

**Report on a Public Hearing
Held by the
Wek'èezhì Renewable Resources Board
23-24 February 2016
Yellowknife, NT**

&

**Reasons for Decisions Related to a
Joint Proposal for the Management of
the Bathurst ʔekwò (Barren-ground caribou) Herd**

PART A



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LIST OF ACRONYMS

CI	Confidence Interval
ENR	Environment & Natural Resources
GNWT	Government of the Northwest Territories
HTA	Hunters' and Trappers' Association
INAC	Indigenous and Northern Affairs Canada
IR	Information Request
MCBCCA	Mobile Core Bathurst Caribou Conservation Area
MCBCMZ	Mobile Core Bathurst Caribou Management Zone
MVEIRB	Mackenzie Valley Environmental Impact Review Board
NSMA	North Slave Métis Alliance
NWT	Northwest Territories
TAH	Total Allowable Harvest
TG	Tłıchǫ Government
TK	Tłıchǫ Knowledge
WRRB	Wek'èezhì Renewable Resources Board
YKDFN	Yellowknives Dene First Nation

LIST OF TŁİCHǪ TERMS

dè, Ndè	land
dìga	wolf
ʔekwò	barren-ground caribou
edzie	bison
Kwetłìʔàa	rock extends into the water; Rayrock mine
liwe	fish
Wek'èezhì	management area; within the boundaries of

1. PLAIN LANGUAGE SUMMARY OF REPORT

The Wek'èezhì Renewable Resources Board (WRRB) is responsible for wildlife management in Wek'èezhì and shares responsibility for managing and monitoring the Bathurst ʔekwò (barren-ground caribou) herd. In September 2015, the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT) reported that, in their view, the Bathurst herd had continued to decline significantly and that further management actions were required.

In December 2015, the Tłıchǫ Government (TG) and ENR submitted the *Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019* to the Board, which proposed new restrictions on hunter harvest, predator management to reduce dıga (wolf) populations on the winter range of the Bathurst ʔekwò herd and ongoing biological monitoring. The WRRB considered any specific restriction of harvest or component of harvest as the establishment of a total allowable harvest (TAH). After review and analysis of the proposal, the WRRB complied with Section 12.3.10 of the Tłıchǫ Agreement and held a public hearing in Yellowknife, NT on February 23-24, 2016.

The WRRB concluded, based on all available Aboriginal and scientific evidence, that a serious conservation concern exists for the Bathurst ʔekwò 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.

This first report, Part A, will deal with the proposed harvest management actions that will require 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 mobile dıga-hunter camp and the dıga feasibility assessment. The second report, Part B, will deal with additional predator management actions, biological and environmental monitoring, and cumulative effects.

The WRRB determined that a total allowable harvest of zero shall be implemented for all users of the Bathurst ʔekwò herd within Wek'èezhì for the 2016/17, 2017/18, 2018/19 harvest seasons. As monitoring of the ʔekwò wildlife management units and Bathurst ʔekwò 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. These harvest management actions are to be implemented by July 1, 2016, the start of the 2016/17 harvest season. Additionally, the WRRB recommended timely implementation of hunter education programs in all Tłıchǫ communities.

The Community-based Dıga Harvesting Project, proposed by TG and ENR as a pilot training program, is to train Tłıchǫ harvesters, in a culturally appropriate manner, to hunt and trap dıga on the Bathurst herd range. The Board continues to support the Project as a

training program, with recommendations related to implementation and assessment. Prior to Project start up, the Board requests an update from TG and ENR in December 2016.

The WRRB also recommended that the dīga 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 dīga management, including costs, practicality and effectiveness. The Board requested that this assessment be initiated in June 2016.

2. INTRODUCTION

2.1 The WRRB and Management of the Bathurst ʔekwò (Barren-ground Caribou) Herd

The WRRB was established to perform the wildlife management functions set out in the Tłıchǫ Agreement in Wek'èezhì¹ and shares responsibility for the monitoring and management of the Bathurst ʔekwò herd. On December 15, 2015, TG and ENR submitted the “*Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019*” (Appendix A) to the WRRB outlining proposed management actions for the Bathurst ʔekwò herd in Wek'èezhì, including new restrictions on hunter harvest, predator management to reduce dīga populations on the winter range of the Bathurst ʔekwò herd and ongoing biological monitoring. The goal of the actions presented in the joint management proposal is to reverse the Bathurst herd's decline and promote an increase in the number of breeding females in the herd, over the period of November 2016-November 2019.

2.2 Prioritization and Organization of Decisions and Recommendations

In order to allow careful consideration of all of the information on the record and to meet legislated timelines, the WRRB has decided that prioritization and organization of its decisions and recommendations is necessary. The Board will prepare two separate reports to respond to the proposed management actions in the joint management proposal.

This first report, Part A, will deal with the proposed harvest management actions that will require 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 mobile dīga-hunter camp and the dīga feasibility assessment.

¹ Section 12.1.2 of the *Land Claims and Self-Government Agreement Among the Tłıchǫ and the Government of the Northwest Territories and the Government of Canada*, Indian Affairs and Northern Development, Ottawa, 2003 (hereinafter the “Tłıchǫ Agreement”).

The second report, Part B, will deal with additional predator management actions, biological and environmental monitoring, and cumulative effects. The Board expects to submit its second report to TG and ENR no later than August 31, 2016.

2.3 WRRB Governance

2.3.1 Mandate & Authorities

The WRRB is a co-management tribunal established to perform the functions related to wildlife, forest, plant and protected areas management in Wek'èezhì (Figure 1) set out in the Tłıchǫ Agreement. The Board's legal authorities came into effect at the time the Agreement was ratified by Parliament.² The WRRB's major authorities and responsibilities in relation to wildlife are set out in Chapter 12 of the Tłıchǫ Agreement.

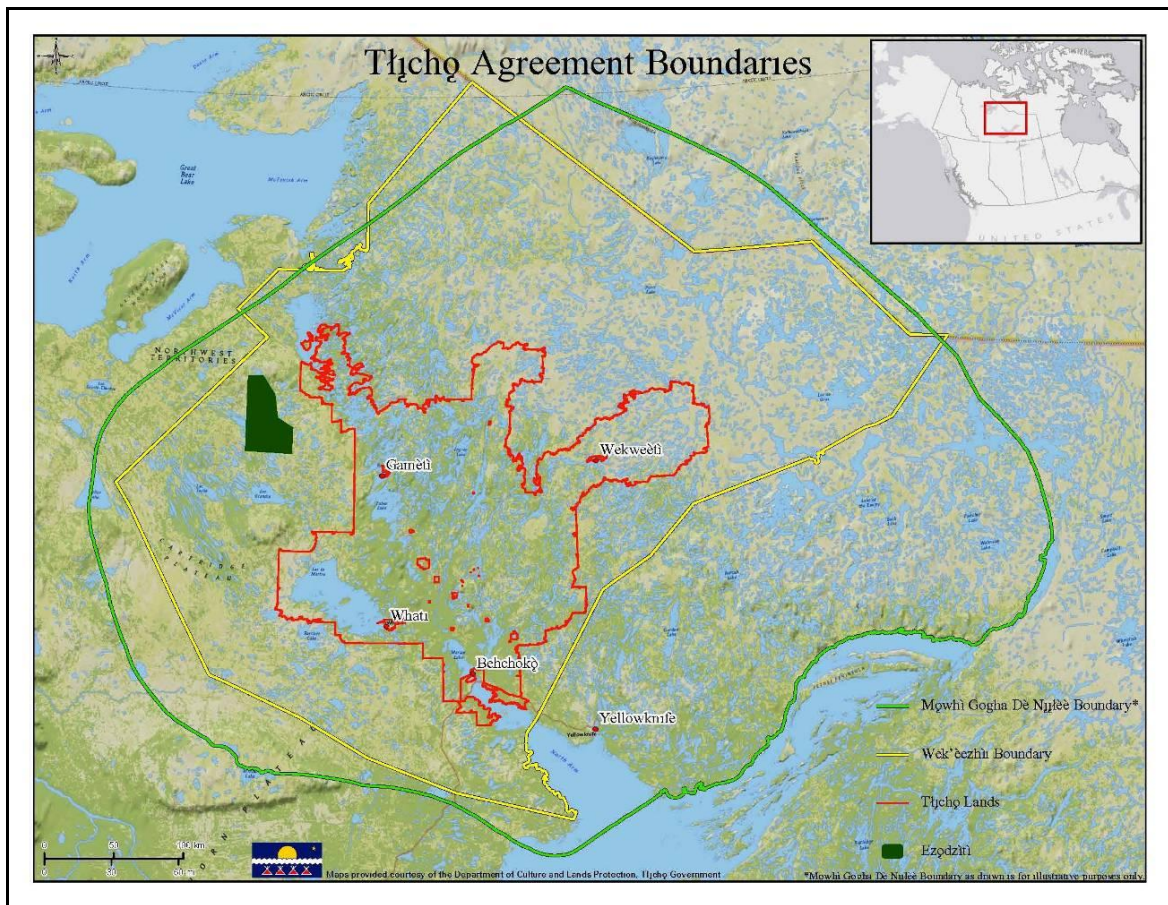


Figure 1: Wek'èezhì Management Area.³

² Tłıchǫ Land Claims and Self-Government Act, S.C. 2005, c.1. Royal assent February 15, 2005. See s.12.1.2 of the Tłıchǫ Agreement.

³ Department of Culture & Lands Protection, Tłıchǫ Government. 2014.

As required by Sections 12.5.1 and 12.5.4 of the Tłıchǵ Agreement, any Party⁴ proposing a wildlife management action in Wek'èezhì must submit a management proposal to the WRRB for review. This includes the establishment of a TAH. Prior to making a determination or recommendation, the WRRB must consult with any body with authority over that wildlife species both inside and outside of Wek'èezhì. Under the Section 12.5.5 of the Agreement, the WRRB has sole responsibility for making a final determination with respect to a total allowable harvest for Wek'èezhì. Such action may only be taken for the purposes of conservation.

12.5.5 The Wek'èezhì Renewable Resources Board 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'èezhì, except for fish,*
 - (ii) regarding the allocation of portions of any total allowable harvest levels for Wek'èezhì to groups of persons or for specified purposes, or*
 - (iii) submitted under 12.11.2 for the management of the Bathurst caribou herd with respect to its application in Wek'èezhì; and*
- (b) in relation to any other proposal, including a proposal for a total allowable harvest level for a population or stock of fish, with respect to its application in Wek'èezhì recommend implementation of the proposal as submitted or recommend revisions to it, or recommend it not be implemented.*

The WRRB acts in the public interest. It is an institution of public government, which makes its decisions on the basis of consensus. The WRRB works closely with Tłıchǵ communities, TG, and ENR. 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 Indigenous and Northern Affairs Canada (INAC). In addition, the WRRB works with other wildlife management authorities, Aboriginal organizations and stakeholders.

Wildlife management is a central and vital component of the Tłıchǵ Agreement.⁵ The rights of Tłıchǵ citizens to use wildlife for sustenance, cultural and spiritual purposes are protected by the Tłıchǵ Agreement and the Constitution⁶, subject to the management framework set out in Chapter 12. The most important provisions in relation to the

⁴ As defined in the Tłıchǵ Agreement, “Parties” mean the Parties to the Agreement, namely the Tłıchǵ, as represented by the Tłıchǵ Government, the Government of the Northwest Territories and the Government of Canada.

⁵ See Section.12.1.1 of the Tłıchǵ Agreement.

⁶ *Constitution Act*. 1982. Section 35.

WRRB's role in the limitation of Tłıchǫ citizens harvesting are set out in the Tłıchǫ Agreement as follows:

12.6.1 Subject to chapters 15 and 16, a total allowable harvest level for Wek'èezhì or Mǫwhì Gogha Dè Nìtlèè (NWT) shall be determined for conservation purposes only and only to the extent required for such purposes.

12.6.2 Subject to 12.6.1 and chapters 15 and 16, limits may not be prescribed under legislation

(a) on the exercise of rights under 10.1.1 or 10.2.1 except for the purposes of conservation, public health or public safety; or

(b) on the right of access under 10.5.1 except for the purposes of safety.

12.6.3 Any limits referred to in 12.6.2 shall be no greater than necessary to achieve the objective for which they are prescribed, and may not be prescribed where there is any other measure by which that objective could reasonably be achieved if that other measure would involve a lesser limitation on the exercise of the rights.

12.6.5 In exercising its powers in relation to limits on harvesting, the Wek'èezhì Renewable Resources Board shall give priority to

(a) non-commercial harvesting over commercial harvesting; and

(b) with respect to non-commercial harvesting,

(i) Tłıchǫ Citizens and members of an Aboriginal people, with rights to harvest wildlife in Wek'èezhì, over other persons, and

(ii) residents of the Northwest Territories over non-residents of the Northwest Territories other than persons described in (i).

The WRRB is bound by the Tłıchǫ Agreement if it is contemplating any limitation to Tłıchǫ citizens' harvesting, including any limitation to the harvesting of Bathurst Ɂekwò. More specifically, Section 12.6.1 (see above) specifies that a total allowable harvest level shall be determined for conservation purposes only and only to the extent required for such purposes. The Tłıchǫ 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 Tłchq citizens' harvesting rights set out in the Tłchq Agreement, the WRRB is also bound by the procedural requirements therein and the requirements of fairness. Paragraph 12.3.10 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 Bathurst ʔekwò herd.

2.3.2 Rule for Management Proposals

Section 12.5.1 of the Tłchq Agreement requires a Party before taking “*any action for management of wildlife in Wek’èezhì to submit its proposals to the WRRB for review*”. Under Section 12.3.6, the WRRB has the authority to make rules respecting the procedure for making applications to the Board. In 2009, the WRRB developed an Interim Rule for Management Proposals as a guide for making management proposal submissions, including actions taken in the issuance of licences, permits and other authorizations. The Board sought advice from all Parties to the Tłchq Agreement to ensure that the actions, timelines, process and reporting requirements within the Rule would be practicable. In 2013, the Board finalized its Rule for Management Proposals.

In anticipation of management proposal submissions in 2015 and 2016 related to ʔekwò, the Board reviewed, and subsequently revised its Rule. At its September 2015 meeting, the WRRB approved the revised Rule for Management Proposals.

3. PREVIOUS WRRB RECOMMENDATIONS RELATED TO BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU) MANAGEMENT

3.1 2007 Proceeding

In June 2006, a calving ground photographic survey conducted by ENR confirmed that the total number of breeding females was 55,593 (95% confidence interval (CI) =37,147-74,039).⁷ The total population estimate was 128,047 (95% CI=100,704-155,390), a 73% reduction from 1986, when the herd size was estimated at 472,000 ʔekwò.⁸

The WRRB became fully operational in August 2006 and received its first management proposal, entitled “*Bathurst Caribou Herd Harvest Reductions*” from ENR on December 14, 2006 to reduce Bathurst ʔekwò 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 Bathurst ʔekwò. This included eliminating all commercial meat tags held by Tłchq communities,

⁷ PR (BATH) – 080: An Estimate of Breeding Females and Analyses of Demographics For The Bathurst Herd of Barren-ground Caribou: 2012 Calving Ground Photographic Survey. File Report No.142. 2014.

⁸ PR (BATH) – 039: Report on a Public Hearing Held by the Wek’èezhì Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokò, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

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 ENR proposal, the Board decided to conduct a public hearing in March 2007 before making any decisions on the proposal.

Additional details of the 2007 proceeding, including the Board's decision, can be found in Appendix B.

3.2 2010 Proceeding

In June 2009, a calving ground photographic survey conducted by ENR confirmed that the total number of breeding females was 16,649 (95% confidence interval (CI) =12,153-21,056).⁹ The total population estimate was 31,900 (95% CI=21,000-42,800), a decline of 70% in 3 years.¹⁰

On November 5, 2009, TG and ENR submitted the *Joint Proposal on Caribou Management Actions in Wek'èezhìi*, which proposed nine management actions and eleven monitoring actions, including harvest limitations, for the Bathurst, Bluenose-East and Ahiak Ɂekwò herds. While there was agreement on the majority of actions proposed, there was no agreement reached on the proposed levels of Aboriginal 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, ENR implemented interim emergency measures, which included the closure of Ɂekwò commercial, outfitted¹¹ and resident harvesting in the North Slave regions. In addition, all harvest was closed in a newly established no-hunting conservation zone (Figure 2). This decision was made by the Minister of ENR under the authority of Section 12.5.14 of the Tłchq Agreement. The Minister considered these

⁹ PR (BATH) – 080: An Estimate of Breeding Females and Analyses of Demographics For The Bathurst Herd of Barren-ground Caribou: 2012 Calving Ground Photographic Survey. File Report No.142. 2014.

¹⁰ PR (BATH) – 039: Report on a Public Hearing Held by the Wek'èezhìi Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokò, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

¹¹ 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. ENR. 2015. Northwest Territories Summary of Hunting Regulations, July 1, 2015 to June 30, 2016.

emergency actions necessary due to the rapidly declining population of the Bathurst Ɂekwò herd. The Board was informed of the Minister's decisions on December 17, 2009.

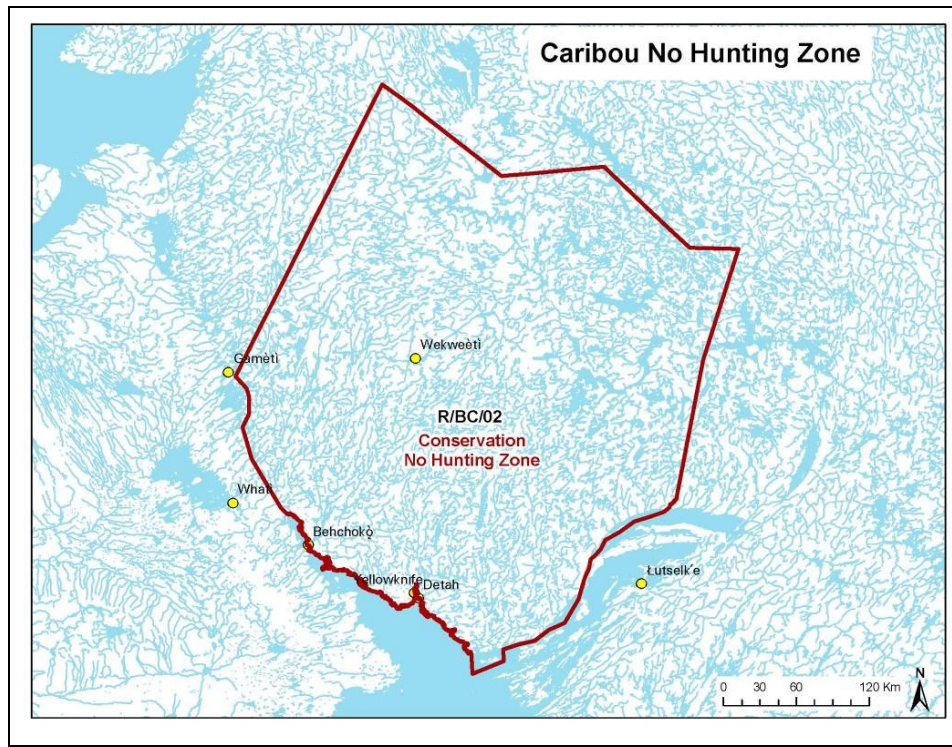


Figure 2: No-Hunting Conservation Zone, R/BC/02, January 1, 2010 to December 8, 2010.¹²

Originally scheduled for January 11-13, 2010, the public hearing eventually took place March 22-26, 2010 in Behchokò, NT. Once the evidentiary phase of the proceeding was completed, TG requested the WRRB adjourn the hearing in order to give TG and ENR 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 Ɂekwò herds.

