revisions if necessary.	
46	Criteria be developed by TG and GNWT for assessing success or failure that would indicate when management actions are to be revised, including reinstatement of harvest for residents, outfitters and commercial tags.	Accepted - As per recommendations #4 and #6, these criteria will be developed as part of a long-term management plan.	Establish a process for sharing information in a timely manner among management authorities, to discuss the implementation of management actions and how well they are working. Increase communication among the management authorities. Provide an opportunity to review the efficacy of management actions and make revisions if necessary.	Incomplete; criteria not developed
47	GNWT continue discussions with the Government of Nunavut for identifying opportunities for calving ground protection.	Accepted - Note: This issue is also being raised in Nunavut by the Beverly and Qamanirjuaq Caribou Management Board (BQCMB). INAC is the primary land manager in the NWT and Nunavut. Discussion will need to take place with INAC and Nunavut.	Make progress on opportunities for minimizing impacts of development on the Bathurst, Bluenose-East and Ahiak caribou herds.	Completed; ongoing
48	GNWT and INAC collaboratively develop best practices for mitigating effects on caribou during calving and post-calving, including the consideration of implementing mobile caribou protection measures.	Varied - This can be tied into the long-term management plan. Discussion will be needed to take place with INAC and Nunavut.	Ensure development on calving and post-calving ranges of the Bathurst, Bluenose-East and Ahiak herds does not unduly affect the sustainability of these herds.	Incomplete; not implemented
49	TG work towards development and implementation of a land use plan for Wek'èezhìı, including the consideration of thresholds for industrial land use.	Rejected - As per chapter 22.5 of the Tłı̨chǫ Agreement, it is the responsibility of Canada or GNWT to develop and implement a land use plan for Wek'èezhìı.	Ensure the landscape is managed in such a way that considers the sustainability of the Bathurst, Bluenose-East and Ahiak caribou herds.	Recommendation rejected - GNWT responsibility; Tłı̨chǫ Land Use Plan completed

50	GNWT and INAC monitor landscape changes, including fires and industrial exploration and development, to assess potential impacts to caribou habitat.	Varied (as per response #37) - GNWT has carried out some cumulative effects modeling to assess effects to date of diamond mines on the Bathurst herd, and will continue to build on this modeling.	Ensure the landscape is managed in such a way that considers the sustainability of the Bathurst, Bluenose-East and Ahiak caribou herds.	Incomplete; Bathurst Caribou Range Plan completed but not implemented
51	TG and GNWT assess the need for forest fire control in areas of important caribou habitat.	Accepted	Ensure the landscape is managed in such a way that considers the sustainability of the Bathurst, Bluenose-East and Ahiak caribou herds.	Incomplete; no assessment completed
52	Harvest of wolves should be increased through the suggested incentives, except for assisting harvesters to access wolves on wintering grounds.	Accepted	Increase harvest of wolves to reduce predation pressure on Bathurst caribou herd.	Incomplete; incentives unsuccessful
53	Focused wolf control should not be implemented. If TG and GNWT believe that focused wolf control is required, a management proposal shall be provided to the WRRB for its consideration.	Accepted	Allow for assessment and review of wolf harvest incentives on an annual basis.	Incomplete; feasibility assessment completed but no management proposal submitted
54	TG and GNWT submit a joint management proposal for wood bison in Wek'èezhìı by the fall of 2011 to substantiate the establishment of zones and quotas made through the Interim Emergency Measure.	Varied - 10-year Wood Bison Management Plans for the Nahanni, Slave River Lowland, and Mackenzie herds are set to be completed by the winter of 2012. Development of these plans will review current interim harvest measures for Wood Bison in Wek'èezhìı. Draft plan will be provided to WRRB for approval. In December 2010, GNWT completed a regulation change to extend the season to September 1st.	Allow for harvest of wood bison to offset hardship of reduced Bathurst caribou harvest. Ensure bison harvest is sustainable in the long term through a management planning process.	Incomplete; not submitted

55	TG and GNWT work collaboratively to meet the obligations of Section 12.11 of the Tłı̨chǫ Agreement with support from WRRB staff as needed and a meeting be convened by January 2011.	Accepted	Develop guidance on managing caribou herds through abundance cycles by undertaking a collaborative management planning process.	Completed; ongoing
56	TG increase their capacity to ensure full participation in monitoring and management of caribou.	Accepted	Provide a forum for discussion of scientific and traditional ways of understanding caribou ecology. Allow for Tłı̨chǫ communities to be partners in management and decision-making.	Completed; Wildlife Coordinator hired
57	GNWT, TG and INAC implement its recommendations no later than January 1, 2011. GNWT's Emergency Interim Measures, put into effect on January 1, 2010, should remain in place until then.	Varied - Will be incorporated as part of the implementation plan.	Ensure timely implementation of management actions and that they are understood by Tłı̨chǫ and other Aboriginal harvesters.	Completed
58	TG and GNWT conduct consultations regarding the Recommendations Report prior to January 1, 2011.	Accepted	Ensure timely implementation of management actions and that they are understood by Tłı̨chǫ and other Aboriginal harvesters.	Completed
59	TG and GNWT develop a detailed implementation and consultation plan incorporating the WRRB's recommendations as soon as possible.	Accepted	Ensure timely implementation of management actions and that they are understood by Tłı̨chǫ and other Aboriginal harvesters.	Completed
60	GNWT develop and implement an effective and continuing enforcement and compliance program.	Accepted - The current protocol for GNWT enforcement and compliance program is effective. However, given the scope of the issues GNWT has enhanced its program to be a partnership with other affected Aboriginal organizations.	Ensure that harvest limits are respected, and that wastage and wounding loss is minimized.	Completed

APPENDIX E Review of 2016 Proceeding & Decisions

E.1 Receipt of 2015 Joint Proposal

On December 15, 2015, the TG and ENR submitted the *"Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019"* to the WRRB outlining proposed management actions for the Bathurst ʔekwǫ̀ herd in Wek'èezhìı, including new restrictions on hunter harvest, predator management to reduce dìga populations on the winter range of the Bathurst ʔekwǫ̀ herd and ongoing monitoring. More specifically, TG and ENR proposed the closure of all harvesting of the Bathurst ʔekwǫ̀ herd and the development of mobile dìga-hunter camps. The WRRB considered the proposed restriction of harvest as the establishment of a TAH and, therefore, was required to hold a public hearing.

The Board initiated its 2016 Bathurst Caribou Herd Proceeding on January 18, 2016 and established an online public registry: http://www.wrrb.ca/public-information/public-registry. The public hearing took place February 23-24, 2016 in Yellowknife, NT. Final written arguments were submitted by registered intervenors on March 8, 2016, and by TG and ENR on March 11, 2016. The public record was closed on March 18, 2016 and the WRRB's deliberations followed.

E.2. 2016 Board Decision

The WRRB concluded, based on all available Aboriginal and scientific evidence, that a serious conservation concern exists for the Bathurst ʔekwǫ̀ herd and that additional management actions are vital for herd recovery. However, in order to allow careful consideration of all of the evidence on the record and to meet legislated timelines, the WRRB decided to prepare two separate reports to respond to the proposed management actions in the joint management proposal.

The first report, Part A, dealt with the proposed harvest management actions that required regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed dìga feasibility assessment. The second report, Part B, dealt with additional predator management actions, biological and environmental monitoring, and cumulative effects.

On May 27, 2016, the WRRB submitted its final determinations and recommendations and Part A Reasons for Decision Report to TG and GNWT. The WRRB determined that a total allowable harvest of zero shall be implemented for all users of the Bathurst ʔekwǫ̀ herd within Wek'èezhìı for the 2016/17, 2017/18, 2018/19 harvest seasons. As monitoring of the ʔekwǫ̀ wildlife management units and Bathurst ʔekwǫ̀ harvest are intricately linked to the implementation of a TAH, the Board recommended that TG and

ENR agree on an approach to designating zones for aerial and ground-based surveillance throughout the fall and winter harvests seasons from 2016 to 2019. Additionally, the WRRB recommended timely implementation of hunter education programs in all Tłı̨chǫ communities.

The Community-based Dìga Harvesting Project, proposed by TG and ENR as a pilot training program, was to train Tłı̨chǫ harvesters, in a culturally appropriate manner, to hunt and trap dìga on the Bathurst herd range. The Board continued to support the Project as a training program, with recommendations related to implementation and assessment.

The WRRB also recommended that the dìga feasibility assessment set out in the proposal be led by the Board with input and support from TG and ENR. The feasibility assessment would primarily be an examination of all options for dìga management, including costs, practicality and effectiveness.

On September 27, 2016, the WRRB submitted its final recommendations and Part B Reasons for Decision Report to TG and GNWT. The WRRB recommended consultations with Tłı̨chǫ communities to determine a path forward for implementation of Tłı̨chǫ laws to continue the Tłı̨chǫ way of life and maintain their cultural and spiritual connection with ʔekwǫ̀.

In addition, the WRRB recommended several Tłı̨chǫ Knowledge (TK) research and monitoring programs focusing on dìga, sahcho, stress and other impacts on ʔekwǫ̀ from collars and aircraft over-flights, and an assessment of quality and quantity of both summer and winter forage.

The Board recommended a biological assessment of sahcho as well as requesting that the Barren-ground Caribou Technical Working Group (BGCTWG) prioritize biological monitoring indicators and develop thresholds under which management actions can be taken and evaluated. All scientific and TK monitoring data will be provided to BGCTWG annually to ensure ongoing adaptive management.

The WRRB recommended the implementation of Tłı̨chǫ Land Use Plan Directives as well as completing a Land Use Plan for the remainder of Wek’èezhìı. In addition, the completion of the Bathurst Caribou Range Plan and the long-term Bathurst Caribou Management Plan are requested with measures to be implemented in the interim to provide guidance to users and managers of the Bathurst ʔekwǫ̀ herd range.

The Board recommended the development of criteria to protect key ʔekwǫ̀ habitat, including water crossings and *tataa* (corridors between bodies of water), using the Conservation Area approach in the NWT’s *Wildlife Act*, offsets and value-at risks in a

fire management plan. Additionally, the WRRB recommended the continued refinement of the Inventory of Landscape Change (ILC), the integration of Wildlife and Wildlife Habitat Protection Plans (WWHPP) and Wildlife Effects Monitoring Programs (WEMP) objectives for monitoring the effects of development on ʔekwǫ̀ in Wek'èezhìı, and the development of monitoring thresholds for climate indicators.

APPENDIX F Review of 2016 WRRB Determinations and Recommendations

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
Determination #1-2016	A total allowable harvest of zero for all users of the Bathurst ʔekwǫ̀ herd within Wek'èezhìı be implemented for the 2016/17, 2017/18, 2018/19 harvest seasons. For further clarification, the absolute number of caribou that can be harvested from the Bathurst herd is zero.	Accepted	♦ Completed
Recommendation #1-2016:	The Board recommends that TG and ENR come to an agreement on whether the MCBCMZ or Wildlife Management Units Subzones is the most effective way to differentiate between ʔekwǫ̀ herds, and then implement the approach with criteria for managing any overlaps between herds, for the 2016/17, 2017/18, and 2018/19 harvest seasons.	Accepted	♦ Completed
Recommendation #2-2016	The Board recommends that TG and ENR provide weekly updates to the WRRB and the general public on aerial and ground-based surveillance of the Bathurst ʔekwǫ̀ herd throughout the fall and winter harvest seasons for the 2016/17, 2017/18, and 2018/19.	Accepted	♦ Completed
Recommendation #3-2016	The Board recommends that TG and ENR increase public education efforts and implement ENR's recently developed Hunter Education program in all Tłı̨chǫ communities.	♦ Accepted	♦ Completed
Recommendation #4-2016	The WRRB continues to support the implementation of the Community-based Dìga Harvesting Project, as a training program only, subject to the following conditions: a) If the Project is to be expanded to other Tłı̨chǫ communities, a management proposal must be submitted to the WRRB for review and approval. b) If the Project is to be expanded in scope, prior to the submission of a management proposal to the	a) Accepted b) Accepted	♦ Incomplete

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	WRRB, an index of changing wolf abundance must be available and research on habitat quality and quantity on the Bathurst ʔekwǫ̀ herd range must be conducted; c) TG and ENR must inform the WRRB of the following prior to the start of the Project: i. How aerial and/or ground-based to disturbance to Bathurst ʔekwǫ̀ will be prevented or minimized? How will this potential disturbance be measured, assessed, and mitigated?; ii. How will unintentional or accidental harvest of Bathurst ʔekwǫ̀, by the Tłı̨chǫ dìga harvesters, be prevented? If a Bathurst ʔekwǫ̀ is harvested, how will TG and ENR report to the WRRB?; and, iii. How will the facilitation of wolf movements through the wolves' use of skidoo trails be prevented or minimized?; d) TG and ENR must communicate regularly about the Project with Tłı̨chǫ communities and the WRRB. Specifically, the Board requests an update prior to start up of the Project in December 2016 and a follow-up on the success of the Project in May 2017. As well, TG and ENR must report monthly on the Project, including numbers, age, sex and pregnancy rates of wolves harvested and location of wolf harvest, to the WRRB; e) The Project must be curtailed or stopped should negative impacts to the Bathurst ʔekwǫ̀ occur; and, f) TG and ENR must establish a threshold or criteria to evaluate	c) Accepted d) Accepted e) Accepted f) Accepted	

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	the success of the program, i.e. the effectiveness of training a core set of wolf harvesters, the acceptance of the Project by Tłı̨chǫ communities, continued program implementation and reaching the target number of dìga harvested.		
Recommendation #5-2016	The WRRB recommends TG and ENR support a collaborative feasibility assessment of options for dìga management, led by the Board.	♦ Varied	♦ Completed
Recommendation #1B-2016	The WRRB recommends that TG consult with Tłı̨chǫ communities, by March 2017, to ensure Tłı̨chǫ laws are implemented with respect to ʔekwǫ̀ harvesting practices to maintain the Tłı̨chǫ way of life and their relationship with ʔekwǫ̀.	♦ Varied – remove implementation piece	♦ Incomplete
Recommendation #2B-2016	WRRB recommends that TG conduct TK research to define, from the Tłı̨chǫ perspective, types of dìga, their behavior and their annual range, and their relationship with ʔekwǫ̀ and people by March 2017.	♦ Varied – combined 2B, 3B, 5B, 19B, and 20B into one comprehensive study	♦ Incomplete
Recommendation #3B-2016	The WRRB recommends that TG conduct TK research on sahcho predation on ʔekwǫ̀, and their relationship with ʔekwǫ̀, other wildlife and people by June 2017.	♦ Varied – combined 2B, 3B, 5B, 19B, and 20B into one comprehensive study	♦ Incomplete
Recommendation #4B-2016	The WRRB recommends that TG and ENR conduct a collaborative sahcho biological assessment, following the completion of the ongoing dìga feasibility assessment. The assessment should include summarizing available information on sahcho abundance, movement and diet for the Bathurst ʔekwǫ̀ herd's seasonal ranges as well as including TK collected in Recommendation #3B-2016.	♦ Varied – Will complete SARC report and engage with GN to discuss current information available in Nunavut	♦ Incomplete - Ongoing
Recommendation #5B-2016	The WRRB recommends that TG conduct TK research about stress and impacts on ʔekwǫ̀ and people related to collars and aircraft over-flights by	♦ Varied – combined 2B, 3B, 5B, 19B, and 20B into one	♦ Incomplete

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	September 2017, which should be considered in determining number of collars deployed in 2018 and beyond.	comprehensive study	
Recommendation #6B-2016	The WRRB recommends that ENR determine whether reconnaissance surveys should be conducted during non-photo survey years with renewable resource boards, Aboriginal governments and other affected organizations in the NWT and Nunavut prior to conducting the next reconnaissance survey in June 2017.	♦ Varied- BGCTWG will review the value. BCAC should review survey methods once formed.	♦ Incomplete; no longer required as eliminated per 2019 proposed action
Recommendation #7B-2016	The WRRB recommends that TG and ENR provide a summary of scientific and TK monitoring data, including harvest and collar mortalities, as soon as available each year, to the BGCTWG.	♦ Accepted	♦ Incomplete – inconsistent reporting
Recommendation #8B-2016	The WRRB recommends that the BGCTWG prioritize biological monitoring indicators in order of need for effective management and develop thresholds under which management actions can be taken and evaluated. Implementation of this recommendation should be completed by no later than the end of March 2017.	♦ Varied – BGCTWG to review biological indicators to assess priorities for monitoring, particularly under budget constraints.	♦ Incomplete - to be addressed as part of the adaptive management framework.
Recommendation #9B-2016	The WRRB recommends that TG refine and implement Tłı̨chǫ Land Use Plan Directives, under Chapter 6 related to ɂekwǫ̀, land use and cumulative effects by March 2018.	♦ Accepted ♦ TG acknowledges suggestion and advises the Board that it intends to refine and implement the Tlicho LUP directives related to caribou. TG notes that land use planning in Wek'èezhìı is beyond the jurisdiction of the Board.	♦ Incomplete
Recommendation #10B-2016	The WRRB recommends that TG and ENR initiate, develop and implement	♦ Rejected	♦ n/a - rejected