On May 31, 2010, TG and ENR submitted the *Revised Joint Proposal on Caribou Management Actions in Wek'èezhì*. 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 ENR were able to reach an agreement on Aboriginal harvesting. Following review of the information and comments from registered Parties, the WRRB accepted the revised proposal. Therefore, the WRRB

¹² ENR-GNWT 2010. http://www.enr.gov.nt.ca/live/documents/content/No-Hunting_Conervation_Zone_Map.pdf

reconvened its public hearing on August 5-6, 2010 in Behchokò, NT, where final presentations, questions and closing arguments were made.

3.3 2010 Board Decision

On October 8, 2010, the WRRB submitted its final recommendations and reasons for decision report to TG and ENR. Based on all available information, the Board concluded that a conservation concern existed for the Bathurst Ɂekwò herd and management actions were vital for herd recovery. However, rather than imposing a TAH, the WRRB was persuaded by TG and ENR's argument to recommend a harvest target of 300 Bathurst Ɂekwò per year for harvest seasons 2010/11, 2011/12 and 2012/13. Further, the Board recommended that the ratio of bulls harvested to cows should be 85:15.

The Board concluded that a limited harvest of 270-330 Ɂekwò with 60 or fewer cows was an appropriate management option to help stabilize the herd. While the strongest measures to maximize the potential for the recovery of the herd would have been to end all harvesting, including the Aboriginal harvest, the Board recognized the linkage between Aboriginal peoples, Ɂekwò and culture and the hardship that a total ban would entail. Therefore, the WRRB sought a balance between maintenance of those important linkages and minimizing impact of the harvest on the Bathurst Ɂekwò herd.

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

The WRRB made additional Ɂekwò management and monitoring recommendations to TG and ENR, specifically implementation of detailed scientific and Tłıchq Knowledge (TK) monitoring actions, implementation of an adaptive co-management framework and development and implementation of a Bathurst Ɂekwò management plan.

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

The WRRB was requested to make recommendations to TG and ENR regarding dıga. The Board recommended that the harvest of dıga should be increased through incentives but that focused dıga control not be implemented. If TG and ENR were to contemplate focused dıga control in the future, a management proposal would be required for submission to the WRRB for its consideration.

The Minister's emergency interim measures remained in effect until the WRRB's recommendations on Ɂekwò management in Wek'èezhì were implemented on December

8, 2010. On January 13, 2011, TG and ENR responded to the Board's recommendations, accepting 35, varying 22 and rejecting three of the 60 recommendations. TG and ENR submitted an implementation plan to the WRRB on June 17, 2011, which the Board formally supported on June 30, 2011 (Appendix C).

4. SUMMARY OF CURRENT PROCEEDING

4.1 Request for Joint Proposal

On June 27, 2012, following the completion of the 2012 Bathurst ʔekwò herd calving ground survey, the WRRB requested a joint management proposal from TG and ENR to address any changes in the 2010 management actions. On March 6, 2013, TG and ENR notified the Board that discussions had commenced in an effort to have a joint proposal filed by May 1, 2013, with implementation of recommendations for the 2013 fall harvest. However, on May 6, 2013, TG and ENR advised the Board that, due to incomplete community consultations and the Tłchq Government's 2013 election period, the joint management proposal would not be submitted until after September 16, 2013.

In the interim, on May 31, 2013, the WRRB reviewed and recommended continued implementation of recommendations made in its October 2010 Recommendations Report for the 2013/2014 harvesting season. On December 6, 2013 and January 16, 2014, TG and ENR, respectively, accepted the Board's recommendation for continued implementation of the 2010 recommended management actions for the Bathurst ʔekwò herd.

On June 30, 2014, TG and ENR submitted the "*Joint Proposal on the Caribou Management Actions in Wek'èezhì (2014-2019)*" under separate cover. On July 11, 2014, the WRRB deemed the joint management proposal to be incomplete until receipt of consultation reports that TG and ENR promised would be available by July 15, 2014 and September 2014, respectively. These consultation reports were never provided. Given the circumstances, the Board recommended that, in order to ensure a consistent management approach, the recommendations made for the 2013/14 harvest season should remain in place for 2014/15.

Following the June 2014 reconnaissance survey of the Bathurst ʔekwò herd, on August 27, 2014, the Minister of ENR held a meeting of Aboriginal leaders and wildlife management authorities to discuss the results, which suggested a continuing declining trend. Subsequently, on August 29, 2014, the WRRB requested clarification from TG and ENR regarding their intentions to either confirm or revise the management actions proposed in the joint management proposal submitted in June 2014. On September 15, 2014, TG and ENR requested that the Board defer consideration of the joint management proposal until the two governments could determine whether the proposed management actions were still appropriate.

users¹⁴ of the Bathurst Ɂekwò herd, and whether the MCBCCA or Wildlife Management Units Subzones is the most effective way to differentiate between barren-ground caribou herds. In addition, in order to implement determinations and/or recommendations by July 1, 2016, the WRRB requested the submission of a joint management proposal for the Bathurst Ɂekwò herd, for the 2016/17 harvest season and beyond, by no later than October 15, 2015.

Due to consultation requirements, TG and ENR approached the Board on October 15, 2015 requesting an extension of the time for the submission of a joint management proposal for the Bathurst Ɂekwò herd until December 15, 2015. On October 21, 2015, the Board accepted the extension request despite concerns about future timing issues, including the implementation of management actions in the 2016/2017 harvest season.

On November 27, 2015, TG and ENR accepted the WRRB's recommendations and came to an agreement to implement, for the 2015/16 harvest season, a harvest target of zero for the NWT Aboriginal harvest of the Bathurst Ɂekwò herd, and the continued use of a renewed version of the MCBCCA, called the Mobile Core Bathurst Caribou Management Zone (MCBCMZ).

TG and ENR submitted the "*Community Based Wolf Harvesting Project*" management proposal to the Board on January 13, 2016. The 2015/16 pilot project proposed to train participants from Wekweètì in effective field techniques to hunt, trap, skin and process ḏiga and to utilize Tł̱chq cultural practices. Field camps would be established near large lakes within the MCBCMZ. If successful in Wekweètì, the project would then be offered in the communities of Gamètì and Whatì in 2016/17. On January 18, 2016, the WRRB supported the establishment of the proposed Community-based Wolf Harvest Project as a pilot training program only and not as a management action to reduce any potential impacts to the Bathurst Ɂekwò herd given that no accurate population estimate is available for ḏiga in Wek'èezhìi or the broader NWT.

4.2 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 Ɂekwò herd in Wek'èezhìi, including new restrictions on hunter harvest, predator management to reduce ḏiga populations on the winter range of the Bathurst Ɂekwò herd and ongoing monitoring (Appendix A). More specifically, TG and ENR proposed the closure of all harvesting of the Bathurst Ɂekwò herd and the development of mobile ḏiga-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.

¹⁴ Subsistence users include Tł̱chq Citizens and members of an Aboriginal people, with rights to harvest wildlife in Wek'èezhìi, as per Section 12.6.5(b)(i) of the Tł̱chq Agreement.

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>. On January 18, 2016, public notice of the WRRB decision to open a proceeding and conduct a public hearing concerning the possible setting of a TAH for the Bathurst ʔekwò herd was provided to potentially interested organizations in and out of Wek'èezhìi via email, WRRB website, social media and radio. Notifications of the revised proceeding schedules were posted publicly on February 1 and 18, 2016.

The proceeding and hearing were conducted in accordance with the WRRB's *Rules of Procedures*, September 23, 2015.

4.3 Registered Intervenors

Interested organizations or individuals were required to register as intervenors via the Board's website or to notify the WRRB in writing via email by January 26, 2016. Only two organizations registered by the deadline date: Yellowknives Dene First Nation (YKDFN) and the North Slave Métis Alliance (NSMA). Full intervenor status was granted to YKDFN and NSMA on February 1, 2016.

4.4 Information Requests

In order to obtain the information necessary for the WRRB to consider as part of the record of this proceeding, a series of Information Requests (IRs) were issued to the registered Parties. The IRs and responses are all available on the online public registry.

The first round of IRs was issued January 18, 2016, requesting that TG and ENR provide additional Tłchq knowledge and scientific information and rationale on the proposed management and monitoring actions. ENR and TG provided their responses on January 26, 2016. On February 4, 2016, the Board requested consent from all Parties to post supporting documentation referenced by TG and ENR in their management proposal and IR No.1 responses to the public registry. No concerns were raised and all documents were posted on February 8, 2016.

The second round of IRs was issued February 8, 2016, requesting all Registered Parties provide additional information, in particular related to monitoring and research on key environmental and habitat variables as well as cumulative effects monitoring and management. Additionally, NSMA submitted two IRs for response by ENR. All Parties provided their responses on February 15, 2016.

4.5 Public Hearing, February 23-24, 2016

To ensure that procedural, legal and administrative items were addressed prior to the public hearing, the Board held a pre-hearing conference on February 15, 2016 in Yellowknife. The WRRB issued public hearing instructions to the registered Parties as

required and, further to recommendations made by Parties during the pre-hearing conference, a revised set of instructions were issued on February 18, 2016. The instructions also included the requirements for Party closing statements and final written arguments.

Hearing presentations from all Parties were requested for February 19, 2016. All written submissions, hearing presentations and speaking notes were posted to the public registry.

During the February 23-24, 2016 hearing in Yellowknife, NT, the registered Parties gave oral presentations and asked questions of the other Parties. Registered general public were also given a daily opportunity to address the WRRB in the hearing. A list of registered Parties and general public is in Appendix D. A full written transcript of each day's session was produced and is available on the public registry. Recommendations provided by the Parties were summarized by Board staff (Appendix E).

The WRRB adjourned the hearing on February 24, 2016. Final written arguments were to be submitted by registered intervenors on March 8, 2016, and by TG and ENR on March 11, 2016. However, following a request from the NSMA, a one-week long extension was granted to all Parties for the submission of final written arguments.

The public record was closed on March 18, 2016 and the WRRB's deliberations followed.

5. IS THERE A CONSERVATION CONCERN FOR THE BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU) HERD?

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

5.1 Evidence Presented

5.1.1 Aboriginal Evidence

Evidence presented by TG, YKDFN and NSMA suggest that Bathurst ʔekwò herd numbers are low enough for stronger conservation measures. TG stated explicitly in their final written argument that *"the TG decision to recommend a TAH of zero should be understood and respected as a significant decision that involves profound social-cultural tradeoffs for Tłıchǫ on issues including caribou conservation and food security"*.¹⁵ Less explicit were comments from NSMA that they *"understand that the Bathurst Caribou*

¹⁵ PR (BATH) – 161: TG to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

population is in a perilous state ... [and] harvesting from a herd in such a state, scientifically and culturally, is not viable for NSMA members”¹⁶ and YKDFN’s question to ENR about “governments’ authority to impose regulations for conservation purposes”¹⁷, suggests that YKDFN considers the rapid ʔekwò decline to be a conservation issue.

Tłchq knowledge holders used language acknowledging their role as custodians of the dè (land) and animals in the area. Further, these TK holders noted serious stewardship concerns for ʔekwò and their habitat, as expressed by Elder Joseph Judas, “Now, today we’re concerned about no caribou. But at the same time, we had such as large fire that – that – on the land that burned a lot of feed of the caribou, so we need to find all those stressors”.¹⁸ Throughout the public hearing, TG consistently acknowledged the shortage of ʔekwò as exemplified by Elder Joe Rabesca, who stated, “...Mr. Chair, we’re still going to support not shooting new caribou, because it’s important...”¹⁹, and Dr. John B. Zoe, who said, “we don’t want to be the – the part of the chain that kind of determines the demise of the caribou, the Bathurst caribou”.²⁰

These types of statements were not limited to TG representatives. During the public hearing, Ms. Madelaine Chocolate Pasquayak explained she was raised on ʔekwò meat and is concerned about industrial development on the dè. Ms. Chocolate Pasquayak then suggested, “If we’re going to take care of this caribou problem, maybe we should put a restriction on killing caribou for maybe one or two or maybe five years”.²¹ A slightly different theme was expressed by Mr. George Mackenzie, who is also concerned that ʔekwò populations are declining. He said, “Yes, we want to manage it. We don’t want a total decline. ... Before all the caribou disappear”.²² Mr. Mackenzie went on to emphasize that they do not want ʔekwò to disappear but they do not want GNWT to be the type of decision-maker that prosecutes and punishes their young hunters.

There were members of the public who expressed concern about the presentation of the population estimate. Mr. Leon Lafferty clearly expressed this perspective when he said:

“But if you overlay the forestry -- the forest fires over the hunting wintering grounds of the caribou and then you see the -- where the caribou -- collared caribou, which you don't show anybody where they go, if you were to do that you'd find out that the caribou go where the food is. Northern Saskatchewan, Northern Alberta, or maybe all the way to Quebec. Look at the numbers went up in Quebec about five years ago. In

¹⁶ PR (BATH) – 159: NSMA to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

¹⁷ PR (BATH) – 153: Transcript – February 23, 2106 (Day 1) – Bathurst Caribou Herd Public Hearing. 2016. pp.156-157.

¹⁸ Ibid. p.118.

¹⁹ Ibid. p.128.

²⁰ Ibid. p.181.

²¹ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. p.107.

²² Ibid. p.205.

1999 caribou increased in Northern Saskatchewan, Alaska, Baker Lake. For three days I seen caribou migrating through there, which they haven't seen for hundreds of years. Our caribou are not dead. There's no dead bodies laying around. You guys better do your research before you even decide to put any quota on the people around here."²³

Similar to Mr. Lafferty's statement, biologists, reindeer herders and ʔekwò hunters speaking at the 'The Human Role in Caribou and Reindeer Systems' conference in Finland (1999), stressed the need for both reindeer and ʔekwò to have extensive ranges in conjunction with respectful relationships with knowledgeable humans.²⁴ Tł̓chq̓ harvesters accept that there is no known pattern or consistent reason for shifting migration routes and distribution within these large territories.²⁵ They do know, however, that ʔekwò require lush habitat in which to forage, and that ʔekwò make minor adjustments every few years, with more extreme shifts occurring every decade or so.²⁶

In 2008, Tł̓chq̓ elders who had lived closely with ʔekwò explained that

*"... reduced population and rapid change in distribution can mean there is insufficient food for caribou to forage, or their habitat has been damaged in some way. Habitat changes can be the ebb and flow of natural cycles, or can be caused by human behaviour."*²⁷

When ʔekwò do not migrate to a particular area, it is attributed to a number of factors, most of which are caused by human behaviour and activities. These factors range from a person hitting ʔekwò with a stick causing them to stay away for up to 30 years²⁸ or putting collars on them which causes even their bone marrow to change. Most attribute fires²⁹ and industrial development, particularly mines, as the main reasons "*behind caribou health defects and changes to their behaviour and migration.*"³⁰ Ms. Madelaine Chocolate Pasquayak explained at the public hearing that ʔekwò used to come into Kwetł̓ʔàa area, which is northeast of Whatì and south of Gamètì, but, after opening the Rayrock Mine in that area in the 1950s, "*with all the noise and activity, the ʔekwò never came back into the area.*"³¹

²³ PR (BATH) – 165: Bluenose-East Caribou Herd Public Hearing Transcript – Day 3 (April 8, 2016). 2016. pp.196-197.

²⁴ PR (BATH) – 068: Caribou Migration and the State of their Habitat – Final Report, March 2001 (republished 2014).

²⁵ Ibid.

²⁶ Ibid.

²⁷ PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

²⁸ Ibid.

²⁹ PR (Bath) – 020: Denéshné (Chipewyan) Knowledge of Barren-Ground Caribou (*Rangifer tarandus groenlandicus*) Movements. 2005

³⁰ PR (BATH) – 005: Edwò zò gha dao nats'edè – "We live Here for Caribou": Cumulative Impacts Study on the Bathurst Caribou. 2016.

³¹ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. p 106.

Documentation of Aboriginal concerns, with a focus on protecting ʔekwò, have been recorded and shared with decision makers. In the mid-1990s, the Tłıchq elders and leaders expressed concern that ʔekwò populations and distributions would change dramatically due to human activities that disregarded the habitat requirements of ʔekwò. Specifically, changes related to resource development that

“restricts foraging possibilities; increases unfamiliar smells and noise that cause caribou to be confused about where to find lush vegetation; destroys several key water crossings due to pit and road locations; [and] increases air pollution that settles on plants and in water, and slowly destroys wildlife habitat.”³²

In 2001, Tłıchq elders from all four communities made recommendations given the importance of ʔekwò *“in the hope that the caribou will be protected from destructive by-products from industrial development ...”* and to ensure the protection of winter forage for ʔekwò.³³ The Łutsel K’è Dene community members, in their 2003-2005 study, noticed unnatural changes to the migration of the Bathurst herd as well as signs of sickness and injuries. The overwhelming thought to the cause of the high levels of disturbances was attributed to the diamond mines.³⁴ More recently, in August 2015, the Tłıchq Government stated,

“We’re dealing with the symptoms of the decline, not necessarily the reasons for it. ... Tłıchq Government wants WRRB to recommend on management actions planning that emphasizes addressing the multiple causes [natural mortality, industrial development, roads, loss of habitat, etc] of the decline and a long term plan that includes all harvesters of these herds throughout the range of these herds.”³⁵

5.1.2 Scientific Evidence

Herd Estimates and Vital Rates^{36,37,38,39,40,41}

A calving ground photographic survey, conducted by ENR in June 2015, confirmed that the total number of breeding females had declined from an estimate of 15,935 (95% CI=13,009-18,861) in 2012 to an estimate of 8,075 (95% CI=4608-11,542) in 2015, a

³² PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

³³ PR (BATH) – 068: Caribou Migration and the State of their Habitat – Final Report, March 2001 (republished 2014).

³⁴ PR (BATH) – 081: Nııhat’ni-Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Łutsel K’è Denéşqłiné. March 2005.

³⁵ PR (BATH) – 006: TG & ENR Information Request No. 1 Responses – Bathurst Caribou Herd. Question #6. 2016.

³⁶ PR (BATH) - 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019. 2016.

³⁷ PR (BATH) - 162: ENR to WRRB - Final Written Argument - Bathurst Caribou Herd Public Hearing. 2016.

³⁸ PR (BATH) - 037: ENR to WRRB - DRAFT 2015 Calving Photo Survey Report - Bathurst Caribou Herd. 2016.

³⁹ PR (BATH) - 061: Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, Sept. 2014 Unpublished Report.

⁴⁰ PR (BATH) - 006: TG & ENR Information Request No.1 Responses - Bathurst Caribou Herd. 2016.

⁴¹ PR (BATH) - 129: TG & ENR Information Request No.2 Responses - Additional Information for Question #1 – Bathurst Caribou Herd. 2016.

decline of about 50% (Figure 4). The total population estimate fell from 34,690 (95% CI=24,935-44,445) in 2012 to an estimate of 19,769 (95% CI=12,349-27,189) in 2015 – a decline of approximately 40% over three years and a decrease of 96% since the peak population estimated at 470,000 in 1986 (Figure 5).

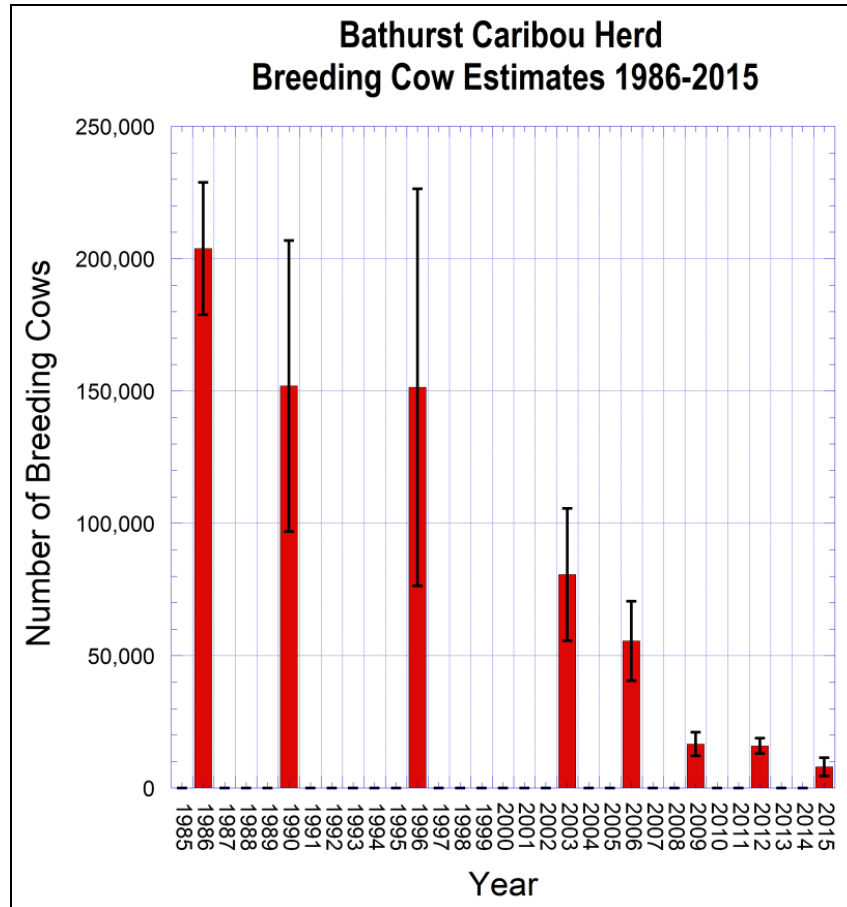


Figure 4: Bathurst ʔekwò (barren-ground caribou) herd breeding cow estimates (1986-2015).⁴²

⁴² PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019. 2016.

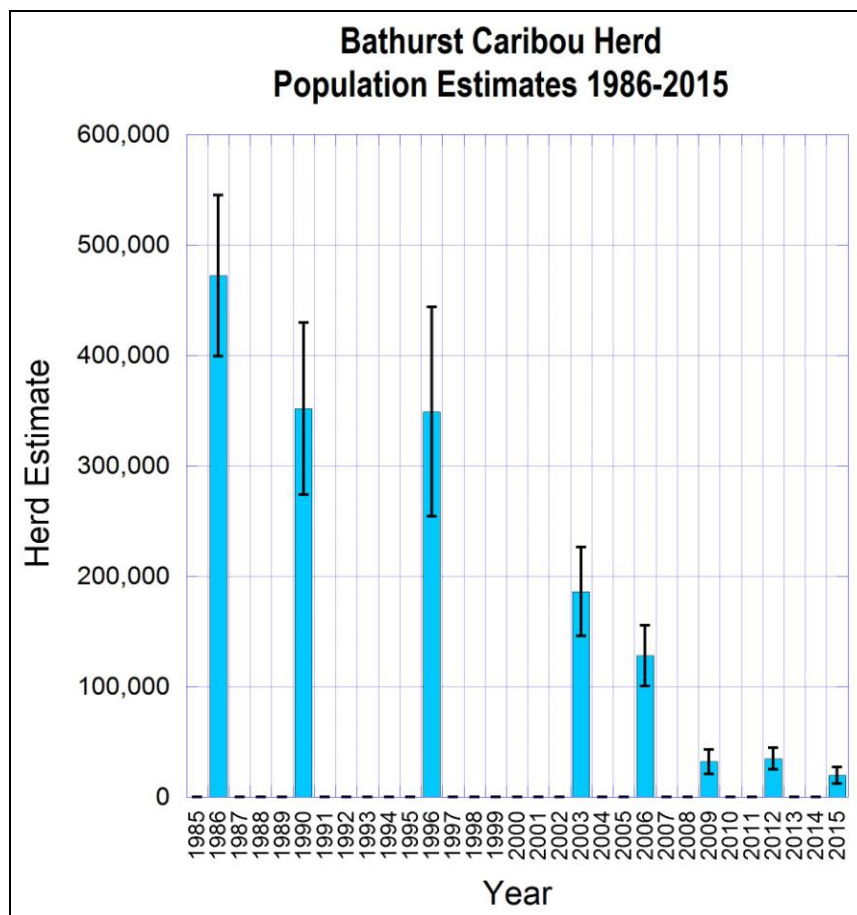


Figure 5: Bathurst Ɂekwò (barren-ground caribou) herd population estimates (1986-2015).⁴³

The 2015 survey also showed that 40% of the cows in the Bathurst Ɂekwò herd were non-breeders, which suggests the pregnancy rate in winter 2014/15 was about 60%, which is well below a rate of 80% seen in a healthy herd. Other vital rates for the Bathurst herd are also low. The cow survival rate between 2012 and 2015 is estimated to have been 78%, which is below the 80-85% associated with a stable herd. Calf recruitment in the last three years was 25 calves:100 cows in 2013, 32 calves:100 cows in 2014 and 24 calves:100 cows in 2015. Two of the three years were below the 30-40 calves:100 cows generally associated with stable herds. TG agreed with and supported the scientific information presented.

Movement of Collared Ɂekwò among Herds

Movement of collared cow Ɂekwò between the Bathurst, Bluenose-East and Beverly-Ahiak calving grounds from 2008 to 2015 has been evaluated to determine the frequency of herd switching. Results suggest that there has been a very low rate of switching of

⁴³ PR (BATH) – 152: ENR to WRRB – Bathurst Caribou Public Hearing Presentation. 2016.

cows between the Bathurst and neighbouring calving grounds, with the net movement to or from the Bathurst range being minimal.⁴⁴ This minimal movement to or from the Bathurst range is unlikely to account for the declining trend in the herd.⁴⁵

Specifically, information was collected on collared cows that had consecutive June locations, i.e. cows that were observed returning to the same calving grounds one year to another. For the three herds, there were a total of 259 sets of data for cows that returned to calve in consecutive years. Of the 259 pairs of locations from 2008 to 2015, 254 indicated returns to the same calving ground, with 5 indicating a switch between herds.⁴⁶ In the Bathurst herd, one collared cow switched to the Beverly-Ahiak herd and one switched in the reverse direction; also, two Bathurst cows switched to the Bluenose-East calving ground and one switched in the reverse direction.⁴⁷ Overall, the data represent a 98% loyalty to calving grounds, and previous evaluations specific to the Bathurst herd have shown a 96-98% loyalty of collared cows to calving grounds.⁴⁸

State of the Habitat

Concerns over environmental factors contributing to the continuing decline have been voiced, including a severe drought in the summers of 2012 and 2014. A review of an index of drought conditions on the summer range of the Bathurst herd from 1979 to 2014 indicates an increase in drought conditions in 2009 -2014, with a peak in 2014.⁴⁹ The hot, dry summer in 2014 likely resulted in poor plant growth and poor feeding conditions for ʔekwò, likely having a negative influence on the condition of cows in the breeding season and subsequently the low pregnancy rate⁵⁰; if cows do not have access to good forage during the summer, then their condition is poor, and pregnancy rate low⁵¹. A recent study found a correlation between spring calf:cow ratios and summer range productivity, which suggested that poor summer feeding conditions lead to poor cow condition and low pregnancy rates the following winter and reduced calf ratios the following year⁵². Though an overall determination of the adequacy of the Bathurst herd range habitat quality has not been conducted, it is unlikely that that a smaller herd is limited by overall range capacity. However, an increasing frequency of exceptional fire years, such as 2014, may reduce the availability of lichen on the winter range⁵³.

⁴⁴ PR (BATH) – 037: Boulanger et al. 2016. Estimate of Breeding Females and Analyses of Demographics for the Bathurst herd of Barren-Ground Caribou 2015 Calving Ground Photographic Survey. Draft. 2016.

⁴⁵ Ibid.

⁴⁶ PR (BATH) – 152: ENR to WRRB – Bathurst Caribou Public Hearing Presentation. 2016.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ PR (BATH) - 152: ENR to WRRB - Bathurst Caribou Public Hearing Presentation. 2016.

⁵⁰ PR (BATH) - 006: TG & ENR Information Request No.1 Responses - Bathurst Caribou Herd. 2016.

⁵¹ PR (Bath) - 061: Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, Sept. 2014 Unpublished Report.

⁵² PR (BATH) - 063: Assessing the Impacts of Summer Range on Bathurst Caribou's Productivity and Abundance since 1985. 2014.

⁵³ PR (BATH) - 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. 2016.

Biting flies, such as mosquitoes, black flies and warble flies, can interfere with ʔekwò feeding during a time when vegetation is most nutritious. The activity of biting flies is tied to temperature and wind speed, and summer weather records can be used to derive an index of activity level in warble flies. A review of the warble fly index for the Bathurst herd from 1979 to 2014 shows a trend towards increased insect harassment, with 2014 being the worst season on record. This index is likely correlated with the previously mentioned drought index, and suggests that poor summer feeding conditions have occurred in combination with insect harassment, further interfering with ʔekwò feeding and likely contributing to a low pregnancy rate and low calf production⁵⁴.

The impacts of various ongoing and proposed human-induced activities on the Bathurst range, both in the NWT and Nunavut, were mentioned repeatedly during the Public hearing, with concerns also provided in supporting documents. For example, in the Reasons for Decision on the proposed Jay Project⁵⁵, Mackenzie Valley Environmental Impact Review Board (MVEIRB) stated that

“Parties and the developer made it clear to the Review Board that the Bathurst caribou herd has been or will be affected cumulatively by past, present and reasonably foreseeable human activities, including mines, roads, exploration activities, hunting and climate change related trends”

with possible industrial developments in the calving grounds in Nunavut being “particularly concerning”. MVEIRB indicated that many human activities have affected caribou, and that the Review Board agreed with the majority of parties’ conclusion that cumulative effects on Bathurst caribou are significant. Recommendations regarding cumulative effects will be discussed in Part B.

5.2 Conclusion

Throughout the proceeding, the Bathurst ʔekwò herd has been referred to as being in a “troubled”⁵⁶ and “perilous”⁵⁷ state, as having a status that is “unprecedented and of grave concern”⁵⁸, and overall being considered to be in a “crisis”.⁵⁹ The Board has repeatedly heard from governments, communities and members of the public of their concerns over the continued decrease of the Bathurst 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 indicate that the herd is likely to continue to decline in the near future. Despite all the management actions taken over the past seven years, the herd is still declining, and recovery of the herd remains uncertain. Despite the

⁵⁴ PR (BATH) - 152: ENR to WRRB - Bathurst Caribou Public Hearing Presentation. 2016.

⁵⁵ PR (BATH) - 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision Dominion Diamond Ekati Corporation Jay Project EA1314-01. 2016.

⁵⁶ PR (BATH) - 152: ENR to WRRB - Bathurst Caribou Public Hearing Presentation. 2016.

⁵⁷ PR (BATH) - 159: NSMA to WRRB - Final Written Argument - Bathurst Caribou Herd Public Hearing. 2016.

⁵⁸ PR (BATH) - 162: ENR to WRRB - Final Written Argument - Bathurst Caribou Herd Public Hearing. 2016.

⁵⁹ PR (BATH) - 161: TG to WRRB - Final Written Argument - Bathurst Caribou Herd Public Hearing. 2016.

uncertainty, ENR noted that to facilitate herd recovery and to once again provide harvesting opportunities for traditional users, that “*timely conservation-based management actions are needed.*”⁶⁰ Additionally, TG stated that “*in a time of crisis for caribou – closure of Aboriginal harvesting of caribou ... are difficult but necessary actions*”.⁶¹

Therefore, the WRRB concluded that the balance of Aboriginal and scientific evidence supports the conclusion that the Bathurst ʔekwò herd has continued to decrease in number in recent years, and demonstrates that there is an issue of serious conservation concern.

⁶⁰ PR (BATH) – 162: ENR to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

⁶¹ PR (BATH) – 161: TG to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

6. OTHER ABORIGINAL HARVESTERS OF THE BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU) HERD

The annual range of the Bathurst ʔekwò herd includes communities in the Akaitcho Territory and Sahtú Settlement Area, and in Nunavut and Saskatchewan, which harvest from the herd at different times of the year (Figure 6). In the NWT, the Tłı̨chq, YKDFN, Łutsel K'e Dene First Nation, NWT Métis Nation, NSMA, and the Sahtú Got'ı̨ne⁶² harvest the Bathurst ʔekwò herd more often than other Aboriginal users. The Tłı̨chq harvest more ʔekwò from the Bathurst herd than any other group.⁶³

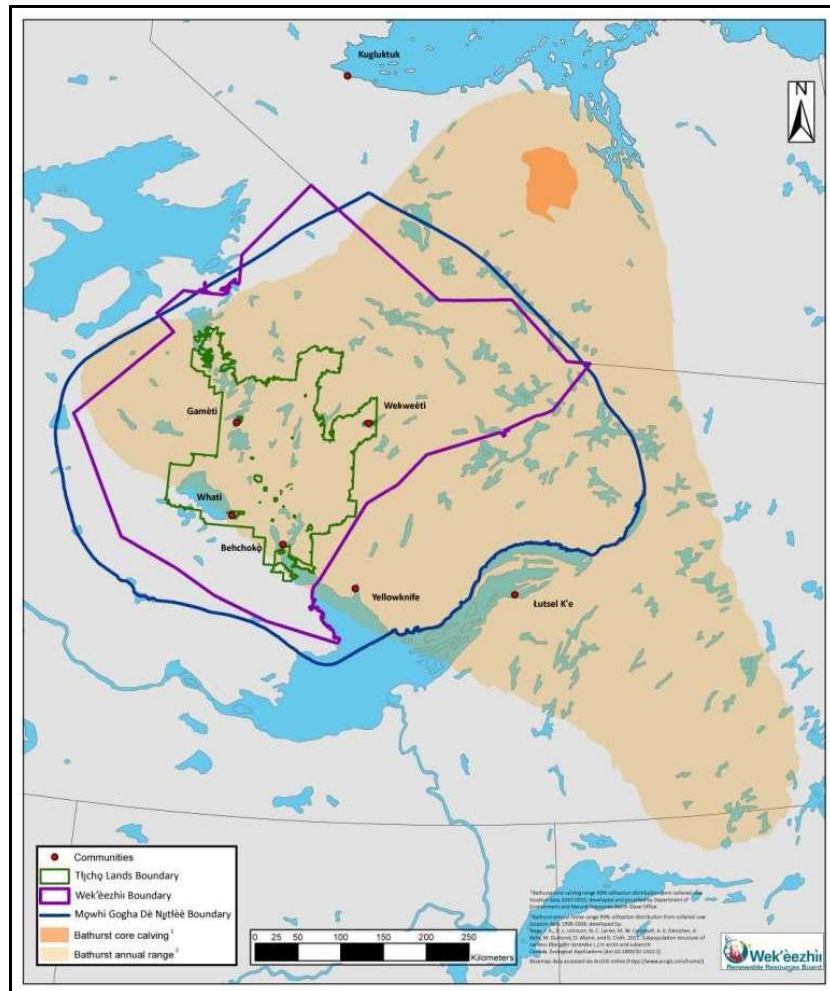


Figure 6: Bathurst ʔekwò (barren-ground caribou) herd annual range (1996-2008) and core calving grounds (2010-2015).⁶⁴

⁶² Sahtú Got'ı̨ne means the Dene of Great Bear Lake, Dèlı̨ne.

⁶³ PR (BATH) – 068: Caribou Migration and the State of their Habitat – Final Report, March 2001 (republished 2014).

⁶⁴ WRRB. 2016.

The Bathurst ʔekwò herd range has contracted since 2000 as the herd's size has declined, with reduction in range size and shift in location most noticeable in the fall and winter (Figures 7, 8 and 9).⁶⁵ Collared ʔekwò locations show reduced use of the more southern and eastern ranges, such as southeast of Great Slave Lake.