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	a land use plan for Wek'èezhìı by March 2019.	♦ GNWT vary. Suggests that GNWT work collaboratively with TG, federal government, and other Aboriginal Government Organizations and planning partners to initiate, develop and implement a government-led approach to land use planning for public lands in Wek'èezhìı. GNWT notes that this suggestion goes beyond the authority of the Board (should be a suggestion, not a recommendation). ♦ TG agrees in substance with GNWT.	
Recommendation #11B-2016	The WRRB recommends ENR complete the Bathurst Caribou Range Plan, with an implementation strategy, by March 2018. In the interim, the Board recommends that ENR develop interim thresholds for developments and other human activities within the range of the Bathurst ʔekwǫ̀ herd by March 2017.	♦ Varied – draft thresholds will be provided by March 2017, and final draft by March 2018	♦ Completed
Recommendation #12B-2016	The WRRB recommends that TG and ENR complete and implement a long-term Bathurst Caribou Management Plan, with associate Action Plan, by March 2018.	♦ Varied – will include other parties with lead from the Bathurst Caribou Herd Cooperative Advisory Committee	♦ Incomplete - Ongoing
Recommendation #13B-2016	The WRRB recommends TG and ENR develop criteria under which the Conservation Area approach in the NWT's *Wildlife Act* will be used to	♦ Varied –Bathurst caribou range planning process to determine when	♦ Incomplete; conservation areas noted as tool in

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	protect key ʔekwǫ̀ habitat by March 2018.	to protect key habitat by March 2018.	Bathurst Caribou Range Plan
Recommendation #14B-2016	The WRRB recommends that TG and ENR develop criteria to protect ʔekwǫ̀ water crossings and tataa from exploration and development activities in the NWT. The criteria should be developed by March 2018 and included in the Bathurst Caribou Range Plan and Tłı̨chǫ Land Use Plan.	♦ Accepted	♦ Incomplete; conservation areas noted as tool in Bathurst Caribou Range Plan
Recommendation #15B-2016	The WRRB recommends TG and ENR investigate and report to the WRRB and other stakeholders on the potential use of offsets for ʔekwǫ̀ recovery to compensate for losses caused by exploration and development activities by March 2018. A set of criteria should be developed to assess the effectiveness of each type of offset as it is investigated.	♦ Accepted	♦ Incomplete
Recommendation #16B-2016	The WRRB recommends that ENR continue to refine and update the Inventory of Landscape Change to ensure a comprehensive and standardized database of human and natural disturbance in the NWT.	♦ Accepted	♦ Completed
Recommendation #17B-2016	The WRRB recommends that TG and ENR integrate WEMP and WWHPP objectives and standardize approaches for monitoring the effects of development on ʔekwǫ̀ in Wek'èezhìı	♦ Accepted	♦ Completed
Recommendation #18B-2016	The WRRB recommends that TG and ENR complete and implement a fire management plan with criteria identifying under which the key ʔekwǫ́ habitat is defined as a value-at-risk by March 2018.	♦ Varied – involve community members in identifying important caribou habitat. Caribou habitat lower priority for habitat protection than property	♦ Incomplete
Recommendation #19B-2016	The WRRB recommends TG conduct a TK monitoring project with elders to	♦ Varied – combined 2B, 3B,	♦ Incomplete

Recommendation #	WRRB Recommendations	TG/GNWT Responses	Status
	document how climate conditions have affected preferred summer forage and impacted ʔekwǫ́ fitness by September 2018.	5B, 19B, and 20B into one comprehensive study	
Recommendation #20B-2016	The WRRB recommends that TG conduct TK monitoring to assess the quality and quantity of winter forage by September 2018.	♦ Varied – combined 2B, 3B, 5B, 19B, and 20B into one comprehensive study	♦ Incomplete
Recommendation #21B-2016	The WRRB recommends that the BGCTWG develop monitoring thresholds for climate indicators by March 2017.	♦ Varied – Need clarity on what is meant by climate indicators but agrees the research is necessary	♦ Incomplete – to be addressed as part of the adaptive management framework.

APPENDIX G WRRB Predator Management Recommendations and Government Response

February 6, 2019

Hon. Robert C. McLeod, Minister
Environment and Natural Resources
Government of the Northwest Territories
Box 1320
Yellowknife, NT X1A 2L9
Email: Robert_C_McLeod@gov.nt.ca

Via Email
Robert_C_McLeod@gov.nt.ca
georgemackenzie@tlicho.com

Grand Chief George Mackenzie
Tłı̨chǫ Government
Box 412
Behchokǫ̀, NT X1A 1Y0
Email: georgemackenzie@tlicho.com

Re: Section 12.5.6 of the Tłı̨chǫ Agreement – WRRB Predator Management Recommendations

Dear Minister McLeod & Grand Chief Mackenzie:

Background:
The *Kokètì Ekwǫ̀* (Bathurst caribou) and *Sahtì Ekwǫ̀* (Bluenose-East caribou) herds are both in a precipitous decline. The decline of the kokètì ekwǫ̀ herd was first documented in 1996 when the population was estimated at 349,000 animals, down from 420,000 in 1986. Management actions to date have failed to halt the decline and the herd's population was estimated at 8,200 animals in 2018. The decline of the sahtì ekwǫ̀ herd was first documented in 2013 when the herd's population was estimated at 68,000 animals, down from 121,000 in 2010. In 2018, the herd's population was estimated at 19,000 animals.

Range management, harvest restrictions and intensive study are being implemented or are already occurring in Wek'èezhìı for both herds. Previous joint management proposals for the kokètì ekwǫ̀ herd by the Department of Environment & Natural Resources (ENR), Government of the Northwest Territories (GNWT) and Tłı̨chǫ Government (TG) resulted in the Wek'èezhìı Renewable Resources Board (WRRB) holding public hearings in 2010 and again in 2016. A public hearing was also held to address management proposals for the sahtì ekwǫ̀ herd in 2016.

On January 14 and January 22, 2019 respectively, the WRRB received joint management proposals for the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds. These management proposals propose a number of actions. However, despite WRRB recommendations for the implementation of predator control dating as far back as 2010, neither of the current management proposals includes a plan for predator management in either the sahtì ekwǫ̀ or kokètì ekwǫ̀ ranges. Instead your governments have indicated their intention to address the control of predators, more specifically *Dìga* (wolves), in a separate joint management proposal later in the spring of 2019.

The Issue:
The situation for both of these herds is dire. Analysis of the joint management proposals by the Board and its advisors indicates an immediate need for action to reduce predation on the herds. During its 2016 public hearings and most recently in the TG-ENR *Ekwǫ̀* (barren-ground caribou*)* consultation tours, conducted on January 21-23, 2019, the WRRB has heard from the community members that dìga are continuing to put pressure on ekwǫ̀ populations. Community members would like to see action taken now. The Board agrees.

The Authority for WRRB Recommendations:
Section 12.5.6 of the Tłı̨chǫ Agreement states:

> *The Wek'èezhìı Renewable Resources Board may, without waiting for a proposal from a Party, make the following recommendations or determinations, after consulting with any Party or body with powers to manage any aspect of the subject matter of its recommendation or determination:*
>
> *(a) Recommend actions for management of harvesting in Wek'èezhìı, including*
>
> *(i) A total allowable harvest level for any population or stock of fish,*
>
> *(ii) Harvest quotas for wildlife or limits as to location, methods, or seasons of harvesting wildlife, or*
>
> *(iii) The preparation of a wildlife management plan; …*

The WRRB has chosen not to wait for ENR and TG to submit their predator management proposal to the Board later this spring. The 20% rate of annual decline of the kokètì ekwǫ̀ and sahtì ekwǫ̀ herds is in the Board's opinion so serious that waiting any longer to act will make recovery of the herds even more difficult. The Board is convinced that early action is essential.

In consideration of the updated 2018 sahtì ekwǫ̀ and kokètì ekwǫ̀ herd estimates and recent consultations with Tłı̨chǫ communities the WRRB makes the recommendations set out below to GNWT and the TG:

Recommendation #1-2019 (Predator): The WRRB supports continuing the ENR's dìga harvest incentive program and the TG's Community Based Dìga Harvesting Project as an education tool.

Recommendation #2-2019 (Predator): The WRRB recommends that dìga monitoring be undertaken so that population estimates, or indexes are generated. In addition, as much information as possible, including condition, diet, and reproductive status, should be collected from each harvested dìga.

Recommendation #3-2019 (Predator): The WRRB recommends that dìga management be undertaken in Wek'èezhìı. TG and ENR should review the *"Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd"* submitted in November 2017 to determine the most effective, humane and cost-efficient methods that would have the least impact and disturbance on the ekwǫ̀ herds themselves.

Recommendation #4-2019 (Predator): The WRRB recommends that dìga management should be closely monitored for effectiveness of halting or slowing the decline of the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds in order to provide future harvesting opportunities.

Recommendation #5-2019 (Predator): The WRRB recommends that the GNWT and TG work with the Government of Nunavut to enact predator management actions on the calving grounds of sahtì ekwǫ̀ and kokètì ekwǫ̀ in Nunavut.

Recommendation #6-2019 (Predator): The WRRB commits to striking a working group to begin work on a *sahcho* (grizzly bear) biological assessment by June 2019, specifically on the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds herd ranges. This working group will include at minimum the GNWT, TG and the Government of Nunavut. WRRB staff recommend that sahcho are monitored in order to determine if pressures are increasing on ekwǫ**.**

Recommendation #7-2019 (Predator): WRRB staff recommend that *golden det'ǫcho* (golden eagle) are monitored in order to determine if pressures of golden det'ǫcho are increasing on ekwǫ̀. WRRB staff recommends that TG and the GNWT work with the Government of Nunavut to support golden det'ǫcho monitoring.

In addition, as per Section 12.5.8 of the Tłı̨chǫ Agreement, the Board requests a response to these recommendations by March 6, 2019.

Conclusion:
The WRRB believes that predator management must begin by May 2019 in order to promote recovery of the herds. This action is essential to ensure the potential for a future harvest of sahtì ekwǫ̀ and kokètì ekwǫ̀.

The WRRB will, in accordance with the Tłı̨chǫ Agreement participate in any consultations on these proposals that the ENR or TG decides to undertake.

If there are any questions, please contact our office at (867) 873-5740 or jpellissey@wrrb.ca.

Sincerely,

Joseph Judas, Chair
Wek'èezhìı Renewable Resources Board

Cc Dr. Joe Dragon, Deputy Minister, ENR-GNWT
Rita Mueller, Assistant Deputy Minister, Operations, ENR-GNWT
Bruno Croft, Superintendent, North Slave Region, ENR-GNWT
Laura Duncan, Tłı̨chǫ Executive Officer, TG
Tammy Steinwand-Deschambeault, Director, Culture and Lands Protection, TG
Michael Birlea, Manager, Culture and Lands Protection, TG

Tłı̨chǫ Ndek'àowo
Tłı̨chǫ Government

Government of
Northwest Territories Gouvernement des
Territoires du Nord-Ouest

MAR 0 7 2019

Mr. Joseph Judas, Chair
Wek'èezhìi Renewable Resources Board
4504 49TH AVENUE
YELLOWKNIFE NT X1A 1A7

Dear Mr. Judas:

Re: Section 12.5.6 of the Tłı̨chǫ Agreement – WRRB Predator Management Recommendations

Thank you for your letter dated February 6, 2019 providing the Wek'èezhìi Renewable Resources Board's (WRRB) recommendations to the Tłı̨chǫ Government (TG) and the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories.

TG and ENR are providing the attached joint response to the WRRB's recommendations.

Sincerely,

Grand Chief George Mackenzie
Tłı̨chǫ Government
Behchokǫ̀, NT

Robert C. McLeod, Minister
Environment and Natural Resources
Yellowknife, NT

Attachment

c. Dr. Joe Dragon, Deputy Minister
Environment and Natural Resources

Ms. Rita Mueller, Assistant Deputy Minister, Operations
Environment and Natural Resources

Dr. Brett Elkin, Director, Wildlife
Environment and Natural Resources

Mr. Bruno Croft, Superintendent, North Slave Region
Environment and Natural Resources

Ms. Laura Duncan, Tłı̨chǫ Executive Officer
Tłı̨chǫ Government

Ms. Tammy Steinwand-Deschambeault, Director, Culture and Lands Protection
Tłı̨chǫ Government

Mr. Michael Birlea, Manager, Culture and Lands Protection
Tłı̨chǫ Government

Ms. Jody Pellissey, Executive Director
Wek'èezhìi Renewable Resources Board

WRRB Predator Management Recommendations

Recommendation #1-2019 (Predator): The WRRB supports continuing the ENR's dìga harvest incentive program and the TG's Community Based Dìga Harvesting Project as an education tool.

Response:

ENR and TG accept this recommendation.

ENR thanks the WRRB for their support of the Enhanced North Slave Wolf Harvest Incentive Program and notes that the program will continue until the prime fur season for wolves ends on May 31.

TG acknowledges and thanks the WRRB for its support of the Tłı̨chǫ Community-Based Dìga Harvesting Project, which is still under development. Tłı̨chǫ elders have been key proponents for developing and implementing a training program for Tłı̨chǫ hunters to become knowledgeable and effective harvesters of dìga. The training program engages Tłı̨chǫ elders directly so that Tłı̨chǫ knowledge and practices for hunting dìga are maintained and transmitted to the next generation of hunters. TG staff are working with selected Tłı̨chǫ hunters to provide them with additional training on harvesting and skinning methods through workshops that will be held in collaboration with ENR.

Recommendation #2-2019 (Predator): The WRRB recommends that dìga monitoring be undertaken so that population estimates, or indexes are generated. In addition, as much information as possible, including condition, diet, and reproductive status, should be collected from each harvested dìga.

Response:

ENR and TG accept this recommendation. ENR and TG agree that important aspects for assessing wolf management actions will be to a) monitor the relative abundance of dìga based on indices as removal actions are undertaken and b) evaluate health and condition of dìga including age, sex, diet, and reproductive status.

ENR and TG will develop and pilot a protocol for monitoring relative abundance of dìga in an adaptive manner to evaluate feasibility of sampling and robustness of results.

For each wolf carcass ENR receives, basic data on age, sex, diet, and reproductive status will be collected.

Recommendation #3-2019 (Predator): The WRRB recommends that dìga management be undertaken in Wek'èezhìı. TG and ENR should review the *"Wolf Technical Feasibility Assessment: Options for Managing Wolves on the Range of the Bathurst Barren-ground Caribou Herd"* submitted in November 2017 to determine the most effective, humane and cost-efficient methods that would have the least impact and disturbance on the ekwǫ̀ herds themselves.

Response:

ENR and TG accept this recommendation, and will use the feasibility assessment to develop the program.

ENR's Enhanced North Slave Wolf Incentive Program encourages harvesters to undertake ground-based shooting and/or snaring on the winter range of the Bluenose-East and Bathurst barren-ground caribou herds. The program is an extension of the previous program and was implemented to address requests from Indigenous hunters for further incentives to harvest wolves. This pilot project includes monitoring; ENR will track the number of dìga harvested and the observations of dìga reported by hunters as well as hunters' feedback on the logistics of harvesting dìga on the winter range. ENR will adaptively manage this program; if it is clear that this program is not resulting in a significant number of harvested dìga, enhancements will be made to the program and/or other options outlined in the feasibility assessment will be considered.

Recommendation #4-2019 (Predator): The WRRB recommends that dìga management should be closely monitored for effectiveness of halting or slowing the decline of the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds in order to provide future harvesting opportunities.

Response:

ENR and TG accept this recommendation. ENR and TG are working together to develop management actions to help recover caribou and developing a joint proposal on dìga management. Monitoring will be included as part of the implementation of any wolf management program. At the same time, ENR and TG have proposed to increase the monitoring of both the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds as outlined in the *Joint Proposal on Management Actions for the Bluenose-East ʔekwǫ̀ (Barren-ground caribou) Herd: 2019-2021* and the *Joint Proposal on Management Actions for the Bathurst ʔekwǫ̀ (Barren-ground caribou) Herd: 2019-2021.*

Recommendation #5-2019 (Predator): The WRRB recommends that the GNWT and TG work with the Government of Nunavut to enact predator management actions on the calving grounds of sahtì ekwǫ̀ and kokètì ekwǫ̀ in Nunavut.

Response:

As neither ENR nor TG have law-making jurisdiction in Nunavut we are unable to accept the recommendation as worded. ENR and TG would like to vary this recommendation, as the GNWT and TG can discuss potential predator management actions on the calving grounds of sahtì ekwǫ̀ and kokètì ekwǫ̀ with the Government of Nunavut.

Recommendation #6-2019 (Predator): The WRRB commits to striking a working group to begin work on a *sahcho* (grizzly bear) biological assessment by June 2019, specifically on the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds herd ranges. This working group will include at minimum the GNWT, TG and the Government of Nunavut. WRRB staff recommend that sahcho are monitored in order to determine if pressures are increasing on ekwǫ**.**

Response:

ENR and TG accept the first half of this recommendation. ENR and TG will participate in a collaborative process to work on a sahcho biological assessment led by WRRB staff. ENR can provide information on sahcho from the Northwest Territories. In April 2017, the Northwest Territories Species at Risk Committee released the "Species Status Report for Grizzly Bear (*Ursus arctos*) in the Northwest Territories", which includes both traditional knowledge and science. This status report provides a thorough biological assessment of sahcho within the NWT and should form a basis for the biological assessment.

As neither ENR nor TG have jurisdiction in Nunavut we are unable accept the second half of this recommendation as worded. Despite this, ENR can discuss potential sahcho monitoring in order to determine if pressures are increasing on ekwǫ with the Government of Nunavut. ENR and TG recognize that sahcho are an important predator on the calving and post-calving grounds of ekwǫ. As the majority of the calving grounds and post-calving ranges of the sahtì ekwǫ̀ and kokètì ekwǫ̀ herds are in Nunavut, monitoring the pressures of sahcho on ekwǫ will occur in Nunavut and be the responsibility of the Government of Nunavut.

The TG Boots on the Ground program is one method of tracking sahcho on the Bathurst range and in the future on the Bluenose-East range. Sahcho have been observed during the TG Boots on the Ground program.

Recommendation #7-2019 (Predator): WRRB staff recommend that *golden det'ǫcho* (golden eagle) are monitored in order to determine if pressures of golden det'ǫcho are increasing on ekwǫ̀. WRRB staff recommends that TG and the GNWT work with the Government of Nunavut to support golden det'ǫcho monitoring.