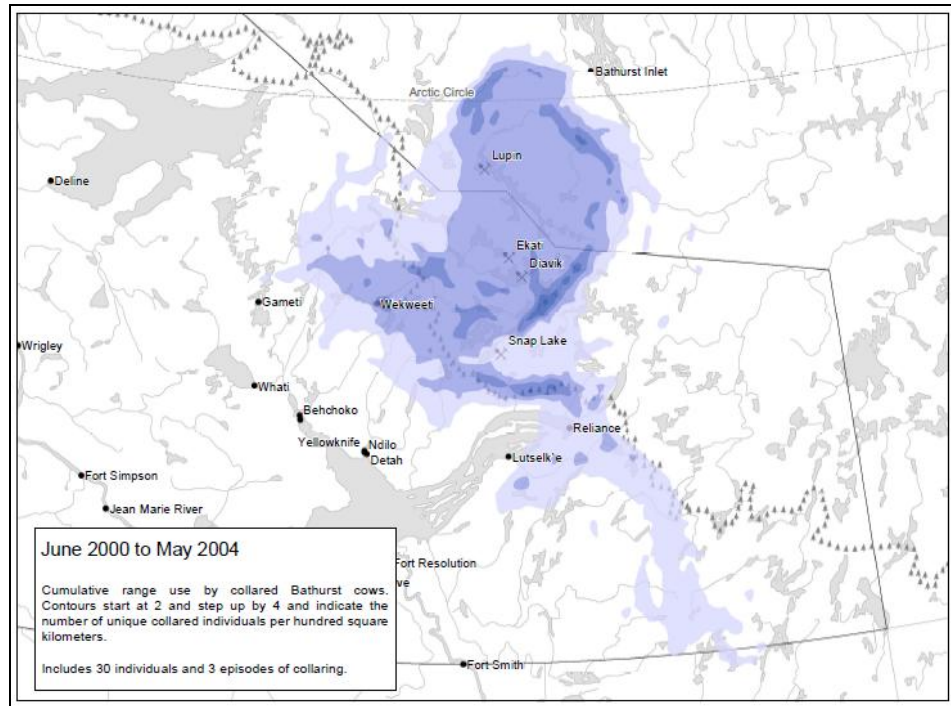


Figure 7: Bathurst ʔekwò (barren-ground caribou) herd annual range for June 2000 to May 2004.

⁶⁵ PR (BATH) - 006: TG & ENR Information Request No.1 Responses - Bathurst Caribou Herd. Question #16. 2016.

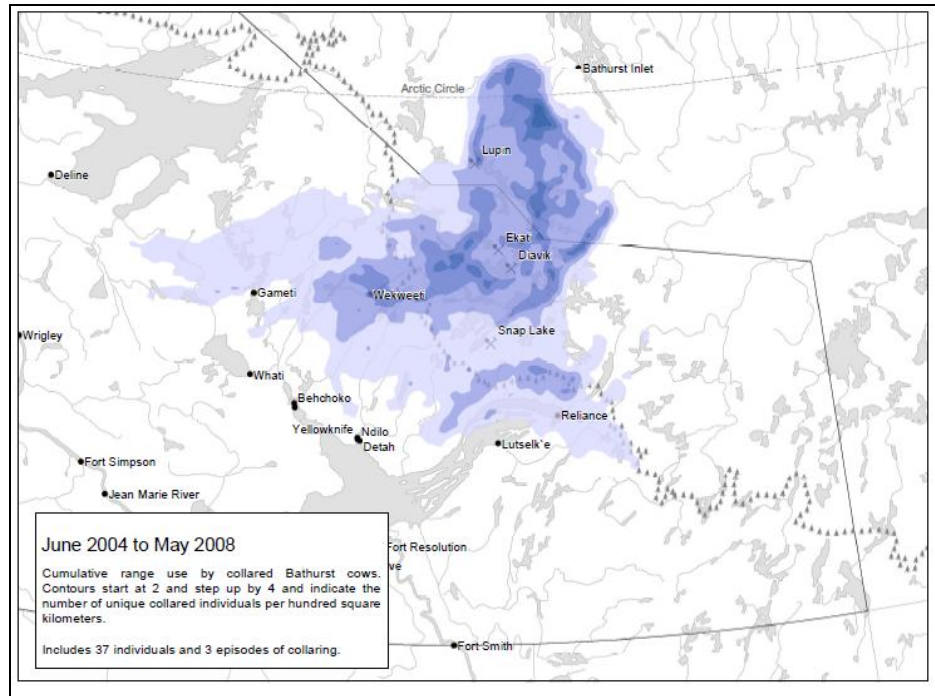


Figure 8: Bathurst Ɂekwò (barren-ground caribou) herd annual range for June 2004 to May 2008.

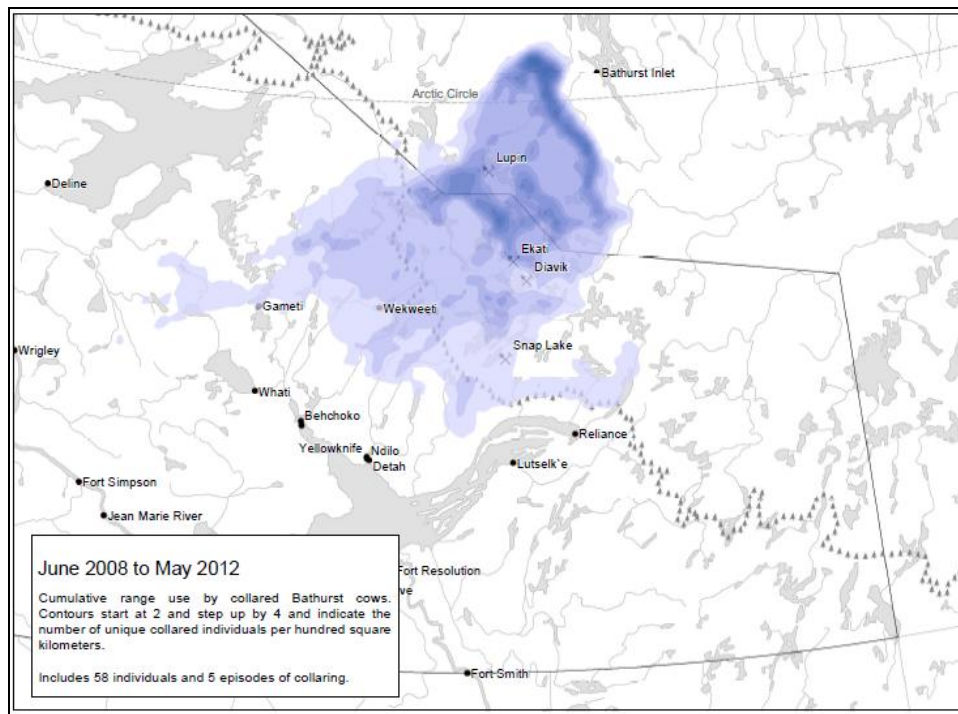


Figure 9: Bathurst Ɂekwò (barren-ground caribou) herd annual range for June 2008 to May 2012.

Dene place names are indicators of both Aboriginal use and the resources they used.⁶⁶ Tłıchq places names indicate the trails, places and resources they used;⁶⁷ most of these are in Wek'èezhì with many places outside Wek'èezhì but within Mqwhì Gogha Dè Nı̀tlèè being shared with other Aboriginal people. As Dr. John B Zoe said,

*“We know from our stories and our place names that there was nobody else here, as well as in the other regions, probably the same thing. ... generally you knew which -- whose area that is was. And that agreement is based on an earlier discussion, like I said at the beginning, back in the '70s when a lot of Elders got together.”*⁶⁸

As Ɂekwò move throughout their range, those whose traditional dè the Ɂekwò migrate within will host Dene and Métis from other regions. At the TG Caribou Workshop held in Whatì (2007), the participants suggested formalizing this traditional protocol; *“the four Tłıchq communities and the Tłıchq Government have to be notified in advance before other regions can hunt in the Tłıchq Nation.”*⁶⁹ They want their leadership to ensure everyone takes only what is needed and treats Ɂekwò as has been their tradition.⁷⁰

Under the *NWT Wildlife Act*, the GNWT is responsible for Ɂekwò management, in accordance with the law and following consultation, with the YKDFN and the Łutsel K'e Dene First Nation, the NWT Métis Nation, the NSMA and the Athabasca Denesuline.

The WRRB and the Nunavut Wildlife Management Board (NWMB) are the two co-management tribunals with primary management authority over the Bathurst Ɂekwò herd. As per Section 12.5.4 of the Tłıchq Agreement, on February 24, 2016, the WRRB requested that the NWMB identify whether further consultation was required prior to the WRRB's final decision on TG and ENR's joint management proposal. To date, no reply has been received. The NWMB has received a proposal from the Government of Nunavut to establish a TAH for the Bathurst Ɂekwò herd, and NWMB has scheduled a public hearing for June 14-15, 2016 in Cambridge Bay, NU.

While the WRRB is responsible for managing wildlife in Wek'èezhì on an ecosystemic basis using the best available information, it must not lose sight of this overall management context. A failure to act when the evidence indicates a wildlife management need could have effects on harvesters outside of Wek'èezhì.

⁶⁶ PR (BATH) – 020: Denéşłné (Chipewyan) Knowledge of Barren-Ground Caribou (*Rangifer tarandus groenlandicus*) Movements. 2005.; PR (BATH) – 095: Traditional Ecological Knowledge in Kaché Tué Study Region, Phase 3. 2002.; and PR (BATH) – 034: Communities and Caribou in the Sahtú Region Yearend Summary Activity Report. 2009.

⁶⁷ PR (BATH) – 163: Bluenose-East Caribou Herd Public Hearing Transcript-Day 1 (April 6, 2016). 2016. p 129.

⁶⁸ PR (BATH) – 163: Bluenose-East Caribou Herd Public Hearing Transcript – Day 1 (April 6, 2016). 2016. Pp. 132-133.

⁶⁹ PR (BATH) – 107: Transcript – Tłıchq Government Caribou Workshop, Whatì, NT – Day 2. 2007.

⁷⁰ Ibid.

7. WRRB DETERMINATION & RECOMMENDATIONS ON LIMITATIONS TO BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU) HARVEST

7.1 Harvest of Bathurst ʔekwò (Barren-ground Caribou)

Resident, Outfitted and Commercial Harvest

Prior to 2005, NWT resident harvesters were allocated five tags, non-resident and non-resident alien harvesters were allocated two bull-only tags, and the quota for each ʔekwò outfitter group (Hunters' and Trappers' Associations (HTA) and Non-HTA) in the North Slave Region was 1260 animals (total outfitted harvest = 2520). As well, Tłı̨chų communities received tags to be used for commercial meat sales. During 2005/06, the number of tags for resident hunters was reduced from five to two bull-only tags and the quota for non-HTA outfitters was reduced from 1260 to 1163. The estimated harvest of the Bathurst ʔekwò by residents in 2005/06, based on returns of the annual survey, was 400 animals; the outfitted and commercial harvests were 769 and 75 animals, respectively.⁷¹ In 2007, the number of tags for non-resident and non-resident alien harvesters was reduced from two to one bull-only tag, all commercial tags for Tłı̨chų communities were eliminated, and the total quota for both HTA and non-HTA outfitters was reduced to 750 animals.⁷² In 2008 and 2009, the estimated resident harvest was less than 100 bulls taken annually; the outfitted harvest was 419 and 223 bulls, respectively (note: no specific harvest information was available for 2006 and 2007).⁷³

On January 1, 2010, ENR implemented interim emergency measures, which included the closure of ʔekwò commercial, outfitted and resident harvesting in the North Slave region, including Wek'èezhìi.⁷⁴ Since 2010, the WRRB has continued to recommend that commercial, outfitted and resident harvest remain closed in Wek'èezhìi.

Aboriginal Subsistence Harvest

Estimated harvest from 2006 to 2009 was approximately 5000 Bathurst ʔekwò per year, mostly cows.⁷⁵ Harvest in the North Slave region, primarily zones U/BC/01, R/BC/01, R/BC/02 and R/BC/03 (Figure 10), has been monitored by a combination of community monitors, officer patrols and check stations. Following harvest restrictions in 2010, the estimated harvest per year, including fall and winter in R/BC/02 and R/BC/03, and

⁷¹ PR (BATH) – 039: Report on a Public Hearing Held by the Wek'èezhìi Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokò, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

⁷² Ibid.

⁷³ PR (BATH) - 061: Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, Sept. 2014 Unpublished Report.

⁷⁴ PR (BATH) – 039: Report on a Public Hearing Held by the Wek'èezhìi Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokò, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

⁷⁵ PR (BATH) - 006: TG & ENR Information Request No.1 Responses - Bathurst Caribou Herd. Question #9 & 11. 2016.

Nunavut harvest where available, was: 2010 – 300, 2011 – 213, 2012 – 205, 2013 – 202, 2014 – 234, and 2015 – 70 (note: the harvest information for 2015 assumes that all Bathurst Inlet tags were used on outfitted hunts).⁷⁶ Assessing the level of Bathurst Ɂekwò harvest is difficult given overlap with the Bluenose-East herd in some years and the low number of collars on the Bathurst herd,⁷⁷ and harvest estimates provided are considered to be low as they do not include wounding losses or underreporting.⁷⁸

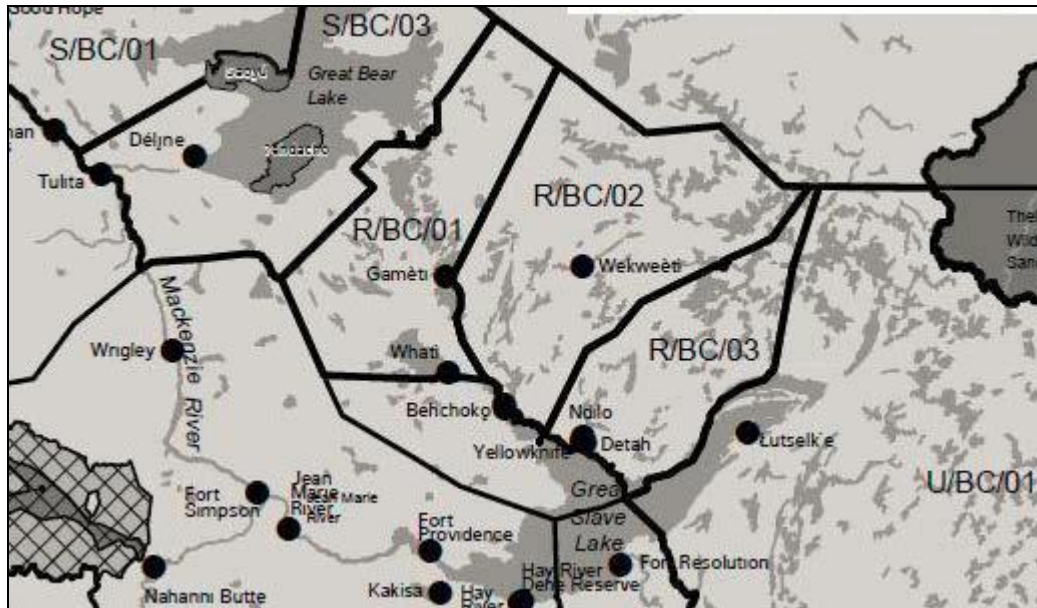


Figure 10: NWT Ɂekwò (barren-ground caribou) management zones in the main Bathurst Ɂekwò winter range and adjacent areas.⁷⁹

Annual harvest of Bathurst Ɂekwò in Nunavut has been estimated by wildlife officers, in recent years, at about 70 bulls taken under tags issued to the small community of Bathurst Inlet and used for late-summer outfitted hunts.⁸⁰

Tłıchq̃ have relations with Ɂekwò as they have co-inhabited and travelled through the same landscape since long before the arrival of European explorers, traders and missionaries.⁸¹ It is critical to the understanding and management of Ɂekwò in Wek'èezhì to know that the Tłıchq̃ take their respectful behaviour towards Ɂekwò very seriously as they provide much more than food security. In response to the question,

⁷⁶ Ibid.

⁷⁷ PR (BATH) - 006: TG & ENR Information Request No.1 Responses - Bathurst Caribou Herd. 2016.

⁷⁸ PR (BATH) - 061: Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, Sept. 2014 Unpublished Report.

⁷⁹ ENR. 2015. Northwest Territories Summary of Hunting Regulations, July 1, 2015 to June 30, 2016.

⁸⁰ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019. 2016.

⁸¹ PR (BATH) – 163: Bluenose-East Caribou Herd Public Hearing Transcript – Day 1 (April 6, 2016).2016. pp.128-129.

‘why do the elders say to leave the caribou alone?’, Elder Joseph Judas gave an extensive reply,

*“Our elders they still teach us, you know, they tell us to be cautious and they tell us to be patient, and then, you, know, maybe at some point in time in the very near future maybe the caribou might rebound and ...our ancestors ... taught us how to respect the animal”.*⁸²

As Dr. John B. Zoe explained, Tł̨chq̨ place names and stories reflect this intimate relationship and knowledge of Ɂekwò behaviour and the landscape the Ɂekwò travel through during the year.⁸³

ʔetsaàʔɁ̨Ɂ̨Ɂ̨daà	a place where Tł̨chq̨ would wait for Ɂekwò to cross the lake at this narrow spot
ʔek’atì or Kwek’atì	an area named after the fat of the Ɂekwò that are always around the lake prior to migrating to their winter range and because the rocks in the area look like Ɂekwò fat
Daàghq̨tì	an area where there is lots of ‘tree lichen’ that is an important winter food for Ɂekwò
N̨Ɂ̨saghòòɁ̨daà	a name for an important Ɂekwò water crossing
Wedziim̨Ɂ̨tì	male caribou swimming across this lake
Tadeeti	a shallow lake with no fish but with lots of grass for Ɂekwò
Dìgati	dìga lake; one such lake was named due to the number of dìga dens in the esker and how the dìga chase the Ɂekwò when they migrate across the lake, which has a number of narrows making it easy to harvest Ɂekwò

When hunting Ɂekwò, Dene usually harvest only what is needed, which is dependent on the number of people in their camp or who they are responsible for sharing their harvest with.⁸⁴ This was evident in a study on harvest patterns between 1917 and 1998 when the Dene clearly recalled whether or not the number of Ɂekwò from a harvest was enough for all the people they were responsible to feed.⁸⁵ In the 1950s, there were few Ɂekwò

⁸² PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. pp.64-74.

⁸³ PR (BATH) – 163: Bluenose-East Caribou Herd Public Hearing Transcript – Day 1 (April 6, 2016). 2016. p.129.

⁸⁴ PR (BATH) – 109: Traditional Ecological Knowledge in the Kachè Tuè Study Region, Phase 1 and 2. June 2001.

⁸⁵ PR (BATH) – 068: Caribou Migration and the State of their Habitat – Final Report, March 2001 (republished 2014).

reported west of Wekweètì, and of those, the ʔekwò that were harvested did not always provide enough for all those at the camp due to being underweight.⁸⁶

They also remembered and discussed ʔekwò fitness and forage but not the exact numbers of ʔekwò harvested.⁸⁷ Then, as now, Dene have a tendency to use approximations when discussing harvest, as it always depends on how many people need to be fed. As Elder Jimmy Martin explained on February 21, 2007 in Whatì,

“A single person would take down about twenty to twenty-five caribous but a large families use to kill more and that depended on how many were in the family. Caribou is very important to us and what I’m saying is the truth. I paddled with men to the Arctic with a canoe from a very young age and I did that every summer until I was in my late twenties.”⁸⁸

Similarly, Elder Louis Zoe said,

“My parents and the rest of the family led a nomadic lifestyle when I was a little boy and we went to the barrenlands every fall to follow the caribou. Once [we] were on the barrenlands, my father used to kill about five large bulls. That many caribou makes about ten parcels. But that was the only time my dad would kill bulls. The rest of the winter, he used to kill small caribou but never bulls.”⁸⁹

The Dene in the NWT have intimate relations with ʔekwò. Nevertheless, they harvest much of what is provided by the land and what is culturally appropriate. All that is harvested is shown appropriate respect. When travelling the land, place names direct people to *“the fisheries along the way, areas where the moose live, and the different types and methods of harvesting that are embedded in the landscape”*.⁹⁰

ʔehts’èk’ètì’àà	pickerel bay
ʔhdaadzìhtì	jackfish hook lake
ʔhdaamìhk’è	jackfish net lake
Dedì’ehdaà	moose point

Fishing is a key resource, as Elder Joseph Judas explained,

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ PR (BATH) – 106: Transcript – Tìchq Government Caribou Workshop, Whatì, NT – Day 1. 2007.

⁸⁹ PR (BATH) – 108: Transcript – Tìchq Government Caribou Workshop, Whatì, NT – Day 3. 2007.

⁹⁰ PR (BATH) – 035: Proceedings of the 13th North American Caribou Workshop, Winnipeg, MB, Canada, 25-28 October 2010.

“once the caribou has been brought back to the community [in the autumn] and then they all shared all the dry meat and all the good stuff that came back from the land. ... They have to – before freeze up they have to go find a good fish camp, and prepare for the winter.”⁹¹

Liwe (fish) are particularly important in the winter while waiting for ʔekwò, especially when they do not come. But as Elder Joseph Judas, explained sometimes the ʔekwò do not come and it is difficult to get through the ice to the liwe.

“The caribou disappeared from our area, that was back in 1969... the ice was too thick, and we can’t chisel ice – through the ice to set our net for our [fish] – for human consumption as well as ... for dog food. So that’s how the – you know, we had to evacuate a community.”⁹²

Not all wildlife species are harvested. The Tłıchǫ are culturally uncomfortable with *edzie* (bison) because their knowledge of these animals indicates that the *edzie* are one of the reasons why the ʔekwò no longer migrate to an area. Elder Bernadette Nasken stated,

“And that year, that winter, the winter that they brought bison over, we had caribou around -- around the community. And so when the caribou was around the community, and when the bison was put in -- in that area of the caribou, the caribou went further away from us. And so that's how it started to go further and further away from the -- from us”.⁹³

7.1.1 Total Allowable Harvest

Aboriginal Evidence

Since 2007, due to the downturn in ʔekwò population, Tłıchǫ community members have supported restricted harvesting, particularly limiting fall community hunts to the community hosting the Tłıchǫ Annual Gathering and restricting non-Tłıchǫ harvesting on Tłıchǫ dè. Currently, TG and ENR have proposed a TAH of zero on the Bathurst ʔekwò herd, which has

“profound implications that go far beyond the immediate and direct impacts on reduced food security for many Tłıchǫ citizens, but extends to aspects of Tłıchǫ culture, language and way of life. ʔekwò defines who we are and our way of life, our language. Restrictions can result in lost connection to ʔekwò and Ndè”.⁹⁴

YKDFN also raised concerns about how a zero harvest will jeopardize food security for Aboriginal residents who traditionally harvest from the Bathurst herd and who potentially

⁹¹ PR (Bath) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. p.215.

⁹² PR (BATH) – 155: Transcripts – February 24, 2016 (Day2) – Bathurst Caribou Herd Public Hearing. 2016. p.71.

⁹³ PR (BATH) – 165: Bluenose-East Caribou Herd Public Hearing Transcript – Day 3 (April 8, 2016). 2016. P.203.

⁹⁴ PR (BATH) – 161: TG to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

cannot afford to purchase grocery store products.⁹⁵ They also noted that a zero harvest will restrict the ability of people to engage in traditional activities and traditional lifestyle, limiting the transfer of knowledge to younger generations.

Nevertheless, TG believes a TAH of zero, in addition to protecting Ɂekwò habitat and landscape, to be the most responsible action “to support herd recovery and to provide leadership as a responsible co-management partner in the current Bathurst Ɂekwò management crisis”.⁹⁶ The NSMA also supported a temporary ban on harvesting the Bathurst herd as long as “the responsibility is shared fairly and equitably by all Aboriginal people”.⁹⁷

Ceremonial Harvest

A ceremonial harvest allows for the possibility of a limited harvest on the Bathurst Ɂekwò herd to be conducted in a culturally appropriate manner, while also allowing for control of the number and sex that is harvested. For the Sahtú Got’ıne, a ceremonial harvest provides a means by which a generational transfer of traditions and skills can take place.⁹⁸

Community feasts are considered ceremonial as food is shared among community members and visitors alike, which is an important social ritual among Dene.⁹⁹ Mr. Alex Black stated, “I guess you know like our ceremonial feasts, I guess, have changed. Because, you know, the ceremony relating to the feast, the local feast in the community. ... we used to have the feast with the caribou meat.”¹⁰⁰ Mr. Joseph Dryneck, from Wekweèti, added to this comment by explaining:

“The Tłıchǵ Government has, it’s rotating every four years or so they have an assembly with each community, four communities and this coming summer, I guess, it’s suppose to be our turn. And I assume that we – we’re sitting there empty and we don’t know what to prepare food for – I hope that the ENR will be able to give us at least 50 caribou for ceremonial – ceremonial purposes, if – if that’s what they call it. At least you have something for visiting people to share the – the country food.”¹⁰¹

⁹⁵ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016.

⁹⁶ PR (BATH) – 161: TG to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

⁹⁷ PR (BATH) – 149: NSMA to WRRB – Bathurst Caribou Public Hearing Presentation Speaking Notes. 2016.

⁹⁸ PR (BATH) – 148: Belarewle Gots’ı Ɂekwé – Caribou for All Time: A Délıne Got’ıne Plan of Action. January 2016.

⁹⁹ PR (BNE) – 167: Transcript – April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. 2016. pp.148-149.

¹⁰⁰ Ibid. pp.171-172.

¹⁰¹ Ibid. p.220.

The Tłıchǫ leadership has decided against a ceremonial harvest “*because we’re one of the primary users in the area. That it’s serious decline, we’re in an area that’s uncharted territory and that if there’s going to be any recovery we need to start right away*”.¹⁰²

Therefore, the WRRB concluded not to provide for a ceremonial harvest for the Bathurst Ɂekwǝ herd, with the recognition that if TG wished to implement a ceremonial harvest during 2016-2019 that a management proposal would need to be submitted to the Board.

Scientific Evidence

Harvest is a factor affecting Ɂekwǝ mortality that can be controlled directly, and can become a significant contributor to herd decline if the harvest is large relative to herd size, if the harvest is largely made up of breeding cows, and if the herd has a high natural mortality and low productivity.¹⁰³ With the Bathurst herd’s current small and rapidly declining population size, a harvest of zero aims to ensure that harvest mortality, a component of total mortality, does not contribute to further Bathurst Ɂekwǝ herd decline.

Though limiting harvest helps to control direct mortality, a harvest of zero does not ensure that the herd will stabilize or recover. Predation is one of the main causes of caribou mortality, with wolves killing calves and adult Ɂekwǝ throughout the year, and grizzly bears generally killing Ɂekwǝ around and after the peak of calving. Predation as a limiting factor for Ɂekwǝ is likely greater in a declining herd at lower numbers, than in a larger herd with good calf recruitment.¹⁰⁴ Environmental factors can influence vital rates, such as cow survival rate, calf recruitment, and pregnancy rate, and unless the vital rates show improvement, the Bathurst Ɂekwǝ herd is “*likely to decline further in the next few years*”.¹⁰⁵ Further, though harvest may be limited to zero, there may not be a measurable response in the Ɂekwǝ population that could be directly attributed to implementing a zero harvest.

However, ENR believes that “*a cautious overall approach to management of harvest and other human influences on this herd will provide this herd with its best opportunity to recover to larger numbers and higher productivity*”.¹⁰⁶

Conclusion

Resident, outfitted and commercial harvests have been closed since 2010. While the Tłıchǫ and other traditional users stand to lose a close connection with Ɂekwǝ and the dè, it was noted that any harvesting from the Bathurst herd is no longer scientifically and

¹⁰² PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. 2016. pp.181-182.

¹⁰³ PR (BATH) – 152: ENR to WRRB – Bathurst Caribou Public Hearing Presentation. 2016.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ PR (BATH) – 037: Boulanger et al. 2016. Estimate of Breeding Females and Analyses of Demographics for the Bathurst herd of Barren-Ground Caribou 2015 Calving Ground Photographic Survey. Draft. 2016.

culturally viable.¹⁰⁷ The Tłıchq and other traditional users have always harvested other resources, which will help to maintain the connection with the dè.

While a harvest of zero does not ensure that the Bathurst Ɂekwò herd will stabilize or recover, a harvest closure based on the precautionary principle will eliminate any direct and/or additional sources of mortality to Bathurst Ɂekwò caused by people.¹⁰⁸ In addition to a harvest closure, additional management and monitoring actions that will focus on reducing predation and disturbance to Ɂekwò and their habitat are required.¹⁰⁹

Therefore, the WRRB concluded that, despite the hardships that the Tłıchq and other Aboriginal harvesters will endure, the preponderance of the Aboriginal and scientific evidence submitted suggests that harvest restriction is warranted and urgently required.

As per Section 12.6.3 of the Tłıchq Agreement, any harvest limit

“shall be no greater than necessary to achieve the objective for which they are prescribed, and may not be prescribed where there is any other measure by which that objective could reasonably be achieved if that other measure would involve a lesser limitation on the exercise of the rights”.

The Board believes that the Bathurst Ɂekwò herd is in crisis given the continuing decline in the breeding females, poor vital rates, impacts of environmental factors, e.g. poor summer feeding conditions, and extensive exploration and development on the herd’s annual range; therefore, a TAH of zero must be implemented without delay.

In the Tłıchq Agreement, a TAH level is defined as *“in relation to a population or stock of wildlife, the total amount of that population or stock that may be harvested annually”*, i.e. a TAH is an absolute number of caribou that can be harvested from a particular herd. As per Section 12.5.5(a)(i) of the Tłıchq Agreement, the WRRB has sole responsibility for making a final determination with respect to a TAH for Wek’èezhì.

Determination #1-2016: The Board determines that a total allowable harvest of zero for all users of the Bathurst Ɂekwò herd within Wek’èezhì 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.

7.1.2 Allocation of Total Allowable Harvest

Section 12.5.5(a)(ii) of the Tłıchq Agreement states that *“the WRRB shall make a final determination about the allocation of portions of any TAH for Wek’èezhì to groups of*

¹⁰⁷ PR (BATH) – 159: NSMA to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

¹⁰⁸ PR (BATH) – 006: TG & ENR Information Request No.1 Responses – Bathurst Caribou Herd. Question 9. 2016.

¹⁰⁹ Ibid.

persons or for specified purposes”. However, in the case of a TAH totalling zero, there is no allocation required.

7.1.3 Wildlife Management Zones

For the 2015/16 harvest season, TG and ENR recommended continuation of a new version of the MCBCCA as used in winter 2014/15 (Figure 3), with no harvest permitted within the mobile zone. An alternative to the mobile conservation zone is managing harvest from the Bathurst and neighbouring herds through a set of smaller sub-zones with fixed boundaries (Figure 11). A Bathurst no-harvest zone would be determined as a grouping of sub-zones rather than a mobile zone with boundaries that change frequently.

TG and ENR will explore the sub-zone approach as well as other alternatives, with the overall goal being the definition of zones for the three herds that protect the Bathurst herd, maintain harvesting opportunities from the Bluenose-East and Beverly-Ahiak herds and provide a clear and easily understandable way of defining zone boundaries. In addition, TG and ENR should develop criteria for identifying when the herds overlap in their winter distribution and how the overlap will be managed, including the closure of zones to avoid inadvertent harvesting of Bathurst ʔekwò.

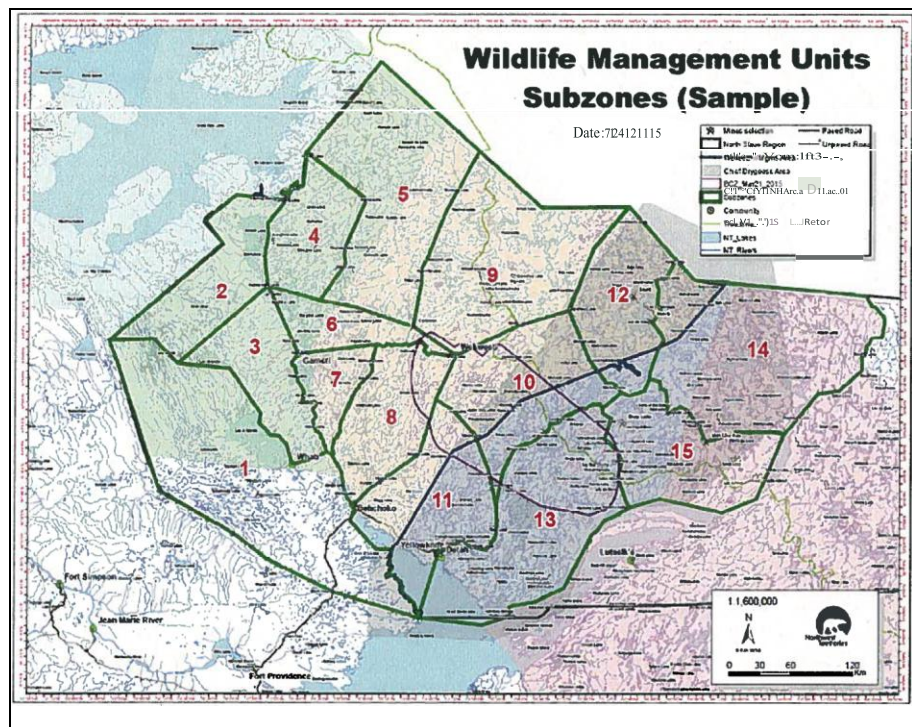


Figure 11: An example of ʔekwò (barren-ground caribou) management sub-zones.¹¹⁰

¹¹⁰ PR (BATH) – 140: TG to WRRB – WRRB Meeting September 9-10, 2015, 25 Aug 2015.

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 ʔekwò 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.

7.1.4 Monitoring of Harvest

As the TAH for the Bathurst herd is zero, harvest monitoring will need to focus on ensuring compliance via aerial and ground-based patrols. Aerial and ground-based surveillance by TG and ENR would continue throughout the fall and winter harvest seasons from 2016 to 2019.¹¹¹

Aerial reconnaissance flights throughout the fall and winter harvest seasons will be required to check for any harvesting activity within any closed wildlife management zone for Bathurst ʔekwò and along winter roads. If the MCBCMZ-approach is continued, weekly monitoring flights by ENR will be conducted to determine the herd's distribution. Updated maps showing the location of the MCBCMZ will be provided weekly to TG, Tłıchǫ communities, and to other communities that have harvested Bathurst ʔekwò as well as on TG and ENR's websites. Wildlife officers and/or Tłıchǫ community monitors will also carry out ground-based patrols to ensure compliance with the no-harvest regime.

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 ʔekwò herd throughout the fall and winter harvest seasons for the 2016/17, 2017/18, and 2018/19.

In addition, TG and ENR suggest that greater effort is needed for public and hunter education, with an emphasis on educating on reasons for not harvesting the Bathurst ʔekwò herd, and promoting traditional practices of using all parts of harvested caribou, minimizing wastage, harvesting bulls instead of cows, and related conservation education.

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 Tłıchǫ communities.

¹¹¹ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019. 2016.

8. WRRB RECOMMENDATIONS ON DÌGA (WOLF) MANAGEMENT

8.1 Community-Based Dìga (Wolf) Harvesting Project

During the winter of 2015/16, TG and ENR proposed the community-based dīga harvesting pilot project (the Project).¹¹² The WRRB supported the Project, which would train 6-10 participants from Wekweètì in effective field techniques to hunt, trap, skin and process dīga, ensuring that Tłıchǵ cultural practices were followed. The expertise of a Tłıchǵ wolf hunter/trapper, a taxidermy skinning expert and a Tłıchǵ elder would be utilized. The Project would identify appropriate locations away from communities for skinning and processing wolf carcasses, with field camps established near large lakes within the MCBCMZ. A minimum of 40 wolves would be harvested, but not more than 100. Wolf carcasses would be necropsied by ENR biologists in the field, when possible. Harvesters would receive payment by either delivering the entire unskinned wolf carcass to ENR or preparing the hide themselves. If preparing the hides, the harvester would submit to ENR either skinned traditionally or skinned/prepared by Genuine Mackenzie Valley Fur Program standards. If the Project was deemed successful in Wekweètì, the communities of Gamètì and Whatì would also have the Project offered in 2016/17. Unfortunately, the 2015/16 Project did not happen.

TG has been careful in developing the Project. Although they have had difficulties in getting started due to other activities, TG plans to take the necessary steps to educate their community members on the cultural importance of dīga.

“There are few wolf hunting specialists in Tłıchǵ communities and recruiting new wolf hunters (i.e. men) is not achieved solely through offering financial incentives. For Tłıchǵ there are also cultural values, knowledge and taboos that must be understood by individuals who wish to hunt wolves and prepare the hides in a respectful manner; [learning] this knowledge [takes time and] is most appropriately provided by elders.”¹¹³

Recommendation #4-2016: The WRRB continues to support the implementation of the Community-based Dīga Harvesting Project, as a training program only, subject to the following conditions:

- a) If the Project is to be expanded to other Tłıchǵ 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 WRRB, an index of changing wolf abundance must be available

¹¹² PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019. 2016, and PR (BATH) – 096: Tłıchǵ Government and GNWT Management Proposal – Community-based Wolf Harvesting Project. 2016.

¹¹³ PR (BATH) – 113: TG & ENR Information Request No. 2 Responses – Bathurst Caribou Herd. 2016.

- and research on habitat quality and quantity on the Bathurst ʔekwò 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 disturbance to Bathurst ʔekwò will be prevented or minimized? How will this potential disturbance be measured, assessed, and mitigated?;
 - ii. How will unintentional or accidental harvest of Bathurst ʔekwò, by the Tł̓chq̓ d̓iga harvesters, be prevented? If a Bathurst ʔekwò 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 Tł̓chq̓ 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 impacts¹¹⁴ to the Bathurst ʔekwò occur; and,
 - f) TG and ENR must establish a threshold or criteria to evaluate the success of the program, i.e. the effectiveness of training a core set of wolf harvesters, the acceptance of the Project by Tł̓chq̓ communities, continued program implementation and reaching the target number of d̓iga harvested.