Response:

As neither ENR nor TG have jurisdiction in Nunavut we are unable accept the recommendation as worded. ENR and TG would like to vary this recommendation, as TG and ENR can discuss potential options for monitoring both golden det'ǫcho and bald eagles with the Government of Nunavut.

ENR and TG recognize that eagles and in particular golden det'ǫcho have been identified as a significant predator of caribou calves in other barren-ground caribou herds.

The TG Boots on the Ground program is one method of tracking eagles on the Bathurst range and in the future on the Bluenose-East range. Bald eagles have been observed during the TG Boots on the Ground program.

APPENDIX H Tłı̨chǫ Research and Monitoring Program

Tłı̨chǫ Research and Monitoring Program

By
Allice Legat, Gagos Social Analysts, Inc.
Camilla Nitsiza, Whatì Community
Madelaine Chocolate, Gamètì Community
Rita Wetrade, Gamètì Community

2007

Table of Contents

Tłı̨chǫ Philosophy

Grand Chief Jimmy Bruneau directed the Tłı̨cho̱ people to know both Western and Tłı̨cho̱ knowledge so each Tłı̨cho̱ citizen would be strong like two people. Bruneau's philosophy and direction was not new to the Tłı̨cho̱ people, who have always been interested in the ways and knowledge of others. This philosophy has been noted in both their oral narratives and the journals of the trading post factors. Each tells of Tłı̨cho̱ leaders learning the knowledge and negotiating techniques of trading post factors to ensure the best return for their people's furs. This philosophy is also evident - in oral narratives telling of activities leading up to discussions with the Federal Commissioner in 1921 when Möwhì signed Treaty 11. The stories explain that Tłı̨cho̱ were aware of the European perspective based on information they acquired from the Slavey and Chipewyan further south. Upon learning from the experience of their southern neighbours they were better prepared to deal with the Treaty Party.

Tłı̨cho̱ oral narratives stress the importance of understanding a problem, finding a solution and taking action. Their approach to learning, knowing and taking action is evident in most Tłı̨cho̱ oral narratives, as well as the manner in which past research projects were approached. The Tłı̨cho̱ have rarely allowed others to do research to address a problem they wish to know about themselves. They insist that they take an active part in research and monitoring. Specifically the Tłı̨cho̱:

- Explained to the managers of Rayrock Mine (1950s) that their observations were indicators of serious problems in the environment. They identified problems that they observed with plants and wildlife –such as beaver, marten and fish. These problems were particularly evident to those Tłı̨cho̱ who either used the area frequently or worked at the mine.
- Insist research focus on their needs and priorities – take for example the priorities set by the Dogrib Renewable Resources Committee during the early 1990s: where caribou, habitat, water and heritage were of greatest concern.
- Insist on adequate funding to ensure Tłı̨cho̱ researchers were employed as permanent, full time employees for the life of research projects – take for example the Traditional Justice and Traditional Medicine project in Whatì (1987-92); the Traditional Governance project in Gamètì (1993-1996); and the caribou and place names projects in all the Tłı̨cho̱ communities (1996-2001).
- Use the participatory action research (PAR) method that includes researcher training; an elders – both male and female elders – committee/s; rigorous research methods carried out by Tłı̨cho̱ researchers and overseen by the elders' committee; and verification of shared information. The PAR process ensures accurate understanding of the traditional knowledge that is

documented and ensures it leads to positive actions based on the recommendations.

Today, it is vital that the Tłı̨chǫ lead by undertaking their own harvesting and monitoring studies as the impacts of development on Tłı̨chǫ lands and the environment are becoming ever more evident. The Tłı̨chǫ Government and agencies have been given the authority to manage the land in the Tłı̨chǫ Agreement, but to do this effectively requires a system of research and monitoring that will feed into management decisions.

The Tłı̨chǫ Knowledge Research and Monitoring Program, which includes the collection of harvest information, outlined below is based on Tłı̨chǫ philosophy. First, the current issues for which this TK program was designed to solve are discussed, followed by a summary of the discussion with Tłı̨chǫ citizens that helped formulate the solutions. Thirdly, the program structure is described. There are five appendices that outline activities, outputs, and the evaluation questions so the TK Research and Monitoring Program can be improved through time. Appendices are as follows:

- Appendix I consists of the Program Design and Implementation Plan.
- Appendix II outlines the Evaluation Frameworks for both the on-going program activities and for the implementation activities.
- Appendix III is the Tłıcho Research and Monitoring Program Using Tłıcho Knowledge to Monitor Barren-ground Caribou.
- Appendix IV is a draft Tłıcho Knowledge Policy.

It should be noted that evaluation is done to ensure the best possible TK is being documented for future monitoring, education and understanding of the Tłı̨chǫ perspective.

Current Issue

The Tłı̨cho̱ Agreement directs Boards, Agencies and the Tłı̨cho̱ Government to i)use traditional knowledge, ii) promote cultural perspectives, and iii) select Board members that have knowledge of Tłı̨cho̱ way of life. Yet the current systems – most of which are based on Western perspectives and the British legal system – make it difficult for Tłı̨cho̱ knowledge (TK) to be used in a manner that is consistent within the Tłı̨chǫ cultural perspective and way of life.

The Agreement states that:

Section 12.1.6

> *In exercising their powers under this chapter, the Parties and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 13.1.5

> *In exercising their powers in relation to forest management, the Government of the Northwest Territories, the Tłı̨cho̱ Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 14.1.4

> *In exercising their powers in relation to the management of plants, the Government of the Northwest Territories, the Tłı̨cho̱ Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 22.1.7

> *In exercising their powers, the Mackenzie Valley Environmental Impact Review Board and the Wek'èezhìi Land and Water Board shall consider traditional knowledge as well as other scientific information where such knowledge or information is made available to the Boards.*

Furthermore, Section 12.5.5 of the Tłı̨chǫ Land Claim and Self-government Agreement (the Agreement) states that the Wek'èezhìi Renewable Resources Board (WRRB) shall:

> *(a) Make a final determination, in accordance with 12.6 or 12.7, in relation to a proposal*
>
> *i. Regarding a total allowable harvest level for Wek'èezhìi, except for fish,*

ii. Regarding the allocation of portions of any total allowable harvest levels for Wek'èezhìi to groups of persons or for specified purposes, or

iii. Submitted under 12.11.1 for the management of the Bathurst caribou herd with respect to its application in Wek'èezhìi;

The Tłı̨chǫ Agreement authorizes the WRRB responsibility for total allowable harvest (TAH) for wildlife, forests and plants and authorizes the Minister of Fisheries and Oceans (DFO) responsibility for fish conservation and the establishment of TAH for fish stocks. Both WRRB and DFO have an obligation under terms of the Agreement to determine TAH through assessment studies and other research.

For WRRB and DFO to have information necessary for sustainable management it is imperative that the Tłı̨chǫ undertaken their own monitoring by documenting their observations and harvesting information to ensure they contribute to the process. If allocations are to be made among users of the resource it will be necessary to determine basic needs levels of the beneficiaries of the claim. Allocations of fisheries and wildlife resources will be difficult without this basic harvest information from the harvesters themselves.

For the Agreement to be honoured three activities need to occur:

1. Baseline information must be gathered from elders on known trends as harvest, wildlife and vegetation distribution.

2. Information gathered through Tłı̨chǫ traditional methods of monitoring needs to be documented on an on-going basis.

3. Realistic harvest studies need to be ongoing.

Although scientific information is readily available, most Tłı̨chǫ knowledge is in the minds of the elders and harvesters. For this reason, a program is needed so Tłı̨chǫ researchers can work with elders and harvesters to document their knowledge in a manner that does not lose the Tłı̨chǫ perspective. This is usually detailed knowledge of past conditions that they share with their descendants while sharing their current observations of wildlife and wildlife habitat. And, as is the traditional mode of sharing, numbers of species observed and harvested, are shared with others in the community along with other information such as behaviour of wildlife and the people harvesting. All information available is used to make management decisions.

One of the important features of Tłı̨chǫ knowledge is that it is acquired, enhanced and communicated on the land while people are engaged in land-based activities. It is also communicated after harvesters return to the community through oral narratives.

Modern harvest studies often ask harvesters to fill out survey forms in English, or to provide limited information that can be taken out of context. These studies may fail because they are not compatible with how Tłı̨chǫ knowledge, including information about harvest, is transmitted through oral narratives.

This project was designed to ensure that both monitoring and realistic harvesting numbers can be recorded in a culturally appropriate manner. This will help alleviate the problem that many respondents choose not to answer correctly harvest study questions posed by non-community members. (see Harvest Study Report, 2009).

Finding a Solution

In 1999-2000, the Tłı̨chǫ Regional Elders' Committee – under the direction of *K'àowo*[1] Jimmy Martin – requested Dogrib Treaty 11 staff who were working with the elders to bring male and female harvesters from each community to discuss a Tłı̨chǫ monitoring program. Funding for this meeting was secured from Cumulative Impacts and Monitoring Program, Environment Canada. The elders and harvesters directed staff to initiate monitoring around the diamond mines – with research/hunting camps located in strategic locations around the mines that would enable harvesters to observe the behaviour of caribou in relation to the mines. They also suggested a camp be located at Gots'ôkàtì and Deèzhàatì so caribou behaviour could be compared with non-mining areas.

In September 2008 the Wek'èezhìi Renewable Resources Board (WRRB) and the Tłı̨chǫ Government started work towards implementing a Tłı̨chǫ monitoring program. Also at that time members of the Wek'èezhìi Forum requested that work be done to develop TK policy.

The TK program design with associated policy guidelines were developed based on discussions held during the household visits made by the Project Team between April 2009 and December 31, 2009. All households in the three fly-in communities of Gamètì, Wekweetì and Whatì were contacted. Behchokö has a significant population therefore only those households with active harvesters and elders were contacted. During these visits Tłı̨chǫ researchers, along with Dr. Allice Legat, explained the importance of Tłı̨chǫ knowledge in the Tłı̨chǫ Agreement and the possibility of establishing a monitoring program as originally laid out by the elders and harvesters in 1999. Two Tłı̨chǫ researchers – Ms. Camilla Nitsiza and Ms. Madelaine Chocolate - did conducted the household visits, although Ms. Mary Adele Wetrade did assist Madelaine Chocolate in

[1] Translated as 'boss'. The role is significantly different than the Western concept for 'chair'.

Gamètì. Household visits took longer than anticipated because i) individuals wished to express their views after hearing the role of the WRRB as it is mandated in the Tłı̨chǫ Agreement; and ii) individuals were delighted to expound on the potential for harvesters and elders working together with Tłı̨chǫ researchers to monitor the land as first set out by the elders in 1999-2000. Their excitement at building on their traditional management practices was clear.

After completing household visits and analyzing Tłı̨cho̱ responses, it became clear that it would be culturally appropriate to develop interview guidelines that allowed harvesters to share information in a manner similar to how they normally explain their harvest and observations to one another and to their elders. The Tłı̨cho̱ researchers found harvesters would prefer to discuss their activities – both observations (monitoring) and harvesting – in either a home or office setting, but at their own convenience. Finally, they found that harvesters thought if Tłı̨cho̱ were doing the documenting and report writing they could then be assured: i) individual harvest numbers would remain confidential; ii) their information would be documented realistically; and iii) their observations would remain in the context within which their observations were made.

Following the household visits, the next step was to hold community meetings, and establish Community Elders' and Harvesters' Committees to assist with the final design of the program and program guidelines.

After the first community meeting in Gamètì, the elders met to select a committee. The Gamètì Committee met four times with the TK staff, Rita Wetrade, and Allice Legat to discuss what had been heard at the household level and to hear more specific views. During the fourth meeting, the Committee recommended a Regional TK Elders/Harvesters Working Group (TK Regional Working Group) be established to complete the work. Gamètì Committee members thought that it would be better if Tłı̨chǫ from all four communities worked together from the start so they could address all issues together. Six (6) members on the TK Regional Working Group had been active on the TK Regional Elders Committee from 1996-2002 while the remaining ten (10) harvesters and elders were named by the Tłı̨chǫ WRRB members. The Working Group meetings were held between January and March 31, 2010: three in Gamètì,[2] one in Wek'weetì, and one in Behchokö.

[2] Under the direction of John B. Zoe, TEO, a TK Office has been established in Gametì. However office furniture and computers have yet to be purchased and staff has yet to be hired.

The following is a summary of how discussions at the household level and at community and TK Regional Working Group meetings have informed key components of the program design.

Species Important to Local Harvesters

Caribou and fish are always cited as the most important. Nevertheless, all Tłı̨chǫ̨ elders and harvesters explain – as is consistent with members of hunting and gathering societies – that all species are important, including human. They also explained that if one is to understand trends and impacts within Wek'èezhìi, human behaviour should be monitored noting what is being harvested by both male and female harvesters and whether or not all is used or if resources are wasted. [3]

Everyone agreed that all harvested animals should be documented as it would demonstrate a more realistic flow of events and levels during the annual cycle, and a more accurate account of their observations and land use.

Tłı̨chǫ Citizens to be Interviewed

During conversations at the household level, it became apparent that many younger people felt they did not know enough about the environment to speak with the researchers, but did think that they could report what they had harvested and observed as long as older, more experienced elders and harvesters were present to help them to understand their observations. Specifically younger people thought that if elders and harvesters were present they would gain a better understanding of how their observations were similar or different than the past and how their own knowledge and behaviour impacts on their observations.

During past discussions – prior to this project - elders thought that all individuals should be encouraged to report their observations and harvest – even if observations are made while 'picnicking' or traveling with family members and harvesting is not the main goal.

Most of the elders and harvesters participating in the TK Regional Working Group thought leaders should tell harvesters to report their observations and harvest.

During discussions after the meetings, the Project Team thought that once the Community Elders' Committees are established the elders – specifically the *k'aawo* on those committees - would encourage individuals to visit the Tłı̨chǫ̨ Knowledge Research and Monitoring office and report their observations and harvest.

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[3] Although not discussed during the household visits or during the meetings, most elders and active harvesters suggest that human activities associated with industrial development and exploration should be monitored by stewards of the land.

Researchers documenting the information would be trained to note whether the individual is an experienced or inexperienced harvester, and whether or not they are a full-time or part-time harvester; and whether or not their main activity at the time of sighting resources was harvesting.

Sharing Information

Throughout all discussions it became clear that community members would be more open about sharing their harvesting information as well as their observations if they understood that their oral narratives and their observations - 'raw data' - would remain with and be safeguarded by the Tłı̨chǫ Government, and kept in the Tłı̨chǫ communities.

Several individuals expressed that they feel they are being "checked-up on" when non-Tłı̨chǫ ask questions and are worried that it can be used against them.

Schedule of Discussions with Households

Based on the manner in which Dene pass information, it was made abundantly clear during household visits and during the TK Regional Working Group meetings, that oral narratives are the process for sharing detailed information. (see also Basso, Cruikshank, Goulet, and Sharp on the importance of oral narratives among all Dene). For this reason the researchers/interviewers will be trained to use an 'gathering oral narratives guide' while documenting information shared by harvesters.

The TK Regional Working Group thought the office should be open at least five days a week so harvesters could report when convenient and on an ongoing basis so numbers and observations are recorded quickly.

Expectations of Harvesters and Elders

All Tłı̨chǫ citizens with whom the researchers spoke liked the idea that monitoring skills and harvesting information would be given back to the community every few months – by the Tłı̨chǫ researchers. They thought the communities could benefit from hearing this information and verifying the researchers' interpretations so misunderstandings could be clarified.

The TK Regional Working Group thinks that reporting back to the community at public meetings is extremely important. If the researchers share a summary of what they have heard with the community, then harvesters will be more likely to provide their observations and harvest numbers. They reasoned that the harvesters would know they were being heard and that their knowledge and information was being documented accurately. For example,

1. Their observations of the environment about health of animals and state of habitat, etc - are being heard;
2. Harvesters will feel secure that harvesting data is correct and their elders and leaders can use the information for management decisions.

Compensation for Harvesters

This has not been discussed with harvesters during the household visits or at the elders and harvesters meetings. During past discussions with elders, it was thought that harvesters should report on a volunteer basis, but should be compensated when attending the verification and sharing meetings when more information on their observations can be noted. Only those harvesters who participated on a volunteer basis would be compensated at the verification and working group meetings.

It is proposed that this is a decision for the Tłı̨chǫ leadership after being discussed at a Tłı̨chǫ Assembly, recognizing that availability of resources may be a constraint.

Reporting

Since using Tłı̨chǫ knowledge in environmental management is important to Tłı̨chǫ, it is recommended that after the verification meetings with elders and harvesters, report/s – annual or bi-annual - should be written for the Chief Executive Council that would then be released to the public – Boards, agencies, Industry, Federal and Territorial governments.

Duration of Harvest Study within Monitoring Program

During the household visits, the community meeting and the TK Regional Working Group meetings, the vast majority (young people did not speak to this topic) of Tłı̨chǫ citizens thought the harvest study within the monitoring program should be on-going.

Program Structure

The Tłı̨chǫ Knowledge Research and Monitoring Program is designed to capture knowledge in a manner that is compatible with the Tłı̨chǫ cultural perspective. It is also designed to acknowledge the continued importance of oral narratives as the medium with which to share information and the importance of Tłı̨chǫ̨ land-based activities in learning and being able to apply and promote Tłı̨chǫ knowledge.