8.2 Feasibility Assessment

TG concluded that it is necessary to harvest d̓iga as the TAH of zero will have a profound social impact on the Tł̓chq̓.¹¹⁵ In a 2002 report, by the Łutsel K'e First Nations, they stated if d̓iga are present, then ʔekwò are around. This report also stated that predators, such as d̓iga and bears, are higher than normal as young people are not hunting them.¹¹⁶ The Tł̓chq̓ public is frustrated that, while their harvest is being restricted, nothing is being done about the impact of d̓iga on ʔekwò. As Elder Bernadette Nasken stated,

“Because you put us in a very bad position, you -- --and so who is it that's managing our wildlife? ... As wildlife officers you could easily harvest wolves. And I'm sure that's what your job is here to do, is using helicopters and harvest wood – maybe you could harvest wolves and using helicopter I'm sure you could do that I'm sure that's what your employment entails. The caribou doesn't disturb

¹¹⁴ Negative impacts include, but are not limited to, direct mortality (i.e. unintentional/accidental harvest by d̓iga harvest parties; evidence of unlawful ʔekwò harvest facilitated by d̓iga harvester access routes) and behavioural responses (e.g. harassment-related, such as ʔekwò running away from d̓iga harvesters and/or from planes or helicopters when picking off/dropping off d̓iga harvesters).

¹¹⁵ PR (BATH) – 161: TG to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing, 2016.

¹¹⁶ PR (BATH) – 095: Traditional Ecological Knowledge in Kaché Tué Study Region, Phase 3. 2002.

other wildlife, But it seems like you're restricting the caribou from us. But the wolf, that's a predator, you seem to love it... It – it destroys a lot of our food. What we're supposed to be eating, they're taking it."¹¹⁷

YKDFN stated they have been engaged in predator management for generations and have traditional knowledge on the issues. They were particularly clear they do not want a poisoning project.¹¹⁸ The NSMA stated that *"aggressive predator control is a difficult management response to support due to cultural values, ecological impacts, and economic effectiveness"*.¹¹⁹ YKDFN noted concern that for predator control to make a difference, a large number of dīga need to be killed over an extended period for any prey to make a significant recovery.¹²⁰

In their revised joint proposal, submitted to the Board on May 31, 2010, TG and ENR identified proposed dīga management actions, including the development of survey and monitoring methodology and experimental design for removal of dīga on winter range and at den sites by fall 2010.¹²¹ In October 2010, the WRRB recommended that focused dīga control not be implemented, and if TG and ENR contemplated focused dīga control in the future, a management proposal should be provided to the Board for its consideration. In response to the Board's recommendations, ENR stated that, in consultation with TG, they would provide a proposal with potential options and costings, relevant to dīga monitoring, research, and management¹²². This proposal could help determine whether current management actions were working or more intensive management was required to facilitate ʔekwò recovery.¹²³

During this proceeding, ENR has stated they will carry out the outstanding technical feasibility assessment of dīga management options in 2016, to consider the practicality, costs, and likely effectiveness of different management actions.¹²⁴ This assessment will be completed collaboratively with TG and the input of other interested parties, with the initial focus on the Bathurst herd. The assessment would be completed by December 2016. The assessment will include:

- An examination of the current dīga monitoring to look for improvements in estimating dīga abundance;
- An examination of all options for dīga management, including costs, practicality and effectiveness; and,

¹¹⁷ PR (BATH) – 165: Bluenose-East Caribou Herd Public Hearing Transcript – Day 3 (April 8, 2016). 2016. pp.203-204.

¹¹⁸ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. p.180.

¹¹⁹ PR (BATH) – 159: NSMA to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing. 2016.

¹²⁰ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. 2016. p.159.

¹²¹ PR (BATH) – 039: Report on a Public Hearing Held by the Wek'èezhì Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokò, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

¹²² PR (BATH) – 093: ENR & TG to WRRB – Recommendation Report – Revised Joint Proposal, 13 Jan 2011. 2016.

¹²³ PR (BATH) – 134: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhì – Implementation Plan, 17 Jun 2011. 2016.

¹²⁴ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019. 2016.

- A determination of which dīga management options are acceptable to co-management partners.

TG and ENR were asked how the Board could assist and speed up completing the dīga feasibility assessment and implementing predator management, including the pilot project. ENR indicated that the Board could assist by identifying which dīga management options would be acceptable.¹²⁵ TG specified that the WRRB could assist in the design and delivery of the pilot project as well as be direct collaborators in the feasibility assessment led by ENR.¹²⁶

Due to its concerns regarding the time for completion of the assessment, the WRRB discussed showing leadership by leading a collaborative dīga feasibility assessment. The Board would collaborate with TG and ENR to determine a terms of reference for completion. The feasibility assessment would be cost-shared equally by TG, ENR and the Board. TK from the hearings and public registry would be summarized to suggest culturally appropriate ways to hunt and trap dīga as well as lethal and non-lethal options for dīga management. It would include possible objectives and monitoring to rate success or failure. It would lay out approaches to monitoring of wolves beyond relying on estimating wolf abundance.

Recommendation #5-2016: The WRRB recommends TG and ENR support a collaborative feasibility assessment of options for dīga management, led by the Board.

9. IMPLEMENTATION

As per Section 12.5.12 of the Tł̥chq Agreement,

“each Party shall, to the extent of its power under legislation or Tł̥chq laws, establish or otherwise implement
(a) a determination of the Wek’èezhì Renewable Resources Board under 12.5.5 or 12.5.6; and
(b) any recommendation of the Board as accepted or varied by it.”

As the Bathurst ʔekwò herd is at a critical state, the WRRB requires its **Determination #1-2016** implemented by July 1, 2016, which is the start of the 2016/17 harvest season. Further, as monitoring of the ʔekwò wildlife management units and Bathurst ʔekwò harvest are linked to the implementation of a TAH, the Board expects that **Recommendations #1-2016** and **#2-2016** be implemented by July 1, 2016.

¹²⁵ PR (BATH) – 165: Bluenose-East Caribou Herd Public Hearing Transcript – Day 3 (April 8, 2016). 2016. p. 26.

¹²⁶ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. 2016. pp. 160-161, and PR (BATH) – 165: Bluenose-East Caribou Herd Public Hearing Transcript – Day 3 (April 8, 2016). 2016. pp.28-29.

The Board would like the preliminary aspects of its **Recommendation #3-2016** to be initiated at the beginning of the 2016/17 harvest season with the understanding that this long-term program will take time to fully implement. **Recommendation #4-2016**, specifically b) and e), should be addressed with the Board, prior to Project start up, at its December 2016 meeting. The Board, in conjunction with TG and ENR, would like to initiate **Recommendation #5-2016** by June 2016 and have the assessment completed by September 2016.

10. CONCLUDING COMMENTS

With the Bathurst ʔekwò herd in such a perilous state, all peoples who harvest in Wek'èezhì must do their part to ensure the recovery of the herd. Users and managers must act now, in whatever ways possible, to protect the herd so future recovery may be possible.

“And as people, we always --it was our tradition. It was our tradition. All our trails are starting to disappear as the caribou trails are disappearing. And so today let's help each other with the caribou. And so as I speak today, I wonder how can I help my people. How can I help future generations, my future grandchildren, their grandchildren, to --to how far --how far into the future can we make plans for them.”¹²⁷

Elder Joseph Judas

¹²⁷ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. 2016. p.115.

APPENDIX A

Joint Proposal on Caribou Management Actions in Wek'èezhìi, December 15, 2015

Wek'èezhìi Renewable Resource Board Management Proposal

1. Applicant Information	
Project Title: Government of the Northwest Territories and Tłıchq Government Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019	
Contact Persons: Organization Names: Addresses: Phone/Fax Numbers: Email addresses: <div style="margin-top: 10px;"> Sjoerd van der Wielen Manager, Lands Section Department of Culture and Lands Protection Tłıchq Government BEHCHOKQ, NT X0E 0Y0 Phone: 867-392-6381 Fax: 867-392-6406 SjoerdvanderWielen@tlicho.com </div> <div style="margin-top: 10px;"> Fred Mandeville Jr. North Slave Regional Superintendent Department of Environment & Natural Resources Government of the Northwest Territories YELLOWKNIFE, NT X1A 2P9 Phone: 867-873-7019 Fax: 867-873-6263 fred_j_mandeville@gov.nt.ca </div>	
2. Management Proposal Summary: provide a summary description of your management proposal (350 words or less).	
Start Date: November 1, 2016	Projected End Date: November 1, 2019
Length: 3 years	Project Year: 1 of 3
<p>This management proposal carries forward recommendations that arose from the “Revised Joint Proposal on Caribou Management Actions in Wek’èezhìi”, which was submitted to the Wek’èezhìi Renewable Resources Board (WRRB) in May 2010 by the Tłıchq Government (TG) and the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT). Overall, the main objective in the 2010 proposal, which was to halt the Bathurst barren-ground caribou herd’s rapid decline from 2006-2009, appeared to be achieved when the herd’s numbers approximately stabilized between 2009 and 2012. However, the June 2015 calving ground photographic survey showed that the herd had declined substantially since 2012. This proposal is meant to apply from November 2016 to November 2019; the next population estimate is expected in 2018 and a new management proposal may be needed thereafter. Management actions will be evaluated annually and will be adapted as new information becomes available.</p> <p>The goal of the actions presented in this proposal is to reverse the Bathurst herd’s decline</p>	

and promote an increase in the number of breeding females in the herd, over the period of November 2016-November 2019. Management actions will focus on improving adult female survival through continued harvest management and by implementing a community-based wolf harvest program to reduce caribou mortality on the Bathurst winter range. Increased wolf harvest on the Bathurst range will also be promoted via collaborative programs with other Aboriginal governments. Biological monitoring of the herd will continue similarly to monitoring done between 2010 and 2015, and the number of caribou collars will be updated annually to maintain 30 collars on cows and 20 collars on bulls for a total of 50 collared animals. Additional monitoring may be considered depending on resources available.

This proposal has three main components carried forward from the previous joint proposal in May 2010:

- 1) Hunter harvest: TG and ENR recommend closing all harvest of Bathurst caribou until the next photographic survey scheduled for June 2018. This recommendation would be reviewed annually and revised based on any new information. The mobile Bathurst conservation zone, within which no caribou can be harvested, would be continued in 2015-2016. TG and ENR will explore further options for management and monitoring of Bathurst caribou harvest, including the creation of sub-zones developed in collaboration with Aboriginal groups, where harvest could be managed depending on distribution of collared caribou. Additional effort will be needed in promoting respect for caribou, which includes hunter education on sound hunting practices including limiting wounding losses and wastage, reliable harvest reporting and increased public education on the status and management of caribou herds.
- 2) Predator management: Management efforts to increase the annual harvest of wolves on the winter range of the Bathurst herd to 80-100 per year have had limited success. TG and ENR recommend that a wolf management approach be developed with Tłıchʔ hunters and communities. Mobile wolf-hunter camps will be established in early or late winter, with the objective of removing wolves from the Bathurst range. Resident and specialized wolf hunters will also be allowed to access incentives for prime wolf pelts, and ENR will work with other Aboriginal groups to promote increased wolf harvest in the Bathurst range. ENR will lead a review of wolf monitoring methods in the NWT and carry out a feasibility assessment of predator management options to increase caribou survival rates.
- 3) Monitoring: Biological monitoring of the Bathurst herd proposed for 2016-2019 would continue and enhance the program of surveys and satellite radio-collars established in the 2010 joint management proposal, and include the following components:
 - calving ground photographic surveys (June) every 3 years (next survey in 2018) to estimate abundance of breeding females and herd size,
 - annual calving ground reconnaissance surveys (June) to estimate relative abundance of cows,
 - fall composition surveys (October) every 2-3 years to estimate sex ratio and summer calf survival; and
 - annual late winter composition surveys (March-April) to estimate calf survival and recruitment.

Increased monitoring of the herd (e.g. annual fall composition surveys, annual composition surveys on the calving grounds, annual assessments of pregnancy rate from fecal collections on the late-winter range, assessments of wolf numbers on the winter range, and annual assessments of environmental indicators that may affect caribou condition and feeding conditions) will be considered if resources are available.

Up to 50 satellite radio-collars would be maintained on the herd (30 on cows and 20 on bulls), with annual additions to replace collars on caribou that die or collars reaching the end of their battery life. Additional collars may be considered if resources are available.

Monitoring of the Bathurst mobile conservation zone would be carried out by regular aerial fixed-wing flights and ground patrols by wildlife officers.

ENR and TG will support research that increases understanding of drivers of change in caribou abundance. TG and ENR support increased community-based monitoring by monitors from the Tłıchǫ communities.

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 (Provide information on the affected wildlife species and management issue)

A. Bathurst caribou status in 2015

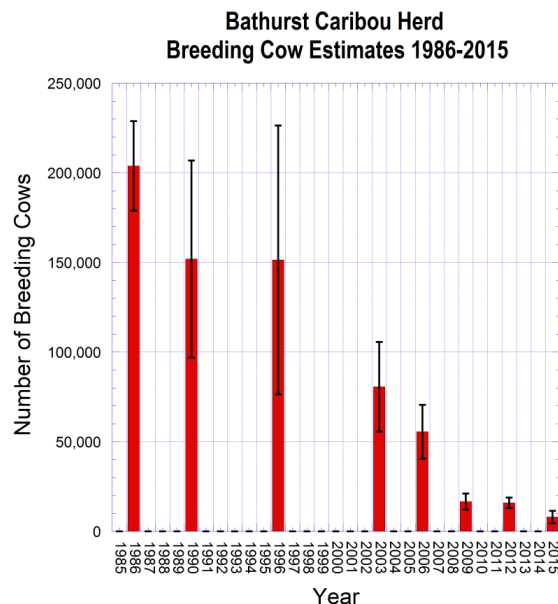


Fig. 1. Estimates of breeding females in the Bathurst herd 1986-2015 based on calving ground photographic surveys.

The June 2015 calving ground photographic survey resulted in an estimate of $8,075 \pm 3,467$ (95% CI) breeding females and an overall herd estimate of $19,769 \pm 7,420$ caribou in the Bathurst herd (Boulanger 2015). This result showed that the herd has continued to decline in recent years, and is consistent with a June 2014 reconnaissance survey that suggested that there was a continued decline in breeding females. Fig. 1 shows the estimated numbers of breeding cows in the Bathurst herd from 1986 to 2015, all derived using the same calving ground photographic survey method. From 1986 to 2015 the estimated abundance of breeding females declined on average by 11% per year. The observed rate of change between 2003 to 2009 showed that breeding cows had declined by ~26% per year. In response, the TG and ENR

developed and implemented the 2010 revised joint management proposal. Subsequent calving ground surveys showed that the trend of breeding females appeared to be close to stable from 2009 to 2012. However the 2015 calving ground survey indicated that breeding females had declined at a rate of about 23% per year since 2012.

Other demographic indicators for the Bathurst herd are consistent with a declining trend between 2012 and 2015 (ENR 2014a):

- late-winter calf:cow ratios have averaged below 30 calves:100 cows (ratios of 30-40 calves: 100 cows or more are associated with stable herds);
- estimated cow survival has been well below the 80% needed for a stable herd; and
- there is evidence of low pregnancy rate in at least some years, including winter 2014-2015.

It is also important to note that only 61% of the caribou observed on the Bathurst calving ground in June 2015 were breeding females; generally this proportion is expected to be around 80% or higher at the peak of calving, as in 2009 (84%) and 2012 (82%); (J. Boulanger pers. comm. 2015). Demographic monitoring of the Bathurst and Bluenose-East (BNE) herds was summarized by ENR in late 2014 (ENR 2014a), with more detailed survey and population modeling reports listed in that summary. A detailed survey report for the Bathurst herd in 2015 will be available early in 2016.

B. Management context and scope of current proposal for the Bathurst herd in 2015

Overall Management Process

The Tłıchq Agreement has a requirement for the WRRB, TG, GNWT, and Canada to develop an overall long-term management planning process for the herd. This process is to be 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 work continues to develop a comprehensive approach to managing the Bathurst herd. TG and ENR are committed to continued collaboration with the WRRB and other partners in developing a comprehensive management process, which may include a Bathurst caribou management board. Short term proposals such as the current one may include provisions for the monitoring and management of harvest and predators, as well as for management of development activities, caribou habitat, and other factors affecting caribou. This proposal is not intended to pre-empt any part of the comprehensive planning process for the Bathurst herd.

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 range plan will provide guidance on how to monitor, assess and manage cumulative effects of human disturbance on the historic range of the Bathurst herd. Among the information layers gathered for this plan are collar and survey-based knowledge of the herd's seasonal and annual ranges, Traditional Knowledge from NWT and NU on use of caribou ranges and water crossings, and locations of all existing and proposed roads, mines and mineral leases. This plan is being developed through a multi-partner collaborative process that will eventually need to be included under the comprehensive management process required by the Tłıchq Agreement.

ENR and TG have engaged in all recent Environmental Assessment (EA) processes within the Bathurst range in the NWT (e.g. Gahcho Kue and the Jay extension associated with Ekati), to

ensure that possible effects on the Bathurst herd are duly considered and mitigated where possible. ENR and TG have also engaged in EA processes in Nunavut for projects that could affect the Bathurst herd's calving grounds and summer range (e.g. Sabina). ENR participated in a workshop June 2015 in Iqaluit on the draft Nunavut Land Use Plan and supported Government of Nunavut (GN)'s position opposing development on all caribou calving grounds in NU, and participated in a workshop in November 2015 in Iqaluit hosted by the Nunavut Wildlife Management Board (NWMB) focused on protection of caribou habitat in NU.

Joint Management Proposals and WRRB recommendations 2009-2015

An initial joint management proposal for Bathurst caribou was submitted to the WRRB by TG and ENR in November 2009. While TG and ENR agreed on most of the management and monitoring actions described in the proposal, they did not agree on the management of Aboriginal harvest.

In December 2009 the Minister of ENR used emergency measures to close all harvest of Bathurst caribou in the NWT (resident, commercial, and Aboriginal) in January 2010 in two large management zones (RBC02 and RBC03); these measures were to remain in place until review and recommendations from the WRRB in 2010.

A 5-day hearing was held by the WRRB in March 2010 on Bathurst caribou management. This hearing was adjourned after a request from TG and ENR for an adjournment to re-visit the issue of Aboriginal harvest from the Bathurst herd.

A revised joint proposal from TG and ENR on caribou management was submitted to the WRRB in May 2010. The main recommendation in the proposal was to establish an annual harvest target of $300 \pm 10\%$ Bathurst caribou with a sex ratio of 80% bulls, with continued closure of resident and commercial harvest. The harvest target would be shared, with 150 caribou available to Tłıchq hunters and 150 for other Aboriginal users.

The WRRB held a second hearing in August 2010 and issued a report in October 2010 with 60 recommendations for management of Bathurst caribou and adjacent barren-ground caribou herds (Bluenose-East, Beverly/Ahiak; WRRB 2010). Those recommendations generally agreed with measures in the revised TG – ENR joint management proposal.

In October 2010, ENR signed an agreement with the Yellowknives Dene First Nation (YKDFN) that included tags or authorization cards for 150 Bathurst caribou, which included the same sex ratio of 80% bulls.

In spring 2013, WRRB recommended that short-term harvest of Bathurst caribou remain limited to 300 caribou and 80% bulls, and extended its 2010 recommendations for Bathurst caribou through the 2013-2014 hunting season.

In July 2014 an updated joint management proposal from TG and ENR was submitted to WRRB with recommendations to continue the Bathurst harvest target of 300 caribou and re-focus efforts to increase wolf harvest via Tłıchq winter camps. This proposal was put on hold when results of a June 2014 reconnaissance survey over the Bathurst calving grounds suggested a large further decline in caribou numbers.

In fall and early winter 2014, ENR hosted three meetings of Aboriginal leaders (August 27, November 7 and November 28) and two 2-day technical meetings (October 9-10 and October 22-23) to review evidence for decline in the Bathurst and BNE herds and to consider management actions to address these declines. Participants generally recognized the

seriousness of the situation but were unable to agree on a harvest recommendation for either herd.

In January 2015, ENR submitted to WRRB a proposal for interim management of Bathurst caribou through a Mobile Core Bathurst Caribou Conservation Area centered on locations of collared Bathurst caribou for winter 2014-2015. Within this mobile zone, no harvest would be allowed. In January 2015, WRRB accepted this proposal on an interim basis until June 2015.

Scope of the current joint TG-ENR management proposal

This joint proposal largely continues and builds on actions and monitoring developed in the 2010 joint TG-ENR proposal. The focus in 2010 was on key short-term monitoring and management needs, primarily resulting from the Bathurst herd's rapid decline to 2009. This 2015 proposal updates proposed actions in view of the herd's decline from 2012 to 2015. The timeframe for this proposal is 3 years (November 2016 to November 2019) with the understanding that management actions will be adapted as new information becomes available (e.g. changes observed in reconnaissance calving ground surveys scheduled for June of 2016 and 2017). A calving ground photographic survey planned for June 2018 may result in a new joint proposal in 2018, potentially leading to revised recommendations in 2019.

4. Description of Proposed Management Action

- **Describe the proposed management action, including implementation, location and Tłıchq Citizen involvement.**
- **What are the desired outcomes of the proposed management action?**
- **What, if any, outcomes may be incidental to the management action?**
- **What monitoring, if any, will be conducted to assess the effectiveness of the management action?**

GOAL OF MANAGEMENT ACTIONS

This proposal continues and enhances the management and monitoring recommendations for barren-ground caribou in Wek'ëezhii that were described in the May 2010 joint proposal. This proposal's overall goal for the next 3 years is to halt the Bathurst herd's decline and promote stabilization and recovery. Over the longer-term, the goal of management is to promote recovery of the herd so that sustainable harvesting that addresses community needs levels and the exercise of the Tłıchq right to harvest throughout Mqwhì Gogha Dè Nı̨łtłèè is again possible.

The sections that follow describe the three main elements of this proposal: (A) hunter harvest, (B) wolf harvest, and (C) monitoring.

(A) HARVEST RECOMMENDATIONS FOR THE BATHURST CARIBOU HERD

Recommended Harvest for the Bathurst Herd

In 2010, TG and ENR jointly recommended a harvest target of 300 Bathurst caribou (80% bulls), which represented a reduction in harvest of about 94% from a harvest estimated in 2008-2009 at about 5000/year, mostly cows (Adamczewski et al. 2009). At the time, a harvest of 300 was accepted as posing a limited risk of causing additional decline in the herd, although further decline (primarily due to other causes) was still possible. The harvest of 300 was to apply to two large management zones (R/BC/02 and R/BC/03) within which Bathurst caribou had generally wintered (Figure 2). These zones were generally effective at limiting Bathurst harvest, but in

some winters (e.g. 2013) Bathurst collared cows were found west and east of these 2 zones and may have experienced additional harvest pressure in those areas (ENR 2014a).

In this proposal, TG and ENR recommend that Aboriginal harvest of Bathurst caribou be reduced to 0, subject to annual review and as further information becomes available. Resident and commercial harvest would remain closed. The main reasons for recommending a 0 harvest are as follows:

- The herd has declined by 96% since 1986. Between 2012 and 2015, the herd declined rapidly from about 35,000 to about 20,000 animals, and the abundance of breeding females declined by ~23% per year, which corresponds to a halving time of ~3 years. Key population indicators such as late-winter calf: cow ratios, estimated cow survival rate, and recent pregnancy rates are consistent with a declining trend, and further decline appears likely.
- Although a "red zone" population size, below which all harvest would be closed, has not been established or agreed to for the Bathurst herd, there is precedent for closing all harvest from caribou herds that have reached very low numbers:
- All harvest of the Cape Bathurst herd in the Inuvik region has been closed since 2007 due to very low numbers in 2006 at ~2,000 animals, after declining from peak numbers of ~19,000 in 2000. (Wildlife Management Advisory Council NWT recommendation, implemented by GNWT).
- The Harvest Management Plan for the Porcupine caribou herd which was finalized in 2010 has a "red zone" threshold at 45,000 caribou, below which harvest would be closed. Surveys indicate this herd has generally not exceeded 200,000 at peak abundance. In this case the red zone is at about 23% of peak numbers.
- A management plan developed by the Advisory Committee for Cooperation on Wildlife Management for the Cape Bathurst, Bluenose-West and BNE herds in 2014 (ACCWM 2014) similarly established "red zones" for these 3 herds, although the plan does not specifically call for complete harvest closure if the herds are below these thresholds. For these three herds, peak estimated numbers and the red zone thresholds are, respectively: Cape Bathurst peak 19,000 and red zone 4,000 (21.0% of peak); Bluenose-West peak 112,000 and red zone 15,000 (13.4% of peak); BNE peak 120,000 and red zone 20,000 (16.7% of peak).
- By comparison with other herds, the Bathurst herd is at about 4% of its largest observed herd size in 1986 and may decline further. Thus TG and ENR recommend that the Bathurst herd should not be harvested for the next 3 years until the next calving ground survey in 2018, with annual re-assessment based on review of new information about population status.

Bathurst Harvest Management for 2015-2016

For the upcoming 2015-2016 winter harvest season, TG and ENR recommend continuation of the Mobile Core Bathurst Caribou Conservation Area (MCBCCA) as used in winter 2014-2015 (Fig. 2 - below). The zone will be revised weekly based on the most recent collar locations (i.e., a minimum convex polygon with a smoothed 20km buffer) and related information from aerial surveys. Within this zone, no harvest will be permitted. Updated maps showing the location of the Bathurst mobile zone will be provided weekly on ENR's web-site and to TG and Tłı̨chǫ communities, and to other communities and band offices that have harvested Bathurst caribou in

the North Slave region.

Nunavut Harvest of Bathurst caribou

Harvest of Bathurst caribou in Nunavut has in recent years been estimated at about 70 bulls annually taken under tags issued to the small community of Bathurst Inlet and used for late-summer sports hunts. ENR and Aboriginal governments in the NWT have expressed concern over this harvest to the GN and other NU authorities. ENR has no authority for wildlife management or caribou harvest in NU but has been in frequent communication with GN about management of trans-boundary herds. Collaboration between the GNWT and the GN on trans-boundary caribou herds has been extensive at a technical level for a number of years, including GN participation in 2015 BNE and Bathurst calving ground photographic surveys. Updates on survey results have been provided to GN as they have become available, along with information about the herd-wide Bathurst harvest closure proposed by TG and ENR. The GNWT has also been in contact with the GN at the minister's level on caribou management issues. An update provided by the GN in late November 2015 indicates that a hearing by NWMB is likely to occur in February or March 2016; Total Allowable Harvest for the Bathurst herd will be assessed at that time. The GN has been working with regional wildlife boards, 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 the GN on these issues and participate where possible in the NWMB process.

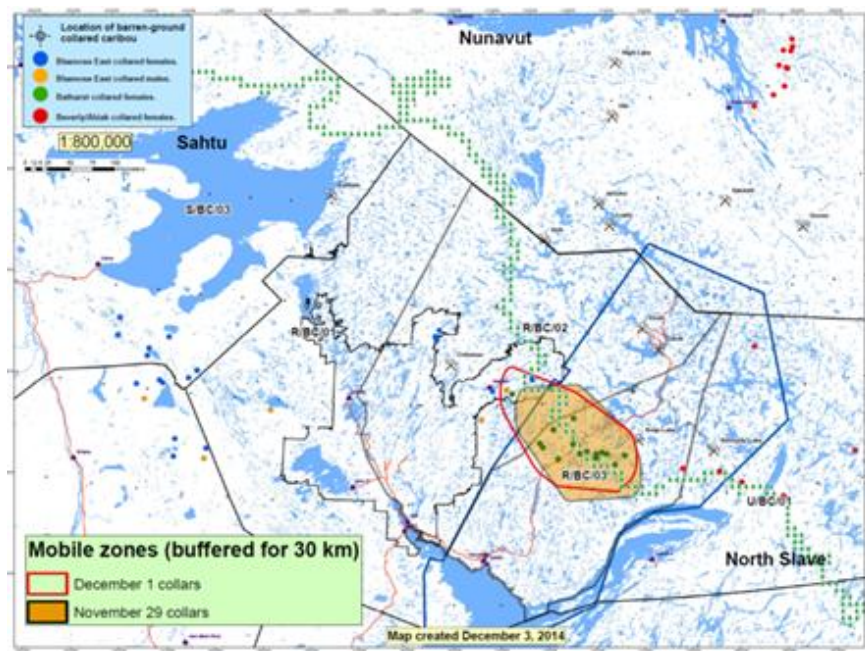


Fig. 2. An example of the mobile Bathurst conservation area (MCBCCA) centered on Bathurst caribou collar locations, winter 2014-2015. Zones RBC02 and RBC03 had previously been closed to harvest except for the harvest target of up to 300 caribou (80% bulls) 2010-2014.

Bathurst Harvest Management for 2016-2017 to 2018-2019

TG proposed in a letter to WRRB (August 25, 2015) that an improved approach to managing harvest from the Bathurst and neighbouring herds could be a set of smaller sub-zones with fixed boundaries. An example of a set of sub-zones is provided in Fig. 3. (below). An advantage of sub-zones is that the boundaries would only need to be determined once and could be rivers, lake edges or other easily identified landscape features. A Bathurst no-harvest zone would be

determined as a grouping of sub-zones rather than a mobile zone with boundaries that change frequently. A challenge of implementing a mobile zone, is that it may be difficult for hunters to identify the boundaries of the mobile zone on the landscape because the area is defined by mapping caribou collar locations and not based on biophysical or cultural landscape features.

TG and ENR agree that a sub-zone approach to management of caribou harvest has potential as an alternative to the mobile conservation zone, and will explore this approach over winter 2015-2016. Other alternatives or variations could also be considered. However, defining these zones, allowing for consultation and refinement, and turning the subzones into regulations cannot realistically be done in time for the winter 2015-2016 harvest season. The overall goal would be to define zones for the three herds that protect the Bathurst herd (based on collared caribou locations) and maintain harvest opportunities from the BNE and Beverly/Ahiak herds with the least limitation of hunting opportunities and a clear and easily understandable way of defining zone boundaries. As the sub-zones or modified harvesting zones would include areas used by other Aboriginal groups and areas to the east (towards Lutsel K'e) and north and west (Sahtú region), modified approaches to management of caribou harvesting zones would need to be reviewed with other communities, boards and Aboriginal organizations.

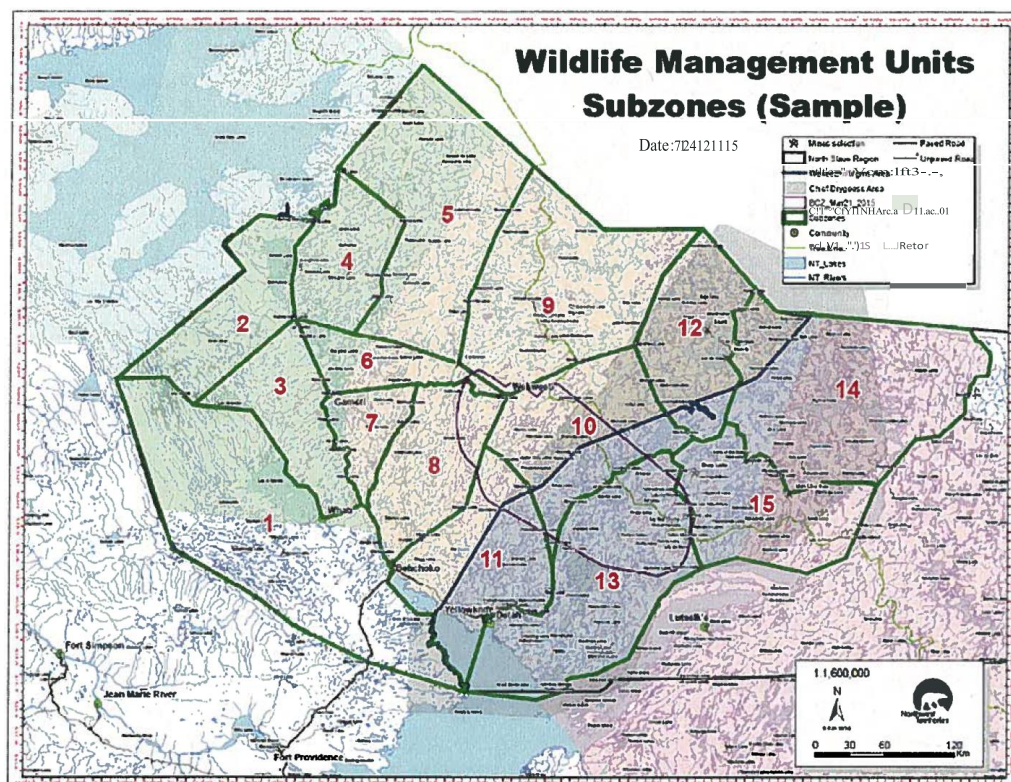


Fig. 3. An example of caribou management subzones that could be developed in the North Slave region (courtesy of TG letter to WRRB Aug. 25, 2015). An example of the Bathurst mobile zone from winter 2014-2015 is outlined in purple.

In winter 2015-2016, harvest management for the Bathurst and adjacent BNE and Beverly/Ahiak herds included a requirement for authorizations or tags for winter ranges occupied by the BNE and Beverly/Ahiak herds. A requirement for authorizations would continue in 2015-2016 to manage and monitor harvest, but the means used (authorizations, tags or a proxy) will be adapted as needed in collaboration with Aboriginal communities and boards.

Monitoring of Bathurst Mobile Zone and Compliance

In winter 2014-2015 the Bathurst mobile zone was monitored regularly (sometimes weekly) until the end of the winter hunting season by aerial reconnaissance flights to increase knowledge of the herd's distribution and numbers, and to check for any activity (including hunting) on the winter roads to the mines. Wildlife officers also carried out 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 2015-2016 and in future years.

Respecting the Caribou: Hunter Education

As part of harvest management for the Bathurst herd, ENR and TG suggest that an area where greater effort is needed is hunter education, with an emphasis on promoting traditional practices of using all parts of harvested caribou and minimizing wastage. Below are a few extracts from the consultation meetings that took place leading up to the Draft Bathurst Caribou Management Plan of 2004.

"People do not do things without the caribou being aware of it. We depend on the caribou and so, when we will kill a caribou, we show respect to it. If we don't do that and we don't treat them really well, the caribou will know about it." (Rosalie Drybones, Gameti. 1998).

- *"People should know how to think and talk respectfully about caribou."*
- *"People should respect caribou as gifts from the Creator."*
- *"All people should have knowledge of the caribou to respect caribou. This means knowing caribou behavior as well as how to think and talk about caribou."*
- *"Hunters should not be too particular when hunting caribou."*
- *"Caribou should not suffer in death."*
- *"Hunters must not boast about their harvest."*
- *"It is important to use all parts of the caribou and waste nothing."*
- *"People must care for the stored meat and discard bones and other unused parts in a manner that will not offend the caribou."*
- *"The relationship between the people and the caribou is based on mutual respect."*
- *"The rules about caribou respect are meant to be obeyed."*

Wastage is prohibited under the Northwest Territories Wildlife Act:

57. (1) Subject to the regulations, no person shall waste, destroy, abandon or allow to spoil

- (a) big game, other than bear, wolf, coyote or wolverine, or an upland game bird that is fit for human consumption; or
- (b) a raw pelt or raw hide of a fur-bearing animal or bear.

TG and ENR suggest the following education/public awareness initiatives to improve hunter practices and reduce wounding and wastage. Further detail is in Table 1:

- Continue to work with the communities, in particular, more closely with the school systems, on promoting Aboriginal laws and respecting wildlife, including how to prevent wastage;
- Invite elders to work with the youth to teach traditional hunting practices and proper meat preparation; and
- 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 1: Approaches and Objectives for Increased Education and Awareness

General Approach	Description & Objective	Lead (Support)
Public hearings	A public hearing on wildlife management actions for BNE herd in 2016	WRRB & SRRB (TG, ENR)
Community meetings	1 meeting per year in each Tłıchq community to discuss and update wildlife management issues and actions	TG (ENR)
Radio programs	When needed radio announcements, interviews and/or updates on wildlife management in Tłıchq language during winter hunting season over next 3 years	TG & ENR
Sight-in-rifle programs	Conduct community-based conservation education programs with an objective of 1 workshop / Tłıchq community / hunting season for next 3 years	ENR (TG)
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 & Tłıchq website)	TG, ENR (WRRB)
Poster campaign	Produce posters for distribution in each Tłıchq community: posters to be developed for each year over next 3 years	TG, ENR

ENR has promoted sound hunter harvest practices, reduction of wastage, harvesting bulls instead of cows, and related conservation education in NWT communities for a number of years. In response to community demands, ENR is currently developing a Hunter Education program. A working group developed materials which are currently out for review with individuals, boards, agencies and organizations involved in the Wildlife Act creation. There are 8 sections in the program (the responsible hunter, ecology and wildlife management, hunting laws, firearm safety, hunting skills, planning and preparation, the hunt and survival skills).