Program Goals

A Tłı̨chǫ Knowledge Research and Monitoring Program will support goals that assist the Tłı̨chǫ̨ Government, and the boards and agencies under the Tłı̨chǫ Agreement, to fulfill their mandate within the co-management regimes. It will also provide direction to industry and non- Tłı̨chǫ researchers on expectations and costs. This program will support the following program outcomes:

1. Tłı̨chǫ knowledge and perspectives are utilized in management and decision-making.
2. The Tłı̨chǫ Government and its boards and agencies have the information they need to play a strong role in co-managing the environment, and to support programs such as education.
3. The Tłı̨chǫ Government has the information it needs to play a strong role in managing caribou and other wildlife, plants and forests; and has its own information and reports to support bargaining and negotiations.
4. Harvesting maintains its role as a respected and important economic and social endeavour.
5. Tłı̨chǫ knowledge, perspective and language are strengthened through oral narratives and land-based activities.
6. Integrated knowledge transfer is occurring across generations.
7. Tłı̨chǫ place names are documented accurately to express bio-geographical information, and to support the process of acquiring official place name status.

Social Impacts

If the program successfully achieving the above goals, it will help to support broader social impacts such as the following:

- Tłı̨chǫ citizens will fulfil their traditional stewardship responsibilities to care for the land.
- TK is transmitted in a manner that is compatible with Tłı̨chǫ culture and social structure.

- Tłı̨chǫ language is strong and used in daily conversations.
- Tłı̨chǫ citizens are emotionally and spiritually healthy.
- There is a structured process for Tłı̨chǫ youth to learn land-based skills and knowledge.
- Tłı̨chǫ place names become official.

Program Design and Implementation

The establishment of a fully developed, effective Tłı̨chǫ Knowledge Research and Monitoring Program is a necessary but ambitious undertaking. It will require substantial resources and careful planning. It will also require investment in training and in information technology. The program will take approximately two years to implement, and five years to become fully operational. It will take at least two years to develop TK policies, guidelines and directives that are consistent with the Tłı̨chǫ perspective and the Tłı̨chǫ Agreement, and provide direction and clarity for boards, agencies and TG departments that is both practical and respectful of Tłı̨chǫ knowledge. Guidelines and directives developed for boards, agencies and TG departments will reflect Tłı̨chǫ Government policy on access and use of Tłı̨chǫ knowledge.

There are several activities that need immediate attention if the program is going to provide information for caribou management, for the Environmental Assessment of the proposed highway route within Wek'èezhìi, and for Fortune Mineral's mining venture, with respect to impacts on land, wildlife and water.

To ensure harvesters' and elders' observations, knowledge and harvest are documented and used, the following activities will be undertaken within the next two years when initiated in November 2010:

1. Establish a comprehensive database to support the organization and storage of Tłı̨chǫ monitoring and harvest data in a manner that is consistent with oral narrative and protocol;
2. Digitize and enter existing information into the database;
3. Establish operating procedures for the program, including human resource policies and procedures, compensation policies, and development of research methods;
4. Establish training programs for researchers and data entry clerks;
5. Hire and train staff;
6. Undertake promotion and outreach to ensure that communities understand and support the program, and that harvesters participate;
7. Establish community Elders' Committees;

8. Develop a Tłı̨chǫ Knowledge Policy[4] for approval by the Tłı̨chǫ Government.

Appendix I contains a more detailed outline of the proposed structure of the program, including a comprehensive list of proposed activities required to implement the program and a comprehensive list of program activities over the longer term, together with anticipated outputs from those activities.

Appendix II contains a draft evaluation framework for implementation evaluations in Year 2, and a more fulsome outcome evaluation in Year 5. These evaluations will help to measure whether the program is on track to achieve the goals/outcomes outlined above.

The Tłı̨chǫ are faced with two urgent issues that require immediate attention: **i)** the need for caribou monitoring in the face of current concerns about the integrity and health of the Bathhurst caribou herd and harvest numbers; and ii) the Fortune Minerals and all-weather road proposal**s**. It is proposed that program implementation be fast-tracked with specific regard to these two issues. More detail on the activities required for the Special Project: Caribou Monitoring and Harvest Study can be found in Appendix III. Special Project Design for Environmental Assessments TK baseline research associated with Fortune Minerals and the proposed road will be completed in the near future.

In addition, the Tłı̨chǫ Government requires knowledge of several areas that are being proposed as protected areas.

[4] See Draft policy in Appendix IV.

Tłı̨chǫ Knowledge Research and Monitoring Program
Summary Table of Proposed Structure

SOCIAL IMPACTS

- Tłı̨chǫ citizens will fulfil their traditional stewardship responsibilities to care for the land.
- Tłı̨chǫ knowledge is transmitted in a manner that is compatible with Tłı̨chǫ culture and social structure.
- Tłı̨chǫ language is strong and used in daily conversations.
- Tłı̨chǫ citizens are emotionally and spiritually healthy.
- There is a structured process for Tłı̨chǫ to youth learn land-based skills and knowledge.
- Tłı̨chǫ place names become official

GOALS

- Tåîchô knowledge and perspectives -are utilized in management and decision-making.
- The Tåîchô Government and its boards and agencies have the information they need to play a strong role in co-managing the environment, and to support programs such as education.
- The Tåîchô Government has the information it needs to play a strong role in managing caribou and other wildlife, plants and forests; and has its own information and reports to support bargaining and negotiations.
- Harvesting maintains its role as a respected and important economic and social endeavour.
- Tåîchô knowledge, perspective and language are strengthened through oral narratives and land-based activities.
- Integrated knowledge transfer is occurring across generations.
- Tåîchô place names are documented accurately to express bio-geographical information, and to support the process of acquiring official place name status.

ACTIVITIES

- Establish a comprehensive database to support the organization and storage of Tłı̨chǫ monitoring and harvest data in a manner that is consistent with oral narrative and protocol.
- Digitize and enter existing information into the database.
- Establish operating procedures for the program, including human resource policies and procedures, compensation policies, and development of research methods.
- Hire and train staff – research, data entry, etc.
- Undertake promotion and outreach to ensure that communities understand and support the program, and that harvesters participate.
- Establish an Elders' Committees to guide the programme.
- Develop a Tłı̨chǫ Knowledge Policy[1] for approval by the Tłı̨chǫ Government.
- Evaluate the program to make sure it is achieving the goals.
- Implement culturally appropriate research and monitoring activities.

Appendix I
Program Design and Implementation

By Allice Legat
Gagos Social Analysts, Inc

Program Design and Implementation
Tłı̨chǫ Knowledge Research and Monitoring Program

Program Structure: Implementation Phase

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*
Data Base	Design and develop database to compile and retain Tłı̨chǫ knowledge and to follow oral narrative protocol Copy tapes and photos in digital format. Enter photo information into photo data base	• Comprehensive and functioning database completed and operational • Tapes and photos can be used via computer and internet
Tłı̨chǫ Knowledge Policy	Comprehensive TK policy approved by TG	• WLWB and WRRB policies can complement TG • Industry knows TG's expectations • TK staff understand role of TK for future
Training	Identify staff training requirements and design training plans	• Staff will have the skills required to make the program a success • Training programs are designed for all aspects of program operations

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*
TK Elders' Committee/s	Elders Committee are established and functioning as per the Terms of Reference	• Terms of reference are established and approved by TG • Elders Committee is operational • Elders are guiding the design and implementation of the program • Elders are working with community residents to know their traditional roles and responsibilities
Promotion and Outreach	Promote and explain the program to Tłı̨chǫ citizens	• Community residents are aware of the TKRM program • Tłı̨chǫ citizens support the program
	Describe steps taken to develop program in academic setting	• Tłı̨chǫ knowledge program gains credibility with a broader audience • Success in external fund-raising
Program Administration	Develop operating procedures for the program Develop comprehensive guidelines for program including issues such as harvester compensation, participation criteria Develop activity outline for pilot projects: Main office established Budget finalized Funding is secured for program start-up and fund-raising plans are developed	• Job descriptions are written and staff are hired • Required policies and procedures are in place • Compensation policy for participating harvesters is implemented • Concept of "harvester" is defined for the purposes of the program • Protocol for community meetings is established • Protocol for producing and distributing reports is established • caribou monitoring and harvest study • Baseline for Fortune minerals and proposed road • Office space secured • Archival section established • Core funding requirements for six years determined • Final budget approved by TG • Effective fund-raising approach results in external funding support (industry, GNWT, DFO, WLWB, WRRB)

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*
Research and Monitoring Methodology	Implement culturally appropriate process for harvesters to share observations and harvest Describe program development process in academic paper and present at conference	• Harvesters are comfortable with the process • Tłı̨chǫ knowledge is transmitted in a culturally appropriate manner • Papers written • Conference attended

Program Design and Implementation
Tłı̨chǫ Knowledge Research and Monitoring Program

Program Structure: Ongoing

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*
Data Base	Maintain and update database regularly after each information exchange wıth harvesters and elders. Produce reports regularly and review at community meetings and with Elders' Committee Produce reports in response to requests	• Database is up to date and capable of creating reports upon demand • Baseline information is available for environmental assessments, and environmental management • The store of Tłı̨chǫ knowledge is expanded as new information is entered into the database
Tłı̨chǫ Knowledge Policy	The policy and associated directives provide appropriate guidance for TG elected representatives and staff, and external agencies	• The role of Tłı̨chǫ knowledge is understood • Industry is clear about TG expectations • Boards are clear about TG expectations • Federal and Territorial Governments are Clear on TG expectations
Collaborate with TG Departments	Sharing of information and expertise established through inter-department guidelines	• Process for intra-TG access to data base. • Information on TCSA tapes entered in data base. • Information on TK tapes storied in Land Department entered in data base. • Tłı̨chǫ language training schedule. • Land Department uses TK information and reports for management of land, wildlife and associated habitat.

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*

Training	On-going training for program staff to ensure they are effective cultural interpreters	• Process for on-going training established.
		• Process for inter-department training to access and use data base to complete land, wildlife and other applications and permits.
		• Trained TK community researchers are available to work with harvester and elders.
		• Database administrator is trained to maintain the database.
		• Staff have the skill to:
		  ○ Efficiently document interviews.
		  ○ Use interview guidelines.
		  ○ Maintain archives and produce reports.
		  ○ 'Go after' concepts of Tłı̨chǫ and English terms.
		  ○ Write Tłı̨chǫ.
		  ○ Identify similarities and differences between Tłı̨chǫ and western management ideals.

TK Elders' Committee/s	Tłı̨chǫ elders provide on-going guidance to the program	• Elders' Committee is functioning effectively • Elders play a meaningful role in all phases of program • Elders work with Tłı̨chǫ citizens to know their traditional roles and responsibilities
Promotion and Outreach	Elders and leaders promote and explain the program to Tłı̨chǫ citizens Community meetings are held to promote program and review information. Establish network with WRRB and WLWB to ensure they have information needed for environmental management decision. Describe program in academic papers and settings.	• Community residents are aware of the program and its importance for Tłı̨chǫ knowledge • Tłı̨chǫ citizens support the program • A majority of harvesters participate in the program by providing information • Biannual reports are released publicly • Tłı̨chǫ knowledge program gains credibility with a broader audience • Success in external fund-raising

	ACTIVITIES *(What needs to be done)*	*OUTPUTS* *(What we hope to achieve)*
Culturally appropriate research, monitoring and harvest study	Implement culturally appropriate process for researchers to interview and receive information from elders and harvesters Establish protocols for providing monitoring and harvesting reports to appropriate agencies Conduct field camps with elders and Tłı̨chǫ researchers (including those in Land Department) to review data, expand database and build skills of researchers Collaborate with TCSA to link youth to the program	• Harvesters and elders are comfortable with the interview process • Tłı̨chǫ knowledge is transmitted in a culturally appropriate manner • Tłı̨chǫ place names are effectively documented • Three field camps are held annually, with 50 participants including youth • Field camps include participation across four generations • Information compiled by researchers is verified and expanded upon • Harvesters are fairly and appropriately compensated for their contribution. • Trends are made available to agencies on a timely basis
Research and Monitoring Methodology	Program operates efficiently and effectively Participatory Action Research method utilized • Interview guidelines utilized • Information organized • Team members understand final goals • On-going training accomplished Program is successful in achieving goals	• Useful information being collected and analyzed • Working within budget • Evaluation frameworks are established • Evaluation reports are completed • Program changes are made as required based on evaluation

Appendix II
Evaluation Frameworks

By

Allıce Legat
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Evaluation Frameworks
Tłı̨chǫ Knowledge Research and Monitoring Program

Evaluation Framework: Five-Year Outcome Evaluation

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Goal #1: Tłı̨chǫ knowledge and perspectives are used in environmental management and decision-making	Is Tłı̨chǫ knowledge used by the Tłı̨chǫ Government, Boards, other governments to inform environmental management and decision-making? Is industry aware of Tłı̨chǫ Government expectations regarding use of Tłı̨chǫ knowledge? Is this reflected in development proposals? Are harvester observations being used to flag emerging trends and issues for regulatory agencies?	# of reports requested by all government agencies and Boards # of regulatory decisions that incorporate Tłı̨chǫ knowledge in written decisions # of times Tłı̨chǫ knowledge is reflected in government plans and policies # of reports requested by industry # of emerging issues flagged through harvester observations	Program files – TKRMP, TG, WRRB, WLWB Information requests will be entered into the database on an on-going basis Information from external agencies, e.g. federal and territorial departments, MVEIRB, MVLWB Database reports	Program management in consultation with other agencies Contractor or Program Management to conduct interviews with external agencies, file research as required

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Goals #2 and #3: **The Tłı̨chǫ Government and its boards and agencies have the information they need to play a strong role in co-managing the environment and to support programs such as education.** **The Tłı̨chǫ Government has the information it needs to play a strong role in managing caribou and other wildlife, plants and forests; and has its own information and reports to support bargaining and negotiations**.	Is the level of information available sufficient to meet the needs of government agencies for management decisions? Is the program documenting information on all aspects of harvesting, including harvest data, observations about trends, observations from women's as well as men's processing of products? Is the database working as an effective tool to access information? Have Tłı̨chǫ̨ government agencies and boards used the information in reports? Are boards and agencies satisfied with the information that has been provided?	# of information requests received # of requests turned down because information not available # of reports produced in response to requests Compliance with established reporting protocols Reflection of information provided in regulatory and environmental decision-making Level of satisfaction with reports provided Incorporation of TKRMP information incorporated into curriculum development	Database Program files Review of regulatory and environmental decisions and reports Consultation with other TG agencies	Archivist and database manager Program management External contractor to conduct file review, consult clients

	Is information being used to inform curriculum development?			
Evaluation Issue	***Evaluation Question***	***How Will we Measure It?***	***What information will be needed and where will we find it?***	***Who will collect this Information for Evaluations and When?***
Goal #4: **Harvesting maintains its role as a respected and important economic and social endeavour**	Is the proportion of Tłı̨chǫ citizens involved in harvesting activities increasing, decreasing or staying stable? What role does harvesting play in providing food to Tłı̨chǫ̨ households? How many Tłı̨chǫ citizens are earning an income from harvesting activities? Are young people requesting time with harvesters so they can learn harvesting skills, including use of resources through production of crafts?	# of residents involved in harvesting and related activities # of harvesters participating in the TKRMP Amount of country food consumed by Tłı̨chǫ̨ citizens Income from trapping Income from production of traditional crafts (including clothing)	Baseline information on participation in harvesting activities Participation and consumption rates from database Income information from census, GNWT	Baseline information - program management to compile as soon as possible Community researchers to enter results of harvester debriefs daily Program management to work with external contractor to compile

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Goal #5: Tłı̨chǫ knowledge, perspective and language are strengthened through oral narratives and land-based activities	Is TKRMP information being shared in a manner that is culturally appropriate? Is the program utilising the expertise of families with knowledge in specific geographical areas? Is the Elders' Committee effective in providing guidance to the program and participating in on-going evaluation? Is the program achieving recognition and credibility outside the Tłı̨chǫ area?	# of citizens participating in TKRMP review meetings, and trends # of participants who are comfortable with the process, and trends # of harvesters visiting the offices or requesting home visits, and participation trends Effectiveness of research methodology in acquiring enhanced Tłı̨chǫ knowledge Role of the Committee in influencing program operations and reports Number of presentations to external agencies or academic conferences External requests for information	Database Program files Interviews with program participants and clients (using appropriate methods) to determine effectiveness Focus groups and file research Elders' Committee evaluation	Community researchers through regular data inputs Program management External contractor

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Goal #6: Integrated knowledge management and transfer is occurring across four generations	Are field camps being held on a regular basis? How effective are the field camps in providing a forum for knowledge and values transfer? Is the knowledge of elders being transmitted successfully to younger generations? Is information from the TKRMP being used to educate youth and inform school curricula?	# and regularity of field camps Field camp participation rates and level of knowledge acquired by participants Satisfaction levels of field camp participants Ability of youth and elders to communicate about Tłı̨chǫ knowledge in the Tłı̨chǫ language Youth awareness of program and understanding of Tłı̨chǫ knowledge Incorporation of TKRMP information and methods into school programs	Program files Field camp pre- and post-tests Field camp evaluation results Explore partnership with TCSA to monitor TCSA program files and staff	Pre- and post-tests to be designed in Year 2 and administered by program staff at all field camps Field camp evaluation format to be designed in Year 1 and administered by program staff at all field camps Program management and external contractor

Goal #7: Information on Tłı̨chǫ place names is documented accurately to express bio-geographical knowledge, and to support the process of official place names	Is place name information being compiled and documented through research process? Are place names translated and spelled correctly to ensure accuracy of meaning? Is information being used to support the process of establishing Tłı̨chǫ names as official place names?	# of place names identified through research methods Review place names for accuracy and satisfaction # of official place names processed based on TKRMP information	Database Researchers and Elders' Committee to conduct regular review. Tłı̨chǫ Government toponymy files?	Community researchers to update database daily Program management to establish process in Year 2 External contractor to compile

Evaluation Frameworks
Tłı̨chǫ Knowledge Research and Monitoring Program

Evaluation Framework: Implementation Evaluation

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Database	Is the database operational and adequate to meet program needs? Have past records been digitized and entered into the database? Have existing photos been digitized and entered into the data base? Are researchers using the database and regularly updating it? Does database follow oral narrative and protocol? Is information accessible on the internet?	# of tapes digitized # of photos digitized # of new entries made per month relative to harvesters' oral narrations and observations Volume of backlogged data entry being accomplished by staff	- Baseline assessment of existing data to be digitized - Data base - Program files - Researchers	Baseline information - program management as soon as possible Program director in consultation with researchers, at end of first and second years

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Tłı̨chǫ Knowledge Policy	Has the comprehensive TK policy approved by CEC? Has the TK policy been forwarded to Boards and Agencies, GNWT and Federal Departments? Have TG departments and agencies developed associated guidelines and protocols? Is industry aware of Tłı̨chǫ Government expectations?	Status of policy and guidelines Is policy publicly available on TG web page # of Boards, agencies, Government and business receiving policy TG and agency communications with industry	- TG, WLWB and WRRB records - Web page - TG and agency program files - Discussions with TG and agency program staff	Program management at end of first and second years

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Training	Have training plans been developed? Has schedule for training workshops been set? Have training programs been developed for : - Literacy in two languages - TK concepts and perspectives - Interview techniques - Report writing - Archival skills Is further training required?	# of training workshops designed and delivered # of staff who successfully complete training Degree of staff turnover(link to reason) #of staff with literacy in English and Tłı̨chǫ Staff use of interview techniques (guidelines) when listening to harvesters and elders #of documented material with correct numbering Staff acquisition of the necessary skills	- Training evaluation sheets - Personnel files - Program files - Program management observations	Training providers to ensure evaluations are completed of training sessions Program management, in consultation with trainers, harvesters and Elders' Committee; at end of first and second years

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Operation of Elders' Committee	Is the Committee operating as it was intended? Has the Elders Committee replaced the Working Group? Did Regional working Group develop Terms of Reference for elders' committee? Are the elders satisfied with the research results and interactions of program staff with the community?	Status of Terms of Reference Extent to which committee operations are consistent with TOR # of community meetings held Attendance at meetings Satisfaction of Committee members with process and support	- Program files (attendance and committee minutes) - Survey of Committee members	Program management, at end of first and second years

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Promotion and Outreach	Are elders and leaders encouraging participation?	# of community residents who are aware of program	Comparative information with household visits 2008-2010	Baseline information - program management as soon as possible
	Are harvesters aware of the program?	# of introductory meetings held	Program files and data base	Community researchers to enter results of harvester debriefs daily
	Are harvesters fairly and adequately compensated for their participation?	# of home visits Degree of expressed support for the program		Program management to compile annually
		Degree of participation by harvesters		
		Degree of satisfaction with compensation		
	Are program goals and achievements being shared with a broader audience?	Number of presentations to external agencies or academic conferences	Program files	Program management to compile annually
		External requests for information		

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
Research and Monitoring Methodology	Are harvesters comfortable with the process? Is Tłı̨chǫ knowledge transmitted in a culturally appropriate way? Has a methodology been established to ensure an effective role for elders in program evaluation?	# of harvesters sharing observations and harvest information through the program Harvester participation rates by category (i.e. women, youth, children) degree of harvester comfort with research methodology rate of participation in community meetings success of discussions at community meetings	- Data base - List of harvesters - Comments to researchers - Elders Committee evaluation	Community researchers to enter results of harvester debriefs daily Elders' Committee to provide input Program management, at end of first and second years

Evaluation Issue	*Evaluation Question*	*How Will we Measure It?*	*What information will be needed and where will we find it?*	*Who will collect this Information for Evaluations and When?*
<u>Program administration</u>	Do all staff have job descriptions? Are required policies and procedures in place? Has a space been secured for TK office? Are training and procedure manuals available for staff? Funding: Has core funding been established Has a funding raising plan been developed Does program have adequate funding	% of job descriptions completed % of policies, procedures, manuals and guidelines completed status of compensation guidelines and number of issues raised by harvesters or program administrators Funding: Status of budget development Availability of funding Success of external fund-raising efforts	Program files TG, WRRB and WLWB program files	Program management, at end of first and second years

Appendix III

Tłı̨chǫ Research and Monitoring Program

Using Tłı̨chǫ Knowledge to Monitor Barren-ground Caribou

Consultation, Verification and Program Design
Allice Legat
Camilla Nitsiza
Madeline Chocolate-Pasquayak

August 30, 2010

Table of Contents

Tłı̨chǫ Philosophy

Grand Chief Jimmy Bruneau directed the Tłı̨chǫ people to know both Western and Tłı̨chǫ knowledge so each Tłı̨chǫ citizen would be strong like two people. Bruneau's philosophy and direction was not new to the Tłı̨chǫ people, who have always been interested in the ways and knowledge of others. This philosophy has been noted in both their oral narratives and the journals of the trading post factors. Each tells of Tłı̨chǫ leaders learning the knowledge and negotiating techniques of trading post factors to ensure the best return for their people's furs. This philosophy is also evident - in oral narratives telling of activities leading up to discussions with the Federal Commissioner in 1921 when Möwhì signed Treaty 11. The stories explain that Tłı̨chǫ were aware of the European perspective based on information they acquired from the Slavey and Chipewyan further south. Upon learning from the experience of their southern neighbours they were better prepared to deal with the Treaty Party.

Tłı̨chǫ oral narratives stress the importance of understanding a problem, finding a solution and taking action. This approach to learning, knowing and taking action is evident in most Tłı̨chǫ oral narratives, as well as the manner in which past research projects were approached. The Tłı̨chǫ have rarely allowed others to do research to address a problem they wish to know about themselves. They insist that they take an active part in research and monitoring. Specifically the Tłı̨chǫ:

- Explained to the managers of Rayrock Mine (1950s) that their observations were indicators of serious problems in the environment. They identified problems that they observed with plants and wildlife –such as beaver, marten and fish. These problems were particularly evident to those Tłı̨chǫ who either used the area frequently or worked at the mine.
- Insist research focus on their needs and priorities – take for example the priorities set by the Dogrib Renewable Resources Committee during the early 1990s: where caribou, habitat, water and heritage were of greatest concern.
- Insist on adequate funding to ensure Tłı̨chǫ researchers were employed as permanent, full time employees for the life of research projects – take for example the Traditional Justice and Traditional Medicine project in Whatì (1987-92); the Traditional Governance project in Gametì (1993-1996); and the caribou and place names projects in all the Tłı̨chǫ communities (1996-2001).
- Use the participatory action research (PAR) method that includes researcher training; an elders – both male and female elders – committees; rigorous research methods carried out by Tłı̨chǫ researchers and overseen by the elders' committee; and verification of shared information. The PAR process ensures accurate understanding of the traditional knowledge that is documented and ensures it leads to positive actions based on the recommendations.

Today, it is vital that the Tłı̨chǫ lead by undertaking their own harvesting and monitoring studies as the impacts of development on Tłı̨chǫ lands and the environment are becoming ever more evident. The Tłı̨chǫ Government and co-management boards have been given the authority to

manage the land in the Tłı̨chǫ Agreement, but to do this effectively requires a system of Tłı̨chǫ knowledge (TK) research and monitoring that will feed into management decisions.

The *Special Project: Using Tłı̨chǫ Knowledge to Monitor Barren Ground Caribou* described below is based on Tłı̨chǫ philosophy and is part of the Tłı̨chǫ Knowledge Research and Monitoring Program. The description of this project follows the following format: first, the current issues, for which the TK program was designed to solve, are discussed. Second, the program structure, on which the caribou monitoring and collection of harvest information is a part, is described.

It should be noted that evaluation is done to ensure the best possible TK is being documented for future monitoring, education and understanding of the Tłı̨chǫ perspective. The purpose is not to pass judgment but to provide tools to fine tune the program to ensure TK is documented and used.

Current Issue

The Tłı̨chǫ Agreement directs co-management boards, government agencies and the Tłı̨chǫ Government to i) use traditional knowledge, ii) promote cultural perspectives, and iii) select Board members that have knowledge of Tłı̨chǫ way of life. Yet the current systems – most of which are based on Western perspectives and the British legal system – make it difficult for Tłı̨chǫ knowledge (TK) to be used in a manner that is consistent within the Tłı̨chǫ cultural perspective and way of life.

The Wek'èezhìi Renewable Resources Board in collaboration with the Tłı̨chǫ Government decided to develop and implement a program that would be a positive step towards using Tłı̨chǫ knowledge in manner that considers Tłı̨chǫ perspectives.

The Agreement states that:

Section 12.1.6

> *In exercising their powers under this chapter, the Parties and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 13.1.5

> *In exercising their powers in relation to forest management, the Government of the Northwest Territories, the Tłı̨chǫ Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 14.1.4

> *In exercising their powers in relation to the management of plants, the Government of the Northwest Territories, the Tłı̨chǫ Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.*

Section 22.1.7

> *In exercising their powers, the Mackenzie Valley Environmental Impact Review Board and the Wek'èezhìi Land and Water Board shall consider traditional knowledge as well as other scientific information where such knowledge or information is made available to the Boards.*

Furthermore, Section 12.5.5 of the Tłı̨chǫ Land Claim and Self-government Agreement (the Agreement) states that the Wek'èezhìi Renewable Resources Board (WRRB) shall:

> *(a) Make a final determination, in accordance with 12.6 or 12.7, in relation to a proposal*
>
> *i. Regarding a total allowable harvest level for Wek'èezhìi, except for fish,*

ii. Regarding the allocation of portions of any total allowable harvest levels for Wek'èezhìi to groups of persons or for specified purposes, or

iii. Submitted under 12.11.1 for the management of the Bathurst caribou herd with respect to its application in Wek'èezhìi;

The Tłı̨chǫ Agreement authorizes the WRRB the responsibility for total allowable harvest (TAH) for wildlife, forests and plants and authorizes the Minister of Fisheries and Oceans (DFO) responsibility for fish conservation and the establishment of TAH for fish stocks. Both WRRB and DFO have an obligation under terms of the Agreement to determine TAH through assessment studies and other research.

For WRRB and DFO to have information necessary for sustainable management it is imperative that the Tłı̨chǫ undertaken their own monitoring by documenting their observations and harvesting information to ensure they contribute to the process. If allocations are to be made among users of the resource it will be necessary to determine basic needs levels of the beneficiaries of the claim. Allocations of fisheries and wildlife resources will be difficult without this basic harvest information from the harvesters themselves.

For the Agreement to be honoured three activities need to occur:

1. Baseline information must be gathered from elders on known trends as harvest, wildlife and vegetation distribution.

2. Information gathered through Tłı̨chǫ traditional methods of monitoring needs to be documented on an on-going basis.

3. Realistic harvest studies need to be ongoing.

4. All collected information must be stored in such a way as to respect the provider of the knowledge.

5. Reports to co-management boards will be sent several times per year to insure it will inform their management decisions.

Although scientific information is readily available, most TK is in the minds of the elders and harvesters. For this reason, a program is needed so Tłı̨chǫ researchers can work with elders and harvesters to document their knowledge in a manner that does not lose the Tłı̨chǫ perspective. This is usually detailed knowledge of past conditions that they share with their descendants while sharing their current observations of wildlife and wildlife habitat. And, as is the traditional mode of sharing, numbers of species observed and harvested, are shared with others in the community along with other information such as behaviour of wildlife and the people harvesting. All information available is used to make management decisions.

One of the important features of Tłı̨chǫ knowledge is that it is acquired, enhanced and communicated on the land while people are engaged in land-based activities. It is also communicated after harvesters return to the community through oral narratives.

Modern harvest studies often ask harvesters to fill out survey forms in English, or to provide limited information that can be taken out of context. These studies may fail because they are not compatible with how Tłı̨chǫ knowledge, including information about harvest, is transmitted through oral narratives.

This project was designed to ensure that both monitoring and realistic harvesting numbers can be recorded in a culturally appropriate manner. This will help alleviate the problem that many respondents choose not to answer correctly the harvest study questions posed by non-community members.

Program Structure

The Tłı̨chǫ Knowledge Research and Monitoring Program is designed to capture knowledge in a manner that is compatible with the Tłı̨chǫ cultural perspective. It is also designed to acknowledge the continued importance of oral narratives as the medium with which to share information and the importance of Tłı̨chǫ land based activities in learning and being able to apply and promote Tłı̨chǫ knowledge.

Program Goals

A Tłı̨chǫ Knowledge Research and Monitoring Program will support goals that assist the Tłı̨chǫ Government, and the boards and agencies under the Tłı̨chǫ Agreement, to fulfill their mandate within the co-management regimes. It will also provide direction to industry and non- Tłı̨chǫ researchers on expectations and costs. The caribou monitoring and harvest study portion of this program will support the following program outcomes:

1. Tłı̨chǫ knowledge and perspectives are utilized in management and decision-making.
2. The Tłı̨chǫ Government and co-management boards have the information they need to play a strong role in co-managing the environment, and to support programs such as education.
3. The Tłı̨chǫ Government has its own information and reports to provide boards and government and information it needs to play a strong role in managing caribou and other wildlife, plants and forests.
4. Harvesting maintains its role as a respected and important economic and social endeavour.
5. Tłı̨chǫ knowledge, perspective and language are strengthened through oral narratives and land-based activities.
6. Integrated knowledge transfer is occurring across generations.
7. Tłı̨chǫ place names are documented accurately to express bio-geographical information, some of which are associated with caribou harvesting.

Social Impacts

If the program successfully achieving the above goals, it will help to support broader social impacts such as the following:

- Tłı̨chǫ citizens will fulfil their traditional responsibilities to care for the land.
- TK is transmitted in a manner that is compatible with Tłı̨chǫ culture and social structure.
- Tłı̨chǫ language is strong and used in daily conversations.
- Tłı̨chǫ citizens are emotionally and spiritually healthy.
- There is a structured process for Tłı̨chǫ youth to learn land-based skills and knowledge.
- Tłı̨chǫ place names become official.

Program Design and Implementation

The establishment of a fully developed, effective Tłı̨chǫ Knowledge Research and Monitoring Program is a necessary but ambitious undertaking. It will require substantial resources, careful planning and a long term commitment to allow it to be successful. It will also require investment in training and in information technology.

Using Tłı̨chǫ Knowledge to Monitor Barren Ground Caribou and document caribou harvest is a constructive first step towards the development of the program.

There are several activities that need immediate attention if the program is going to provide on-going information for caribou monitoring and management.

To ensure harvesters' and elders' observations, knowledge and harvest are documented and used, the following activities will be undertaken immediately when initiated in November 2010:

1. Establish a comprehensive database to support the organization and storage of Tłı̨chǫ monitoring and harvest data in a manner that is consistent with oral narrative and protocol;
2. Digitize and enter existing information into the database;
3. Establish operating procedures for the program, including human resource policies and procedures, compensation policies, and development of research methods;
4. Establish training programs for researchers and data entry clerks;
5. Hire and train staff;
6. Undertake promotion and outreach to ensure that communities understand and support the program, and that harvesters participate;
7. Establish community TK Elders' Committees;
8. Finalize the Tłı̨chǫ Knowledge Policy initiated through the Wek'eezhii forum for approval by the Tłı̨chǫ Government.

Tłı̨chǫ Knowledge Research and Monitoring Program
Summary Table of Proposed Structure

SOCIAL IMPACTS

- Tłı̨chǫ citizens will fulfil their traditional stewardship responsibilities to care for the land.
- Tłı̨chǫ knowledge is transmitted in a manner that is compatible with Tłı̨chǫ culture and social structure.
- Tłı̨chǫ language is strong and used in daily conversations.
- Tłı̨chǫ citizens are emotionally and spiritually healthy.
- There is a structured process for Tłı̨chǫ to youth learn land-based skills and knowledge.
- Tłı̨chǫ place names become official

GOALS

- Tłı̨chǫ knowledge and perspectives are utilized in management and decision-making.
- The boards and agencies mandated under the Tłı̨chǫ Agreement have the information they need to play a strong role in co-managing the environment and to support programs such as education.
- The Tłı̨chǫ Government has the information it needs to play a strong role in managing caribou and other wildlife, plants, forests and protected areas; and has its own information and reports to support bargaining and negotiations.
- Harvesting maintains its role as a respected and important economic and social endeavour.
- Tåîchô knowledge, perspective and language are strengthened through oral narratives and land-based activities.
- Integrated knowledge transfer is occurring across generations.
- Tåîchô place names are documented accurately to express bio-geographical information, and to support the process of acquiring official place name status.

ACTIVITIES

- Establish a comprehensive database to support the organization and storage of Tłı̨chǫ monitoring and harvest data in a manner that is consistent with oral narrative and protocol.
- Digitize and enter existing information into the database.
- Establish operating procedures for the program, including human resource policies and procedures, compensation policies, and development of research methods.
- Hire and train staff – research, data entry, etc.
- Undertake promotion and outreach to ensure that communities understand and support the program, and that harvesters participate.
- Establish an Elders' Committees to guide the programme.
- Develop a Tłı̨chǫ Knowledge Policy for approval by the Tłı̨chǫ Government.
- Evaluate the program to make sure it is achieving the goals.
- Implement culturally appropriate research and monitoring activities.

Caribou Monitoring and Harvest Study[1]

Section 12.5.5 of the Tłı̨chǫ Land Claim and Self-government Agreement (the Agreement) states that the Wek'èezhìi Renewable Resources Board (WRRB) shall:

(a) Make a final determination, in accordance with 12.6 or 12.7, in relation to a proposal

i. Regarding a total allowable harvest level for Wek'èezhìi, except for fish,

ii. Regarding the allocation of portions of any total allowable harvest levels for Wek'èezhìi to groups of persons or for specified purposes, or

iii. Submitted under 12.11.1 for the management of the Bathurst caribou herd with respect to its application in Wek'èezhìi;

Tłı̨chǫ oral narratives tell of the annual cycles in which caribou and fish are key resources. For example, spring camp sites were and continue to be located along known caribou migration routes, good fishing locations and places known to have birch trees. Tłı̨chǫ waited for the caribou during spring migration back to the barrens but if caribou choose a different route, the people had fish while building canoes that were used to travel trails that led to the barrens making them ready to harvest caribou when they once again crossed paths. Even on the barren grounds Tłı̨chǫ camps continue to be located near good fishing locations that are known to be on caribou migration paths. Like traditional harvesting camps, current communities are located on or near fisheries and areas caribou are known to travel <u>if</u> they are in the area. Both resources continue to be important to the well-being of Tłı̨chǫ – psychologically as well as physically.

Tłı̨chǫ elders and harvesters who participated in the West Kitikmeot Slave Study (WKSS) research entitled, '*Caribou Migration and the State of their Habitat'*, (2001) and who originally participated in the design of the TK Monitoring Program in 1999-2000, think it is long past time to monitor barren ground caribou. The oldest Tłı̨chǫ elders know the WKSS researchers – Georgina Chocolate and Bobby Gon - focused on oral narratives from the past that provided baseline information.

They emphasize the importance of continuing to collect the most senior elders' knowledge (baseline) given the hiatus of 10 years (2001-2010). In addition they want the caribou monitoring program to:

1. Document current observations of the harvesters.
2. Research and data input and report writing to be done by adults that use both Tłı̨chǫ and English, and
3. Participation of young people through their school, during the summer and during other school or university breaks.

Elders, harvesters and other members of households – whether young or old – continue to want the Tłı̨chǫ people and their government to maintain their responsibility to watch and care for (monitor and manage) the land, water and resources they use, observe and enjoy. They want

[1] The Caribou Monitoring and Harvest Study Project is a special project within the TK Research and Monitoring Program.

Tłı̨chǫ citizens to use traditional values and rule associated with caribou to manage their resources.

The Tłı̨chǫ Agreement authorizes the WRRB's the responsibility for total allowable harvest (TAH) for wildlife, forests and plants. WRRB has an obligation under terms of the Agreement to determine TAH through assessment studies and other research for caribou. WRRB is recommending caribou harvesting targets rather than a TAH. The success of this approach is dependent on having the information necessary for sustainable management. It is, therefore, imperative that the Tłı̨chǫ undertaken their own monitoring by documenting their observations and harvesting information to ensure they contribute to the process. If the Chiefs use the TK Research and Monitoring Program to oversee the documentation of caribou harvesting among their citizens during this time of low caribou populations it will easier for the Land Protection Department, Tłı̨chǫ Government to maintain the target within a reasonable range and to allocate caribou resources to those in need, and for WRRB to receive reliable up to date information and to evaluate the success of the target approach. Furthermore, when caribou population numbers are higher, and allocations of this resource are more widespread, it will be necessary to determine basic needs levels of the beneficiaries of the claim.

For the Agreement to be honoured five activities need to occur:

1. Baseline information must be gathered from elders on known trends as harvest, wildlife and vegetation distribution. This information should be documented so it can be used to determine trends as well as indicators of change.
2. Information gathered through Tłı̨chǫ traditional methods of monitoring needs to be documented on an on-going basis.
3. Realistic harvest studies need to be ongoing.
4. All collected information must be stored in such a way as to respect the provider of the knowledge.
5. Reports must be provided to co-management boards to insure informed decisions can be made.

Most Tłı̨chǫ knowledge is in the minds of the elders and harvesters. For this reason, a program is needed so Tłı̨chǫ researchers can work with elders and harvesters to document their knowledge in a manner that does not lose the Tłı̨chǫ perspective. The process would include a detailed knowledge of past conditions that are compared to current observations of caribou behaviour, fitness and interactions with predators and pests as well as landscape and vegetation use. And, as is the traditional mode of sharing information, numbers of species observed and harvested, are incorporated into oral narratives that are told in the community. All information available is used to make management decisions and determine the number of caribou to be harvested in the near future.

One of the important features of Tłı̨chǫ knowledge is that it is acquired, enhanced and communicated on the land while people are engaged in land-based activities. It is also communicated after harvesters return to the community through oral narratives.

Modern harvest studies often ask harvesters to fill out survey forms in English, or to provide limited information that can be taken out of context. These studies may fail because they are not compatible with how Tłı̨chǫ knowledge, including information about harvest, is transmitted through oral narratives.

This project was designed to ensure that both monitoring and realistic harvesting numbers can be recorded in a culturally appropriate manner. This will help alleviate the problem that many respondents choose not to answer harvest study questions posed by non-community members.

Finding a Solution

In 1999-2000, the Tłı̨chǫ Regional Elders' Committee – under the direction of *K'àowo*[2] Jimmy Martin – requested Dogrib Treaty 11 staff who were working with the elders to bring male and female harvesters from each community to discuss a Tłı̨chǫ monitoring program. Funding for this meeting was secured from Cumulative Impacts and Monitoring Program, Environment Canada. The elders and harvesters directed staff to initiate monitoring around the diamond mines – with research/hunting camps located in strategic locations around the mines that would enable harvesters to observe the behaviour of caribou in relation to the mines. They also suggested a camp be located at Gots'ôkàtì and Deèzhàatì so caribou behaviour could be compared with non-mining areas.

In September 2008, the Wek'èezhìi Renewable Resources Board (WRRB) and the Tłı̨chǫ Government initiated work towards implementing a Tłı̨chǫ knowledge monitoring program that the Land Protection Department of the Tłı̨chǫ Government and co-management boards mandated under the Tłı̨chǫ Agreement could use in their decision making.

The TK program design with associated policy guidelines were developed based on discussions held during the household visits made by the Project Team between April 2009 and December 31, 2009. All households in the three fly-in communities of Gametì, Wekweetì and Whatì were contacted. Behchokö has a significant population therefore only those households with active harvesters and elders were contacted. During these visits Tłı̨chǫ researchers, under the direction of Allice Legat, explained the importance of Tłı̨chǫ knowledge in the Tłı̨chǫ Agreement and the possibility of establishing a monitoring program as originally laid out by the elders and harvesters in 1999. Two Tłı̨chǫ researchers – Camilla Nitsiza and Madelaine Chocolate - did conducted the household visits, although Mary Adele Wetrade did assist Madelaine Chocolate in Gametì. Household visits took longer than anticipated because i) individuals wished to express their views after hearing the role of the WRRB as it is mandated in the Tłı̨chǫ Agreement; and ii) individuals were delighted to expound on the potential for harvesters and elders working together with Tłı̨chǫ researchers to monitor the land as first set out by the elders in 1999-2000. Their excitement at building on their traditional management practices was clear.

After completing household visits and analyzing Tłı̨chǫ responses, it became clear that it would be culturally appropriate to develop interview guidelines that allowed harvesters to share information in a manner similar to how they normally explain their harvest and observations to

[2] Translated as 'boss'. The role is significantly different than the Western concept for 'chair'.

one another and to their elders. The Tłı̨chǫ researchers found harvesters would prefer to discuss their activities – both observations (monitoring) and harvesting – in either a home or office setting, but at their own convenience. Finally, they found that harvesters thought if Tłı̨chǫ were doing the documenting and report writing they could then be assured: i) individual harvest numbers would remain confidential; ii) their information would be documented realistically; and iii) their observations would remain in the context within which their observations were made.

Following the household visits a Regional TK Elders/Harvesters Working Group (TK Regional Working Group) was established to complete the work.[3] Gametì Committee members thought that it would be better if Tłı̨chǫ from all four communities worked together from the start so they could address all issues together. Six (6) members on the TK Regional Working Group had been active on the TK Regional Elders Committee from 1996-2002 while the remaining ten (10) harvesters and elders were named by the Tłı̨chǫ WRRB members or Chiefs in consultation with elders. The Working Group meetings were held between January and March 31, 2010: three in Gametì, [4] one in Wek'weetì, and one in Behchokö.

The following is a summary of how discussions at the household level and at the TK Regional Working Group meetings have informed key components of the TK caribou monitoring and harvest study approach.

Species Important to Local Harvesters

Caribou and fish are always cited as key species. Nevertheless, all Tłı̨chǫ elders and harvesters explain – as is consistent with members of hunting and gathering societies – that all species are important, including human. They also explained that if one is to understand trends and impacts within Wek'èezhìi, human behaviour should be monitored noting what is being harvested by both male and female harvesters and whether or not all is used. [5]

Tłı̨chǫ Harvesting information to be Documented

During conversations at the household level, it became apparent that many younger people felt they did not know enough about the environment to speak with their local researchers, but did think that they could report what they had harvested and observed as long as older, more experienced elders and harvesters were present to help them to understand their observations. Specifically younger people thought that if elders and harvesters were present they would gain a

[3] Members of the Regional Working Group are Romie Wetrade, Laiza Mantla, Louis Zoe and Mary Adele Wetrade (with Fred Mantla attending in place of Mary Adele Wetrade) from Gametì; Pierre Beaverhoe, Dora Nitsiza, Robert MacKenzie Sophia Williah, and Francis Simpson from Whatì; and Elizabeth Michel, Robert MacKenzie, Harry Mantla and Eddy Weyellan from Behchokǫ̀; and Jimmy Kodzin, Elizabeth Whane, Rosa P'ea, Elizabeth Arrowmaker. The Working Group members decided that since the working group was short term if someone missed a meeting – for any reason – they would not continue.

[4] Under the direction of John B. Zoe, TEO, a TK Office has been established in Gametì. However office furniture and computers have yet to be purchased and staff has yet to be hired.

[5] Although not discussed during the household visits or during the meetings, most elders and active harvesters suggest that human activities associated with industrial development and exploration should be monitored by stewards of the land.

better understanding of how their observations were similar or different than the past and how their own knowledge and behaviour impacts wildlife, particularly caribou.

Most of the elders and harvesters participating in the TK Regional Working Group thought leaders should tell harvesters to report their observations of caribou (and other wildlife) behaviour, fitness, number of young, etc as well as the number they harvested.

Discussion outside the formal structure of the TK Regional Working Group, the researchers discussed the importance of continuous 'watching caribou', and teaching the young about caribou behaviour and rules governing their behaviour around caribou; and, that caribou should be observed whether hunting is taking place or not.

Sharing Information

Throughout all discussions it became clear that community members would be more open about sharing their harvesting information as well as their observations if they understood that their oral narratives and their observations - 'raw data' - would remain with and be safeguarded by the Tłı̨chǫ Government, and kept in the Tłı̨chǫ communities.

Several individuals expressed that they feel they are being "checked-up on" when non- Tłı̨chǫ ask questions and are worried that it can be used against them.

Schedule of Interviews

Based on the manner in which Dene pass information, it was made abundantly clear during household visits and during the TK Regional Working Group meetings, that oral narratives are the process for sharing detailed information. (see also Basso, Cruikshank, Goulet, and Sharp on the importance of oral narratives among all Dene). For this reason the researchers will be trained to use an interview guide while documenting information shared by harvesters.

Researchers thought the oral narratives of the harvest and associated observations should be documented within two days of the harvester returning to the community.

Expectations of Harvesters and Elders

All Tłı̨chǫ citizens with whom the researchers spoke liked the idea that monitoring skills and harvesting information would be given back to the community every few months – by the Tłı̨chǫ researchers. They thought the communities could benefit from hearing this information and verifying the researchers' interpretations so misunderstandings could be clarified.

The TK Regional Working Group thinks that reporting back to the community at public meetings is extremely important. If the researchers share a summary of what they have heard with the community, then harvesters will be more likely to provide their observations and harvest numbers. They reasoned that the harvesters would know they were being heard and that their knowledge and information was being documented accurately. For example,

1. Their observations of the environment – health of caribou, state of the landscape and vegetation caribou use – are being heard and understood.
2. Harvesters will feel secure that harvesting data is correct, and their elders and leaders can use the information for management discussions with WRRB and the GNWT.

Compensation for Harvesters

This has not been discussed with harvesters during the household visits or at the elders and harvesters meetings. During past discussions with elders, it was thought that harvesters should report on a volunteer basis, but should be compensated when attending the verification and sharing meetings when more information on their observations can be noted. Only those harvesters who participated on a volunteer basis would be compensated at the verification and working group meetings.

It is proposed that this is a decision for the Tłı̨chǫ leadership after being discussed at a Tłı̨chǫ Assembly, recognizing that availability of resources may be a constraint.

Reporting

Since using Tłı̨chǫ knowledge in caribou management is important to Tłı̨chǫ, it is recommended that after the researchers hold verification meetings with elders and harvesters, reports be written for the WRRB as well as for the Chief Executive Council and the Territorial governments.

Reports will be sent to Boards, Governments and Land Protection Department at least three times per year.

Duration of Harvest Study within Monitoring Program

During the household visits and the TK Regional Working Group meetings, the vast majority (young people did not speak to this topic) of Tłı̨chǫ citizens thought the caribou harvest study within the TK monitoring program should be on-going. They also thought reporting on harvest should be on-going.

Activities Specific to Caribou Monitoring and Caribou Harvest Study

Basically the steps to traditional monitoring and documenting information on caribou are as follows:

- Harvesters have been taught since the time they were young to observe all that is around them and to consider their observations in relation to what they are harvesting, and in relation to all other aspects of their environment. It is these observations as well as information about their harvest that the researchers will document through digital recording and by entering key information into the data base.
- As researchers listen to harvesting accounts of the harvester, they will have an interview guide that they will use to mentally check off information, and as they enter key information into the data base. If necessary the researcher will ask the harvester for additional information, but only after they have shared their observations through a narration of their experience.
- Through hunting and through use of the caribou harvested both male and female harvesters will note the behaviour of caribou in various situations and note texture, smell and taste of meat and characteristics of hides, bones, etc. Researchers are responsible for acquiring and documenting all information of caribou.
- Researchers will mark the location of the harvester's observations and their harvest.
- Researchers will note number of caribou harvested, locations, age, sex, fitness, etc.
- Researchers will note information on wolf numbers associated with caribou as well as numbers harvested and fitness levels.
- Researchers will listen to the digital recording of the account and enter relevant information into the data base. They will also note additional questions for future reference, and, if necessary, they will visit the harvester for clarification.
- Researchers will search the data base for additional caribou information from that location, and begin developing a compilation of the information contained in the oral narratives.
- Harvesters will note and share through their oral narrative the condition of the environment, including landscape, vegetation, moist, snow depth, etc.
- If appropriate will compare their observations with reports available from the YK Dene, Kugluktuk and Lutselk'è who traditionally hunted in the region. Comparisons will be done by academic researcher in conjunction with community researchers.
- Since very few harvesters will be hunting caribou over the next several years the following activities are examples of information documented by researchers:

Autumn Migration

- Active male and female harvesters will travel to known water crossings
  - monitor caribou as they cross,
  - note number of calves, cows and bulls,
  - note direction of migration,
  - note number of wolves and other predators.
- Tłı̨chǫ citizens – elders, harvesters, researchers and youth – travel to Gotsak'atì to observe caribou
- Active male and female harvesters will travel to Æek'atì (Lac de Gras) area and observe caribou after leaving the Diavik and BHP claim blocks, around Æots'ik'è, Æek'atìtata

Wintering Areas

- Elders will select places to observe caribou behaviour in those areas, and to note additional aspects of fitness if harvesting caribou.
- Harvesters will also observe the state of the winter habitat

Spring Migration

- Active male and female harvesters will travel to places where caribou fences were located to observe the number of caribou (and gender and age) that travel through the area. In addition the harvesters will note fitness level. If caribou are taken, contents of their stomach and vegetation in mouths and in stools will be noted, as well as texture and smell of meat and state of hides, bones, and hair.
- Harvesters will do a visual appraisal for pregnancy and report pregnancy from the cow harvest.
- Harvesters will note number of wolves associated with the herds.
- Harvesters will note behaviour associated with pests.
- Active male and female harvesters should also travel to Gostak'atì, Dezaahtì to observe caribou at that stage of their migration.

Summer: Post Calving Area

- Elders will advise on where active male and female harvesters should travel to observe bull, cows and calf behaviour in their summer habitat assessing abundance at key locations.
- Harvesters also observe predators, insect levels, and other factors impacting caribou distribution, fitness and migration.

Project Structure: Activities and Products

	SPECIAL PROJECT ACTIVITIES ***(What needs to be done)***	***PRODUCTS*** ***(What we hope to achieve)***
Data Base	Researchers enter harvest information into database the same day they hear and document it Maintain and update database regularly after each interview Produce reports regularly and review at community meetings and with Elders' Committee Produce reports in response to requests	• Database is up to date and capable of creating reports upon demand • Baseline information is available for environmental assessments, and environmental management • The collections of Tłı̨chǫ knowledge is expanded as new information is entered into the database • Realistic and current Tłı̨chǫ information on caribou and their habitat • Understand annual resource use -when low numbers of caribou • Ability to compare current caribou information with past: -is there a trend? -are caribou being impacted – if so what from what?
Training	On-going training for program staff to ensure they are effective researchers and cultural interpreters	• Trained TK community researchers are available to work with harvester and elders. • Database administrator is trained to maintain the database. • Staff have the skills to: o Efficiently document interviews. o Use interview guidelines. o Maintain archives. o Produce reports. o Identify similarities and differences between the Tłı̨chǫ and western management concepts and terms.

	SPECIAL PROJECT ACTIVITIES ***(What needs to be done)***	***PRODUCTS*** ***(What we hope to achieve)***
TK Elders' Committee/s	Tłı̨chǫ elders provide on-going guidance to the program	• Elders' Committee is functioning effectively • Elders play a meaningful role in all phases of program operations • Elders work with Tłı̨chǫ citizens to reinstate their traditional roles and responsibilities
Culturally Appropriate Research and Monitoring Methodology	**Interview and community meeting guidelines** -specific to caribou monitoring , caribou harvest and caribou habitat and loss of habitat due to fires and development Monitoring by harvesters • While harvesting • Specific to water crossings, caribou fence area, visit fire areas • If not harvesting caribou, then a form of compensation. Training specific to project • Caribou terminology • Laws and rules • Caribou management plan Hold caribou meeting once every two months	• Realistic and current Tłı̨chǫ information on caribou and their habitat. • Ensure trends are well documented, not hearsay • Detailed current Tłı̨chǫ information on caribou and their habitat that can be discussed – in Tłı̨chǫ – between elders and harvesters with researchers documenting. • Ability to work efficiently • Realistic and current Tłı̨chǫ information on caribou and their habitat • Information available to write report on caribou observations

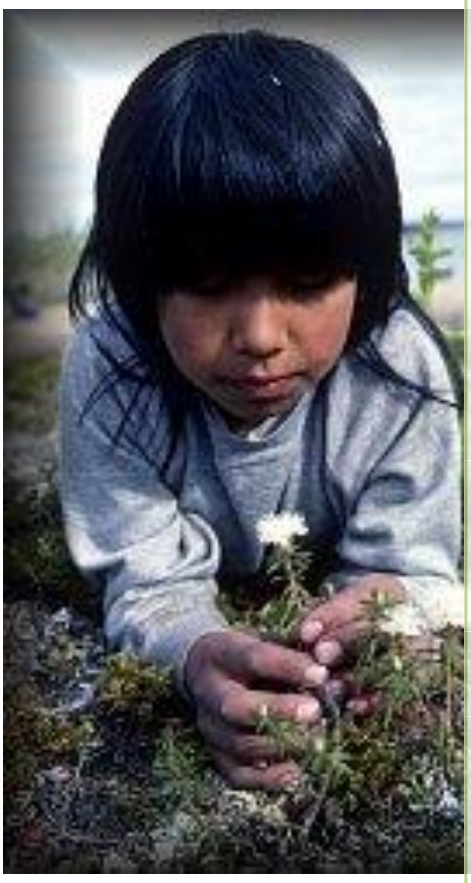
	SPECIAL PROJECT ACTIVITIES ***(What needs to be done)***	***PRODUCTS*** ***(What we hope to achieve)***
Promotion and Outreach	Elders visit households and explain what can be used in lieu of caribou	• Traditional use of resources due to ebb and flow of environment • Traditional sharing of information • More likely harvesters will visit and report harvest and observations
	Chiefs sit with Tłı̨chǫ Knowledge Research and Monitoring Elders' Committees to go over restriction on and allocations of caribou harvest	• Elders Committee supports Chiefs' allocation on caribou harvest and their decision to monitor using elders and harvesters
	Project Directors explains monitoring process to chiefs and council with elders present Academic paper for journal and presented at appropriate conference	• Unique methodology and process is shared • Researchers experience discussions on what they are doing outside their communities

	SPECIAL PROJECT ACTIVITIES *(What needs to be done)*	*PRODUCTS* *(What we hope to achieve)*
Program Administration	**Budget for this project** **Fundraising** **Protocol for sharing reports with WRRB etc,** **Guidelines for verifying information in reports** **Hire researchers**	• **Ability to carry out realistic fundraising** • **Sufficient money to monitor caribou and harvesting** • **Ensure research is rigorous** • • **Ensure results are not hearsay but based on Tłı̨chǫ knowledge and perspective** • **Special project will enhance long term goals of TK programme** • **Ensure use of information from Caribou migration and state of habitat project** • **Ensure data is collected and available to be used**

Appendix IV:

2011

Draft Tłı̨chǫ Knowledge Policy



Tłı̨chǫ Government

12/18/2011

Table of Contents

Tłı̨chǫ Government
Tłı̨chǫ Knowledge Policy

Preamble

To 'know something' implies knowing its origin as well as experiencing and observing. The body of Tłı̨chǫ knowledge has been acquired through thriving in a world of constant change. Tłı̨chǫ knowledge is constantly expanding, as the elders of each generation add their observations, experience, their wisdom and insights to what is already known. Tłı̨chǫ knowledge has been, and continues to be, preserved and shared with others through oral narratives.

The Tłı̨chǫ respect, honor and value living within Tłı̨chǫ neek'e – the place where Tłı̨chǫ belong –referred to in the Tłı̨chǫ Agreement as Mǫwhì Gogha Dè Nı̨tłèè in honor of Mǫwhì who valued Tłı̨chǫ knowledge and traveled Tłı̨chǫ nèèk'è observing all that was taking place and sharing with those who went on to negotiate the Tłı̨chǫ Land Claims and Self-Government Agreement.

Honoring brings with it a responsibility to learn and remember the knowledge that has been passed down while observing and experiencing all that is part of Mǫwhì Gogha Dè Nı̨tłèè so current and past oral narrative can be shared with other Tłı̨chǫ who will continue to care for the place where they belong.

Statement of Intent

Tłı̨chǫ Knowledge represents the collective intellect of the Tłı̨chǫ, and forms the foundation upon which all Tłı̨chǫ Government programs, services and activities are built. The knowledge and values of our ancestors should inform and influence all aspects of Tłı̨chǫ Government operations.

The Tłı̨chǫ Government will encourage and promote the continued acquisition, use and distribution of Tłı̨chǫ knowledge, and will work to ensure that Tłı̨chǫ knowledge is protected and safeguarded for future generations, in a manner that respects those who have shared their knowledge and to whom the knowledge belongs.

In accordance with the Tłı̨chǫ Agreement, the Tłı̨chǫ Government will encourage Government departments, boards and agencies, and the prıvate sector to take steps to acquire and use Tłı̨chǫ knowledge in exercising their powers in relation to the *dè*, including management of human activities, land and water management, wildlife management, forest management, and management of plants; as well as during the environmental impact and review process.

Principles

Tłı̨chǫ Knowledge and values represent the cumulative and collective experience of the Tłı̨chǫ, and their acquisition and expression cannot be separated from the practice of traditional Tłı̨chǫ activities and practices associated with the *dè*.

Tłı̨chǫ communities and harvesters are responsible for the use and preservation of Tłı̨chǫ Knowledge, in a manner that preserves the context, spirit and intent of oral narratives.

Tłı̨chǫ Knowledge belongs to the people who share their oral narratives, and all Tłı̨chǫ Knowledge that is documented will be safeguarded within Tłı̨chǫ communities.

Tłı̨chǫ elders are the experts about Tłı̨chǫ knowledge and values and are best qualified to understand what needs to be acquired, documented, interpreted, and how best to apply this knowledge; they will play a lead role in any initiatives dealing with Tłı̨chǫ knowledge.

Tłı̨chǫ Knowledge and values are necessary for management processes dealing effectively with protected areas, land, water, habitat and wildlife.

Tłı̨chǫ Knowledge and values should be preserved for future generations, and as the foundation for the continued accumulation of knowledge.

Tłı̨chǫ place names are indicators of valuable information and should be documented and used as an aspect of Tłı̨chǫ Knowledge.

Documentation of Tłı̨chǫ Knowledge should not replace the telling of oral narrative and experiencing Tłı̨chǫ *nèèk'è – Mǫwhì Gogha Dè Nı̨ı̨tłèè* where knowledge is passed on in culturally appropriate manners.

Tłı̨chǫ Knowledge and values are best expressed in the Tłı̨chǫ language, and language enhancement and preservation is a critical component of Tłı̨chǫ Knowledge initiatives.

Holders of Tłı̨chǫ Knowledge have a critical role to play in monitoring the cumulative impacts and on-going health and integrity of the Tłı̨chǫ nèèk'è - *Mǫwhì Gogha Dè Nı̨ı̨tłèè*.

Definitions

Dè – Often translated as 'land' but includes the understanding that all of Creation has spirit.

External Institution – Institutions, agencies and boards both mandated and not mandated under the Tłı̨chǫ Agreement. This includes but is not restricted to Governments, industry, universities and other educational facilities.

Harvester – Any Tłı̨chǫ individual who participates in harvesting activities.

Harvesting activities – refers to all activities in which the Tłı̨chǫ have traditionally participated, including but not limited to: hunting; trapping; fishing; cutting and gathering wood or branches; collecting snow and ice; gathering plants and berries for medicine and food.

Informed consent - a statement of oral agreement that may be recorded in audio or video formats or in writing between a researcher and a Tłı̨chǫ knowledge holder that explains the nature of the research, and the manner in which the information the knowledge holder is giving, and how it can be used and accessed.

Tłı̨chǫ Agreement, The Agreement, or the Red Book - refers to the Tłı̨chǫ Land Claims and Self-Government Agreement among the Tłı̨chǫ First Nation, the Government of the Northwest Territories and the Government of Canada.

Mǫwhì Gogha Dè Nı̨ıtłèè is the traditional area of the Tłı̨chǫ described by Chief Mǫwhì during the signing of Treaty 11 in 1921.

Wek'èezhii is the management area of the Agreement.

Tłı̨chǫ Lands are lands owned by the Tłı̨chǫ Government under the Agreement.

Tłı̨chǫ knowledge holders – Individuals recognized by elders as possessing either or both specialized or general knowledge that has been passed on from previous generations who have the ability to integrate their own learning and share this knowledge with others.

Elder – An older person who is at least 75 years of age who follows the Tłı̨chǫ traditional system and is recognized by their peers as having expertise and are qualified to advise leaders and others.

Tłı̨chǫ knowledge - knowledge that elders and other community members hold from past intergenerational experience and is passed down to the Tłı̨chǫ through the generations. It continues to grow and is brought forward through experience, and given to descendants through oral narratives. Tłı̨chǫ knowledge is not just from the past, but includes knowledge based on present experiences as it intertwines with knowledge of the past.

Scope

This policy applies to all departments and agencies of the Tłı̨chǫ Government and their staff and representatives. The guidelines attached to this policy provides direction to industry, co-management boards, other governments and agencies conducting operations on Tłı̨chǫ lands, and within the Wek'èezhìi and Môwhì Gogha Dè Nîîtåèè areas where the Tłı̨chǫ Agreement provides legislated mandates.

Implementation

It is imperative to have a meaningful role for Tłı̨chǫ elders in the implementation of this policy. A regional committee will provide broad advice on policy and programming while the community committees will oversee any local projects and staff. There will be an TK elders committee in each community whether the community has TK staff or not. The following sets out in general their roles and responsibilities, detailed Terms of Reference are set out in Appendix I.

Regional Tłı̨chǫ Knowledge Elders' Committee

- Reviews research and monitoring requests and applications. May make recommendations for modifications or conditions to the Chiefs Executive Council.
- Establishes traditional knowledge research and program priorities, and makes recommendations to Chief Executive Council for approval.
- Responsible for overseeing a regional monitoring program and interpreting information collected to identify cumulative impacts and research needs.
- Provides oversight to Tłı̨chǫ knowledge research.
- Proposes and/or reviews proposed revisions to the Policy.
- Assists with solving problems associated with implementing this policy

Community Tłı̨chǫ Knowledge Elders Committee

- Oversees staff in community offices
- Informs community of Tłı̨chǫ Knowledge activities in their areas – by visiting homes and reporting to community meetings
- Updates Chiefs and Council on activities.
- Oversees research and monitoring conducted on traditional lands
- Assists with solving problems associated with implementing this policy

Authority and Accountability

Chief's Executive Council

- Reviews policy recommendations from the Regional Tłı̨chǫ Knowledge Elders' Committee
- Reviews and recommends to Assembly revisions to the Policy.
- Monitors implementation of the Policy.
- Approves priorities for research and monitoring.

Tłı̨chǫ Assembly

- Approves policy
- Approves amendments to policy
- Formally appoints committee members recommended by elders

Grand Chief

- Responsible for overall implementation of the policy.
- The Grand Chief will meet at minimum of twice per year with the Tłı̨chǫ Knowledge Regıonal Elders Commıttee to report on decisions of the Tłı̨chǫ Government in relation to Tłı̨chǫ Knowledge.

Tłı̨chǫ Knowledge Research & Monitoring

The Tåîchô Agreement directs Boards, Agencies and the Tåîchô Government to i)use traditional knowledge, ii) promote cultural perspectives, and iii) select Board members that have knowledge of Tåîchô way of life. Yet the current systems – most of which are based on Western perspectives and the British legal system – make it difficult for Tåîchô knowledge (TK) to be used in a manner that is consistent within the Tåîchô cultural perspective and way of life.

The Agreement states that:

Section 12.1.6

> In exercising their powers under this chapter, the Parties and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.

Section 13.1.5

> In exercising their powers in relation to forest management, the Government of the Northwest Territories, the Tåîchô Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.

Section 14.1.4

> In exercising their powers in relation to the management of plants, the Government of the Northwest Territories, the Tåîchô Government and the Wek'èezhìi Renewable Resources Board shall take steps to acquire and use traditional knowledge as well as other types of scientific information and expert opinion.

Section 22.1.7

> In exercising their powers, the Mackenzie Valley Environmental Impact Review Board and the Wek'èezhìi Land and Water Board shall consider traditional knowledge as well as other scientific information where such knowledge or information is made available to the Boards.

Furthermore, Section 12.5.5 of the Tåîchô Land Claim and Self-government Agreement (the Agreement) states that the Wek'èezhìi Renewable Resources Board (WRRB) shall:

> (a) Make a final determination, in accordance with 12.6 or 12.7, in relation to a proposal
>
> i. Regarding a total allowable harvest level for Wek'èezhìi, except for fish,
>
> ii. Regarding the allocation of portions of any total allowable harvest levels for Wek'èezhìi to groups of persons or for specified purposes, or
>
> iii. Submitted under 12.11.1 for the management of the Bathurst caribou herd with respect to its application in Wek'èezhìi;

The Tåîchô Agreement authorizes the WRRB responsibility for total allowable harvest (TAH) for wildlife, forests and plants and authorizes the Minister of Fisheries and Oceans (DFO) responsibility for fish conservation and the establishment of TAH for fish stocks. Both WRRB and DFO have an obligation under terms of the Agreement to determine TAH through assessment studies and other research.

For WRRB and DFO to have information necessary for sustainable management it is imperative that the Tåîchô undertake their own research and monitoring by documenting their observations and harvesting information to ensure they contribute to the process. If allocations are to be made among users of the resource it will be necessary to determine basic needs levels of the beneficiaries of the claim. Allocations of fisheries and wildlife resources will be difficult without this basic harvest information from the harvesters themselves.

For the Agreement to be honoured three activities need to occur:

> 1. Baseline Tłı̨chǫ information must be gathered from elders on known trends on harvest, wildlife and vegetation distribution.
>
> 2. Information gathered, through Tåîchô traditional methods of monitoring, needs to be documented on an on-going basis.
>
> 3. Culturally appropriate harvest studies need to be ongoing.

Although scientific information is readily available, most Tåîchô knowledge is in the minds of the elders and harvesters. For this reason, a program is needed so Tåîchô researchers can

work with elders and harvesters to document their knowledge in a manner that does not lose the Tåîchô perspective. This is usually detailed knowledge of past conditions that they share with their descendants while sharing their current observations of wildlife and wildlife habitat. And, as is the traditional mode of sharing, numbers of species observed and harvested, are shared with others in the community along with other information such as behaviour of wildlife and the people harvesting. One of the important features of Tåîchô knowledge is that it is acquired, enhanced and communicated on the land while people are engaged in land-based activities. It is also communicated after harvesters return to the community through oral narratives.

Modern harvest studies often ask harvesters to fill out survey forms in English, or to provide limited information that can be taken out of context. These studies may fail because they are not compatible with how Tåîchô knowledge, including information about harvest, is transmitted through oral narratives.

A program must be designed to ensure that research will acquire realistic harvesting numbers can be recorded in a culturally appropriate manner. This will help alleviate the problem that many respondents choose not to answer correctly, harvest study questions posed by non-community members.

The Tłı̨chǫ Government will conduct all of its own research under the guidance of the Tłı̨chǫ Knowledge Regional Elders Committee and through the establishment of a Tłı̨chǫ Knowledge Department. All outside researchers interested in conducting research in the Tłı̨chǫ settlement area are encouraged to contact this department to explore collaboration opportunities. Further guidance is provided in the Appended Guidelines.

Tłı̨chǫ Knowledge Department

A department of Tłı̨chǫ Knowledge will be established to facilitate the implementation of this policy and program. The head offices will be located in Gamètì. A Regional Director of Tłı̨chǫ Knowledge will oversee the program and implementation of the policy. A Research Director will oversee all research and research staff. A Data Base Manager will develop and maintain a data base in both Tłı̨chǫ and English . Each community will have a staff team of a minimum of two members who will carry out research and data collection and input.

Researchers will work with the Land Protection Department to present research results in a format for ease of use to the Tłı̨chǫ Government and within the regulatory framework.

Researchers will verify monitoring information with those who provided information – elders and harvesters - at public community meeting prior to making the report public.

In addition to conducting traditional knowledge research, the staff will work with active harvesters and the TK Community Elders' Committees to monitor trends and occurrences on the land. They will employ traditional monitoring practices and good documentation practices that include individual reporting of observations followed by group discussion and analysis.

Ownership and Confidentiality

Tłı̨chǫ Knowledge belongs to Tłı̨chǫ collectively. Original documents should be turned over to the Tłı̨chǫ government for archival management in the TK head office in Gamètì. High quality copies and wıll also be stored ın storage systems wıth one ın the NWT Archıves untıl an archıves ıs buıld ın Gamètì. Written permission must be obtained from informants and from local TK elders committee for the publication of Tłı̨chǫ *Knowledge.* In addition, researchers will record statements of purpose and permission in audio or video format at the beginning of each interview. See attached guidelines for more information.

Elders want their oral narratives to stay in their own language, and if others wish to listen to the stories of their experience then they should use those middle-aged persons who understand Tłı̨chǫ to tell them the story (after lıstenıng to the dıgıtal recordıng) – rather than translating the recording.

Provisions

- The Department of Tłı̨chǫ Knowledge will establish methodology and research procedures to guide the acquisition of Tłı̨chǫ oral narratives and knowledge.
- The Tłı̨chǫ Knowledge Department will take the lead and work with the Wek'eezhii Forum to establish procedures to guide the use of Tłı̨chǫ knowledge in each of their programs and services. Tłı̨chǫ researchers will work under the collective guidance of Tłı̨chǫ elders through the Regional and Community Committee in the design of research projects and writing reports.
- The Tłı̨chǫ Government will work in collaboration with the Wek'eezhii Land and Water Board and the Wek'èezhìi Renewable Resources Board to ensure that they have access to information about Tłı̨chǫ knowledge that is required to implement their mandates as specified in the Tłı̨chǫ Agreement.
- The Tłı̨chǫ Government will encourage the Wek'eezhii Land and Water Board and the Wek'eezhii Renewable Resources Board to work with the Department of Tłı̨chǫ Knowledge to establish procedures and guidelines for the use and incorporation of traditional knowledge in regulatory and management processes within their mandates.
- External institutions - including other governments, industry, and academia – who wish to conduct research on Tłı̨chǫ Knowledge will be encouraged to do so in accordance with the provisions of this policy and associated guidelines and protocols.
- The Tłı̨chǫ Government will develop regulations to guide the ownership and use of Tłı̨chǫ knowledge , including provisions for ensuring confidentiality when knowledge holders have requested it; recognition of Tłı̨chǫ knowledge holders when appropriate; the storage of Tłı̨chǫ *Knowledge* ; provisions for access; and publication and distribution. These regulations will complement existing research protocols established by the Government of the Northwest Territories, e.g.

requirements under the NWT *Scientists Act* to acquire research licenses and the attached Guidelines.

- Tłı̨chǫ Knowledge brought forward for consideration in the regulatory processes administered by the WLWB and WRRB must be compiled in accordance with the provisions of this policy and associated directives.

The following Appendices form part of this Policy:

Appendix I:	Terms of Reference - Elders' TK Community and Regional Committees
Appendix II:	Guidelines for Developers
Appendix III:	Sample Protocol Agreement
Appendix IV:	Guıdelınes for Researchers
Appendix V:	Guidelines for Authors and Illustrators

Appendix I
Tłı̨chǫ Knowledge Regional and Community Elders' Committees

Terms of Reference

Community Tłı̨chǫ Knowledge Elders Committee

- Each community will have an elders' committee overseeing their Tłı̨chǫ knowledge research and monitoring activities and providing advice to staff and researchers. These committees will be known as the Tłı̨chǫ Knowledge Communıty Elders' Committee.
- Informs community of Tłı̨chǫ Knowledge activities in their areas – by vısıtıng homes and reporting to community meetings
- Updates Chiefs and Councıl on activities.
- Oversees research and monitoring conducted on traditional lands
- Assists with solving problems associated with implementing this policy

The community of Wekweètì will have two members on their local committee, Gameti and Whati will have four elders, two female and two male elders representatives, and Behchokǫ̀ wıll have six members to reflect the size of each community. Where possible, one male and one female wıll be the oldest members of the communıty and two wıll be younger, who are chosen by the older elders. In Behchokǫ̀ two male and two females wıll be among the oldest elders , and two males and two females wıll be younger. Representative should be persons known to value Tłı̨chǫ knowledge and persons who know which individuals in their community has knowledge of specific places, events and wildlife, plants, forests and fish.

Tłı̨chǫ Knowledge Regıonal Elders Commıttee

- Reviews research and monitoring requests and applications. May make recommendations for modifications or conditions to the Chiefs Executive Council.
- Establishes traditional knowledge research and program priorities, and makes recommendations to Chief Executive Council for approval.
- Responsible for overseeing a regional monitoring program and interpreting information collected to identify cumulative impacts and research needs.
- Provides oversight to Tłı̨chǫ knowledge research.
- Proposes and/or reviews proposed revisions to the Policy.

- Assists with solving problems associated with implementing this policy

The Tłı̨chǫ Knowledge Regional Elders' Committee will consist of two of the oldest males and females from each community committee.

The elders' committees are participatory action committees who represent the collective interests of the elders and harvesters who continue to use the land and the resources from the land.

The elders on the committee will be chosen by the current committee elders based on skills and land-based knowledge.

Purpose of Committee

The primary purpose of the Elders Committees is to provide Tłı̨chǫ elders with the opportunity to offer the wealth of knowledge and wisdom they have accumulated for the benefit of the current and future generations in the management of the land they know and love.

Elders will be responsible to walk around and visit other members of the community to inform them of their activities and to identify individuals that should be interviewed on specific topics.

During community meetings and at the annual assembly the Committee Members will be responsible for demonstrating the value of their work by working with staff to make presentations relevant to the topics at hand.

Elders will ensure that time will be taken to do the research to their standards and will carry out activities that are aimed at solving problems and addressing challenges important to the communities and region.

To demonstrate the economic, social and cultural values of traditional land use.

Role of Members

a. Participate in local and regional Elders Committees as a way to help formulate, document and pass on traditional cultural knowledge for future generations.
b. Help make explicit and incorporate locally appropriate cultural values in all aspects of life in the community, while recognizing the diversity of opinion that may exist.
c. Make a point to utilize traditional ways of knowing, teaching, listening and learning in passing on cultural knowledge to others in the community.
d. Seek out information on ways to protect knowledge and retain copyright authority over all local knowledge that is being shared with others for documentation purposes.
e. Verify through translators of cultural information that has been written down to insure accuracy.
f. Follow appropriate traditional protocols as much as possible in the interpretation and utilization of cultural knowledge.

g. Assist willing members of the community to acquire the knowledge and skills needed to assume the role of Elder for future generations.
h. To develop a vision statement that will enable all to understand the future that they wish to foster. To develop a mission statement to guide the work of the Tłı̨chǫ Knowledge Department

Payment to Elders

Since elders on these committees will act more as advisors the older elders (including the k'àowo) will be paid a consulting fee of $350/day, whereas the younger elders who are continuing to learn from the older elders will be paid $250/day.

Meeting Attendance

If a members misses meetings the k'àowo will speak to the individual and determine the cause, if two meetings are missed they will be replaced by an individual chosen by elders in their community.

If a person has been drinking they will be asked to leave and will not be paid their per diem or their honorarium.

Decision Making

Following Tłı̨chǫ traditional governance practices only one topic will be discussed until a direction of action is reached. Eldest members will be invited to speak first and last on the topic under discussion.

Members will strive to reach consensus on all matters before them. Every effort will be made to hear and clearly understand any dissenting views.

Staff Support

Decisions of the committee will be recorded by staff. Researchers will support Committee members by insuring that reports are written that reflect traditional information gathered. These reports will support the elders desire to influence decisions that are respectful and caring of all Tłı̨chǫ citizens, the land and the resources.

Researches will carry out rigorous verification procedures with the Committee and information providers to ensure the integrity of the Tłı̨chǫ knowledge gathered and analysed.

Appendix II

Guidelines for Developers

The Tłı̨chǫ government encourages developers to work with us, and to work to understand ınformatıon that comes from our traditional knowledge.

The Tłı̨chǫ Agreement states WLWB shall consider traditional knowledge, the Agreement does not specify how this will occur. This policy clarifies the way in which Tłı̨chǫ knowledge will be considered within the Wek'èezhìi area.

Consıder thıs policy as early as possible in the project planning cycle to avoid problems and conflicts before projects enter the formal regulatory process. This will also provide the Tłı̨chǫ with the opportunity to make positive contributions and build constructive relationships.

We concur with the following statements set out in the Mackenzie Valley Environmental Impact Review Board Guidelines for incorporating Traditional Knowledge:

- Traditional knowledge shared specifically about the environment and the use and management of the environment is important for establishing baseline conditions, predicting possible impacts and determining appropriate mitigation and monitoring methods. This is particularly beneficial where there is no land use plan, where there are social or cultural concerns or when scientific data is inadequate.
- Early dialogue and relationships between the developer and traditional knowledge holders may result in a sharing of knowledge about environmental phenomena unavailable elsewhere. Such information may allow for necessary project design changes to take place even before the Environmental Impact Assessment (EIA process begins.
- Traditional knowledge can add to the understanding of the critical requirements of and potential threats to valued components.
- Traditional knowledge can assist a preliminary screener in deciding whether a proposed development might have a significant adverse impact or might be a cause for public concern and
- Traditional knowledge is critical in the early stages of the process to help identify issues as part of the EIA scoping and later on at community and formal hearings (if any) to assist the Review Board in determining the significance of potential impacts.

The Tłı̨chǫ Land Claim and Self-government Agreement (Tłı̨chǫ Agreement) clause 22.1.7 gives the Mackenzie Valley Environmental Impact Review Board and the Wek'eezhii Land and Water Board their mandate within Wek*'èezhìı:*

> In exercising their powers, the Mackenzie Valley Environmental Impact Review Board and the Wek*'èezhìı* Land and Water Board shall consider traditional knowledge as well as other scientific information where such knowledge or information is made available to the Boards.

Tłı̨chǫ traditional knowledge is useful when considering how future development will impact on the environment and the people. Furthermore it can provide a more relevant and meaningful baseline to insure that the environmental effects of any project can be understood in the future. If Tłı̨chǫ knowledge research is done in a rigorous and methodological manner during the initial stages of a development planning, then it is more likely a development project will have minimal impact on the environmental and communities, especıally ıf socıal ıssues and concerns are also consıdered.

General Principles

No two projects are the same; therefore, a one-size-fits-all approach to considering Tłı̨chǫ knowledge is not possible. Nevertheless a number of general principles have been identified with respect to the extent to which knowledge should be collected in relation to development proposals. These are presented below.

Where possible, the Tłı̨chǫ Knowledge Department (TKD) will conduct all traditional knowledge research and provide the proponent with a report. Expectations regarding the extent of the research and type of research varies with the type of development applications, interested parties will identify their needs and explore with TKD staff, the time and budget required to meet these needs.

Prior to research the Tłı̨chǫ government and the research team will be provided with clear and accurate information about the project proposal and the stage that it is at. If the proposal has already entered the EIA process, the Developer will be asked to share copies of such applications to ensure that the Tłı̨chǫ government can accurately assess the scope of Tłı̨chǫ Knowledge required and how it may be incorporated into the EIA process;

Following a review of the information provided by the Developer the Tłı̨chǫ government will outline a proposal for carrying out traditional knowledge research and ask the Developer to enter into a Protocol Agreement that would enable such research to proceed. A sample of such an agreement is set out in Appendix IV.

Sample Protocol Agreement

Between: (the Proponent, Developer, Federal and Territorial Government Agencies) herein referred to as _____

and

The Tłı̨chǫ Government

(hereinafter the "Parties")

WHEREAS the Tłı̨chǫ Government are the caretakers of Tłı̨chǫ knowledge that has been and will be documented within Mǫwhì Gogha Dè Nı̨ı̨tłèè, Wek'èezhii and Tłı̨chǫ Lands; and

WHEREAS the Tłı̨chǫ Government wishes to protect Tłı̨chǫ knowledge from misuse; and

WHEREAS most of this knowledge is woven within the tapestry of the Tłı̨chǫ oral narratives; and

WHEREAS the Parties wish to respect the wishes of the Tłı̨chǫ elders, who have shared and will continue to share their knowledge through oral narratives and to ensure that all information taken from the oral narratives remains with Tłı̨chǫ; and

WHEREAS the Parties would like to ensure Tłı̨chǫ knowledge is used in manner consistent with section 12.1.6 of the Tłı̨chǫ Agreement:

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

A. INTRODUCTION

The Tłı̨chǫ oral narratives and traditional knowledge is first, and foremost, for the Tłı̨chǫ citizens, therefore it should be:

a. Tłı̨chǫ citizens who carry out research on what Tłı̨chǫ knowledge about any given topic; and

b. Tłı̨chǫ elders and active harvesters who will assist with the design of Tłı̨chǫ knowledge projects, and in the research and in the writing of reports.

c. With respect for the Tłı̨chǫ Regional Elders' Committee request that their stories not be translated to ensure that:

1. Tłı̨chǫ citizens continue listening to and learning from the oral narratives that came from their ancestors in their own language;
2. Individuals – whether Tłı̨chǫ or non-Tłı̨chǫ – should work with a Tłı̨chǫ speaker, who has spent considerable time listening and experiencing with elders and harvesters the knowledge shared;
3. Their descendents, and those who work with them, understand the knowledge within the context of an occurrence (as it was told and brought to the present), and from the perspective of the Tłı̨chǫ;
4. Non - Tłı̨chǫ who work with Tłı̨chǫ speakers to understand the relevance of the oral narrative, and the knowledge it encompasses, within the context all other variables being discussed by the storytellers;
5. Tłı̨chǫ youth learn the oral narratives as well as to learn how to use these narratives to think with, and use that ability to write related reports.

B. COMMITMENTS OF THE PARTIES:

The Tłı̨chǫ Government Commits To:

1. Decide how, why and when Tłı̨chǫ the information is used.

2. Indicate what information is confidential and what is public.

3. Ensure that the requester of information has the information required to participate effectively in the Regulatory process.

(Proponent. Developer, Government Agency)_____
Commits To:

Assist with the costs of research and of entering relevant information into the data base so the oral narratives and information can be managed, and used with Tłı̨chǫ Government GIS system as follows:

(enter budget info)

C. INTERPRETATION AND IMPLEMENTATION:

Entire Agreement

This Agreement constitutes the entire Agreement between Parties with respect to the subject matters set forth herein. There are no other collateral agreements or undertakings related to the subject matter hereof.

Further Acts

The Parties shall do all acts and execute and deliver all such documents as may from time to time be necessary in order to achieve the purpose and intent of this Agreement.

Applicable Laws

This Agreement shall be governed by and interpreted in accordance with Tłı̨chǫ laws, the laws of Canada, the Northwest Territories as applicable.

Notices

Any notices or communications required or permitted to be given pursuant to this Agreement shall be in writing and shall be delivered to, or sent by prepaid registered or certified mail, or confirmed facsimile, addressed as follows:

(a) in the case of a notice or communication to the **Proponent, Developer or Government Agency**:

_____

Tel:

Fax:

(b) in the case of a notice or communication to the **Tłı̨chǫ Government**:

The Executive Officer

Tłı̨chǫ Government

_____

Tel: (867) _____

Fax: (867) _____

or to such other address as either Party may notify the other in accordance with this section.

Assignment

The rights and privileges granted under this Agreement may not be assigned.

Amendment

This Agreement may be amended from time to time by consent of the Parties hereto by an instrument in writing.

Term

This Agreement shall come into effect on the date it is signed.

This Agreement shall be for an initial term of one year and may be renewed by mutual consent of the Parties.

Termination

This Agreement can be terminated upon 30 days notice in writing by either of the Parties.

Dispute Resolution

In the event that a dispute arises, the Parties will exercise all reasonable effort to resolve it amicably.

The Parties may resolve a dispute by mutual agreement at any time, and all such agreements shall be recorded in writing and signed by authorized representatives of the Parties.

Where there is a dispute that cannot be resolved amicably, either Party may give notice of termination of the Agreement.

IN WITNESS WHEREOF the Parties have caused this Agreement to be executed in their respective names by their duly authorized representatives.

Proponent or Developer	**Tłı̨chǫ Government**
per _____	**per _____**

Dated: _____, 20____

Appendix IV

Guidelines for Researchers

Researchers are ethically responsible for obtaining informed consent, accurately representing the Tłı̨chǫ *perspective and protecting the cultural integrity and rights of all participants in a research endeavor.*

Researchers may increase their cultural responsiveness through the following actions:

a. Enter into a Protocol Agreement with the Tłı̨chǫ Government
b. Effectively identify and utilize the expertise in participating communities to enhance the quality of information gathering as well as the information itself, and use caution in applying external frames of reference in its analysis and interpretation.
c. Explore ways in which to contribute to building local research capacity; all researchers whether the principle investigator or the local researchers should make a commitment to train those researchers with less skill.
d. Insure controlled access for sensitive cultural information that has not been explicitly authorized for general distribution, as determined by members of the local community.
e. Submit research plans as well as results for review by a Community or Regional Elders Committees and abide by its recommendations to the maximum extent possible.
f. Provide full disclosure of funding sources, sponsors, institutional affiliations and reviewers.
g. Include explicit recognition of all research contributors in the final report.

Guidelines for Authors and Illustrators

Authors and illustrators should take all steps necessary to insure that any representation of cultural content is accurate, contextually appropriate and explicitly acknowledged.

Authors and illustrators may increase their cultural responsiveness through the following actions:

a. Enter into a Protocol Agreement with the Tłı̨chǫ Government
b. Make it a practice to insure that all cultural content has been acquired under informed consent and has been reviewed for accuracy and appropriateness by knowledgeable local people representative of the culture in question.
c. Arrange for copyright authority and royalties to be retained or shared by the person or community from whom the cultural information originated, and follow local protocols for its approval and distribution.
d. Insure controlled access for sensitive cultural information that has not been explicitly authorized for general distribution.
e. Be explicit in describing how all cultural knowledge and material has been acquired, authenticated and utilized, and present any significant differing points of view that may exist.
f. Make explicit the audience(s) for which a cultural document is intended, as well as the point of view of the person(s) preparing the document.
g. Make every effort to utilize traditional names for people, places, and items where applicable, adhering to local conventions for spelling and pronunciation.
h. Identify all primary contributors and secondary sources for a particular document, and share the authorship whenever possible.
i. Acquire extensive first-hand experience in a new cultural context before writing about it.
j. Carefully explain the intent and use when obtaining permission to take photographs or videos, and make it clear in publication whether they have been staged as a re-enactment or represent actual events.
k. When documenting oral narratives, recognize and consider the power of the written word and the implications of putting oral tradition with all its non-verbal connotations down on paper, always striving to convey the original meaning and context as much as possible.