B. ENHANCED WOLF HARVEST IN THE BATHURST RANGE

Predator (wolf) management

In 2014-2015 harvest of Bathurst caribou was further reduced from 300 to a ceremonial harvest of 15; the harvest of Bathurst caribou is proposed to be zero from 2015-2016 to November 2019. Population indicators suggest that the herd is likely to decline further. In light of these circumstances, there is strong interest from Aboriginal governments and communities in increasing wolf harvest as a way of increasing caribou survival rates and promoting recovery of herds. Views on reduction of predator numbers to benefit ungulates like caribou or moose are diverse and sometimes polarized, thus any more intensive actions to reduce wolf numbers will need to carefully consider community views along with biological considerations.

Understanding of wolf ecology based on monitoring wolves at dens on the Bathurst late summer/fall range was summarized by D. Cluff in Adamczewski et al. (2009) and more recently by Klaczek (2015) and Klaczek et al. (2015). In general these studies showed that wolf

abundance and productivity, particularly pup survival, at Bathurst range dens has declined as the herd reached much lower numbers after 2000. However, it is possible that wolf predation has affected caribou survival rates more strongly during decline and at low herd size, even if there were far fewer wolves than at higher herd size (see Seip 1991).

Wolves are difficult to count, particularly on the large remote ranges used by barren-ground caribou herds in NWT and NU. ENR will conduct a technical review of wolf monitoring and management in the NWT in winter 2015-2016, and develop options for consideration. In view of the further decline in the Bathurst and other NWT herds, ENR will carry out a technical feasibility assessment of wolf management options in 2016, to consider the practicality, costs, and likely effectiveness of different management actions. This assessment will be developed collaboratively with TG and the input of other interested parties, with the initial focus on the Bathurst herd. ENR has had a number of discussions with biologists and managers with the Alaska Department of Fish and Game on approaches they have used in feasibility assessments for predator management. Three of Alaska's four tundra migratory herds have declined in recent years and management to address these declines is under discussion.

Among the key aspects that need to be considered is the number of wolves associated with the herd and the proportion or number of these that would need to be removed to improve caribou survival rates. The annual kill rate of wolves has been estimated at ~ 29 caribou / adult wolf, i.e., with apparent consumption rates ranging from 4.4 – 5.6 kg of caribou per wolf per day (Hayes et al. 2000), thus removal of substantial numbers of wolves could increase caribou calf and adult survival rates over winter. This could have an impact on the herd, considering the current small size of the Bathurst herd. However, a review of wolf control programs in 1997 concluded that wolves would need to be reduced by at least 55% for at least 4 years over a large area to increase ungulate survival rates (Orians et al. 1997). Removal of up to 30% of wolves is considered in Alaska as a sustainable harvest (i.e. no net reduction of wolves) due to the rapid replacement of wolves by pups or wolves from elsewhere, in addition to the higher per capita kill rates and larger losses of meat to scavengers associated with small wolf packs (B. Dale, ADFG, pers. comm. 2015).

At this point, grizzly bear management to benefit Bathurst caribou is not being considered, although observations on calving ground surveys, including Bathurst 2012 and 2015, suggest that there may be more bears than wolves on the calving grounds (GNWT unpublished data). Bears may be an important cause of moose and caribou calf mortality in the first few weeks after calving (Orians et al. 1997), but substantial caribou killing by bears is limited to this time period. Wolves are effective predators of caribou year-round (Orians et al. 1997). The Bathurst calving grounds are within NU, thus any consideration of predator management on the calving grounds would need to be discussed under NU processes for wildlife management. That said, Tłıchǵ traditional knowledge exists about the effects of bear predation on caribou outside calving grounds and the issue may be revisited by GNWT or TG.

Previous efforts to increase wolf harvest (2010-2014)

The May 2010 proposal recommended increased harvesting of wolves on the Bathurst range to reduce mortality of caribou due to predation by wolves. Financial incentives for prime pelts (\$400) and carcasses (\$200) were used to increase harvest of wolves on the Bathurst winter range, with an objective of harvesting 80 to 100 wolves annually. Wolf harvest was monitored annually through the GNWT fur harvest database. The program had poor success in achieving the 2010 joint proposal objective and it is unlikely that survival rates of adult and calf caribou were meaningfully altered. The total numbers of wolf carcasses reported in the North Slave Region was 19 (2009-2010), 41 (2010-2011), 80 (2011-2012), and 56 (2012-2013) respectively (averaging 49 wolves/year). Of the 196 wolves harvested in total, 47 were associated with dumps or sewage lagoons, 49 were taken from where collared Bathurst cows have not occurred

in recent years (i.e., east of Great Slave Lake in areas near Artillery Lake, Reliance and Lutsel K'e), and 20 were in the Yellowknife area. Recent review of the fur harvest database also showed that not all harvested wolves are accounted for within the fur harvest database. Thus as a follow-up, GNWT and TG will collaborate to improve monitoring the annual wolf harvest and other wolf mortalities by region, through coordination of data collection and analyses of existing fur harvest and wildlife export permit records.

In light of the limited success of the wolf harvesting incentive approach to date, TG and ENR recommend more specific management actions to increase and sustain an elevated annual harvest of wolves on the Bathurst winter range. If conducted effectively and for multiple years in combination with harvest management, management actions that sufficiently reduce wolf density are predicted to increase caribou survival and calf recruitment, which would contribute to increased herd growth and recovery (Gasaway et al. 1983, Hayes et al. 2003). In addition to addressing concerns about wolf predation on caribou, this recommendation will also address concerns from Tłıchq people who report that wolves are abundant and increasing in and around communities (workshop discussions in Gameti, February 2013, and Yellowknife, December 2013). An initial goal of harvesting 100 wolves from the Bathurst winter range will be used, and will be updated through the collaborative technical feasibility assessment of wolf management options for the Bathurst range.

Community-based wolf harvesting program for 2015-2018

Recognizing the general principle that "communities should play an important role in the management of wolves, including sharing local and traditional knowledge about wolves" (Yukon Government 2012), initial discussion among staff from TG and ENR and Tłıchq community representatives have resulted in the following elements being proposed for developing and implementing a community-based wolf harvesting program to address the real and perceived aspects of this human-wildlife conflict.

The basic premise is that Tłıchq communities will have meaningful input into deciding how to hunt and trap wolves in a culturally respectful manner, selecting candidates (including interested youth) who will be trained in effective field techniques for hunting/trapping wolves, skinning, and fur preparation, and identifying appropriate locations away from communities for skinning and processing wolf carcasses. Selected individuals will receive training from recognized expert wolf hunters/trappers and/or expert instructors. ENR would develop, coordinate, and provide the training workshops. An important factor in these workshops will be the cultural teachings from local Elders. Some believe that, from a cultural standpoint, Tłıchq people do not hunt wolves. By bringing in an Elder to explain to Tłıchq people that wolves are a problem and that Tłıchq should do something about it as long as one follows the traditional laws, more people will be motivated to go out on the land to harvest wolves.

Individuals for community-based teams would be initially selected from Wekweètì and Gamètì. Teams will establish field camps in focal areas during winter months and harvest wolves in a manner consistent with Tłıchq practices. ENR, with support from TG, will provide funding, training, field support, and monitor overall program effort and effectiveness. Tłıchq hunters have the option to either deliver the wolf carcass (entire unskinned wolf) to ENR and receive straight pay-out (proposed as \$200) or prepare the hide themselves for submission to ENR either with traditional skinning (proposed as \$400 for the hide and \$50 for the skull) or pelts prepared to taxidermy standards through the Genuine Mackenzie Valley Fur (GMVF) Program (proposed as \$400 for the pelt, \$50 for the skull, and a prime fur bonus of \$350 if the pelt sells for more than \$200 at auction). Wolf carcasses will be necropsied by ENR biologists.

The training program will be initiated in winter 2015-2016 with the communities of Wekweètì and

Gamèti, where 6 to 12 selected individuals will participate in one or more training workshops. The training workshops will have three experts: a (Tłıchq) wolf hunter/trapper expert; a taxidermy skinning expert; and a Tłıchq elder.

Based on recommendations from Tłıchq eldersⁱ, TG and ENR will implement a pilot program in winter 2016 for organized hunting and trapping of wolves within areas of winter range that would have maximum potential benefit for improving overwinter survival of caribou. The focal areas for wolf harvesting would be based on the mobile conservation zone for Bathurst caribou in which a community-based team (comprising 2-3 hunters, TG staff, &/or biologist) would be mobilized multiple times over the winter to hunt and trap wolves multiple times. Wolf management actions may complement caribou harvest restrictions by helping improve survival of Bathurst caribou in winter.

Other aspects of the pilot project will be tied to ENR's regular aerial surveillance of the Bathurst mobile conservation zone, which may also provide ENR biologists with an opportunity to develop methodology for estimating relative abundance and occurrence of wolves within the defined area based on observations of wolves (packs and individuals) and wolf tracks. This information will be shared with TG and may steer the location of wolf harvest camps. Wolf carcasses will be subject to standard post-mortem analyses and sample collections to document age, sex, diet, health and condition. A monitoring program will be implemented that accurately records hunter effort, activities and wolves harvested and will be summarized and reported by TG and ENR at the end of each winter wolf hunting season.

Depending on available resources, an additional workshop will be held in one other Tłıchq community in fall 2015 or winter 2016, with remaining Tłıchq communities completing the training by winter 2016. This would result in a core group of trained and experienced wolf hunters in each Tłıchq community who would be active and effective in the field and capable of training other interested hunters and trappers in the community.

In addition to training Tłıchq hunters as part of a community-based wolf harvesting program, recommendations from non-Tłıchq communities and governments were made to extend wolf hunting opportunities and incentives to Northwest Territories residents and non-residents (i.e., guide-outfitters). The opportunity for resident hunters and guided outfitters to hunt wolves on the Bathurst range is already in place. ENR will also work with other Aboriginal governments interested in increased wolf harvest from the Bathurst range.

C. MONITORING OF BATHURST CARIBOU HERD

Monitoring under 2010-2013 Tłıchq -ENR caribou joint proposal

Main monitoring actions from the 2010 Tłıchq/ENR caribou joint management proposal are summarized in Table 1 (above), and updated to reflect conditions in 2015. Monitoring actions consisted of three main components: (1) biological monitoring of the Bathurst caribou herd, (2) monitoring of caribou harvest, and (3) wolf monitoring. In 2010, the WRRB provided recommendations that were in general support of the monitoring actions proposed.

In this proposal, the three monitoring components are summarized in following sections, each with an assessment of monitoring 2010-2013 and modified monitoring proposed for 2016-2019.

ⁱ <http://www.tlicho.ca/news/tlicho-elders-wolf-workshop>

Biological monitoring for the Bathurst herd 2016-2019

Biological monitoring of the Bathurst herd proposed for 2016-2019 includes the following elements:

1. Annual reconnaissance surveys on the calving grounds in June as an index of the numbers of breeding females;
2. Estimates of the number of breeding females & herd size every 3 years based on calving ground photographic surveys;
3. Estimates of pregnancy rate (proportion of breeding females) based on June composition surveys every 3 years;
4. Estimates of bull:cow ratios and calf:cow ratios as a relative index of summer mortality of calves based on fall composition surveys during the rut (October) every 2-3 years;
5. Annual composition surveys in late winter (March/April) to estimate recruitment of calves;
6. Estimation of cow survival rate from collars and OLS (ordinary least squares) model every 3 years;
7. Maintenance of 50 GPS collars (30 on cows, 20 on bulls) with annual replacements of collars;
8. Annual monitoring of indices of environmental trend that may help explain population indicators.

The surveys listed above have, to date, been carried out as planned for the Bathurst herd since 2010, and they should build a continuing picture of the herd's population size and trend. Indices of environmental trends on the herd's range will be monitored over time and archived within a long-term database with the assistance of Don Russell and the CARMA (Circum Arctic Rangifer Monitoring and Assessment) group.

Collars:

The increase in collar numbers to 50 follows a recommendation from TG in 2014 and this greatly improves confidence in monitoring herd trend and many other herd attributes. Previously (before March 2015), Bathurst collar numbers had been limited to 20 or fewer and all were on cows, largely due to Tłıchǫ concerns over the use of collars and animal capture and handling. ENR (2014b) provided a brief review of uses of collars and recommended numbers of collars for various applications in a rationale for increasing the numbers of collars on the Bathurst herd to 65 (50 on cows and 15 on bulls). 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.

TG and ENR agree to consider further increasing the number of collars on cows and bulls in this time of herd decline, depending on resources made available by GNWT. The use of collars has in the past been a contentious issue. However, at this particular and critical time with low and declining Bathurst numbers, it is important to have the best available information. Balancing social and cultural concerns and the scientific rationale for increasing sampling size to improve quality of biological information is not easy. Support for increased collar numbers from TG would come with the understanding that GNWT will commit the resources needed to improve the program, and share the data regularly with the TG. The collars may also assist in determining where and when predators should be removed as well as tracking whether actions like predator management might be having an effect on the herd. The collared caribou should also help in developing better monitoring studies that determine if changing environmental and climatic conditions, as well as the influence of resource development, are affecting the caribou.

A programming option that has recently become available is "geo-fencing" where the number of

GPS locations collected increases substantially and allows more detailed analysis of the movements of collared caribou near mines, roads or other designated sites. ENR plans to deploy Telonics Iridium collars with geo-fencing polygons around existing and likely future roads and mines in the Bathurst range when collars are added in late winter, beginning in March 2016.

Additional monitoring that may be considered to improve monitoring and understanding of the Bathurst herd's status, distribution and ecology is summarized below. These methods will be considered if resources (funds and staff time) are made available by GNWT.

1. Annual composition surveys on the calving grounds to determine the proportion of breeding females as an index of pregnancy rate;
2. Annual fall composition surveys to provide increased information about summer calf survival; and
3. Annual winter assessments of pregnancy rate from fecal samples collected during late-winter composition surveys;

As harvest is proposed to be zero for the Bathurst herd, monitoring will need to focus on ensuring compliance via ground-based and aerial patrols at frequent intervals. As noted earlier, the Bathurst mobile zone would be monitored regularly (sometimes weekly) until the end of the winter hunting season by aerial reconnaissance flights to increase knowledge of the herd's distribution and numbers, observe and record presence or absence of wolves and/or wolf-kill sites and to check for any activity (including hunting) on the winter roads to the mines. Wildlife officers will also carry out 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 2016-2017 and in future years.

Wolf monitoring for the Bathurst herd (2016-2019):

Wolf monitoring for the Bathurst range (2010-2013) included ongoing monitoring of wolf abundance and productivity at den sites on the southern edge of the Bathurst summer range. This was initiated in 1996 when the herd was at much higher numbers. These surveys suggest that wolf numbers on the Bathurst range and the average number of pups at traditional den sites have declined substantially since 2005, likely as a result of the caribou herd's decline, and remained low between 2010 and 2013. ENR North Slave Region, in collaboration with University of Northern British Columbia, deployed 15 satellite collars on female wolves in 2013 to better understand movements and ecology of collared wolves. A recent graduate thesis by Klaczek (2015 and see Klaczek et al. 2015) summarized recent collar movements and demographics of wolves in the Bathurst range.

ENR will conduct a review of appropriate methods to monitor wolf abundance and distribution over time. One of the main objectives will be to explore the feasibility of a more robust and improved wolf monitoring program for the NWT. The review will include an assessment of the den survey methods in use since 1996 and will be completed by spring 2016.

Based on the ENR-led collaborative feasibility assessment, the community-based wolf harvesting pilot project on the Bathurst winter range will be reviewed and updated. The goal will be to implement a more thorough adaptive management approach which would prescribe increasing off-take of wolves by hunters. Numbers, locations, age, sex and condition of wolves taken will be reported, and an assessment of effectiveness will include evaluating the impact of the increased wolf harvest on observed wolf densities and proximate indicators of caribou population health such as overwinter survival of calves and adults.

Other monitoring and management actions related to Bathurst caribou

Similar to the 2010 joint TG and ENR caribou management proposal, this new proposal will be focused on relatively short-term monitoring and management actions for the Bathurst herd. TG and ENR recognize that a more comprehensive approach to research and monitoring of the herd is needed. This approach will include supporting research and monitoring of key environmental and habitat variables that affect caribou abundance, to broaden our collective understanding and provide recommendations for management of cumulative effects of disturbance. While the initiatives described below are outside the scope of this proposal, they are referenced to signal the importance TG and GNWT place on them.

Monitoring and research on key environmental and habitat variables

Climate change, weather in all seasons, and other environmental variables affect caribou abundance and distribution. A better understanding of these factors and their effects on caribou is needed. Approaches to this could include the following:

- Annual monitoring of environmental and habitat conditions from remote sensing and climatology datasets. Identifying and tracking key variables for habitat, environmental and climatic conditions on the Bathurst range. Environmental conditions should be monitored as they may affect caribou population dynamics through reduced calf recruitment or adult survival especially in years with severe winter conditions or poor summer growing conditions (Hegel et al. 2010a and 2010b; Hebblewhite 2005; Chen et al. 2014). Indices of insect harassment (Witter et al. 2012) can be developed from summer weather indices. Climatic indicators collected at Bathurst range scale could build upon the analyses by Chen et al. (2014), with specific consideration given to the 25 candidate indicators that Russell et al. 2013 described as a 'caribou-relevant' dataset. The selected covariates could be included in OLS model analysis to further explore the effects of the environment and other factors on demography.
- A recent 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. ENR has also asked biologist D. Russell to review environmental trend data collected since 1979 by CARMA for NWT caribou herds (drought index, snow depth indices, warble/bot fly index) that may assist in explaining how key environmental trends have contributed to declines in caribou herds.
- The two governments generally support increased research into underlying drivers of change in herd abundance by partnership with academic researchers and remote sensing specialists. There is a need to better understand predation rates and their significance to caribou, environmental factors affecting caribou condition and population trend, and the effects of climate change on these relationships.
- Supporting current (Chen et al. 2012, 2014) and further research on environmental factors affecting caribou.
- Developing an overall strategy for caribou monitoring built around environmental and cumulative effects assessment. The impact hypothesis diagrams by Greig et al. 2013 (p. 50 and p. 70), provide a starting point and framework that links impact pathways of natural environmental and human-caused stressors to population demography in

migratory barren-ground caribou. ENR initiated a process in 2013 to develop a cumulative effects monitoring program for wildlife and wildlife in the Slave Geological Province (GNWT 2013). Included in the process is identifying key monitoring and research needs, including those for Bathurst caribou and their range.

- TG currently is working on implementing a “Boots-on-the-Ground Monitor Program” for the summer months. This program will have 2-3 monitors and 1-2 technical staff “24-7” on the land for the months of July and August (depending on caribou movement). The monitors will collect TK about the general behaviour of the Bathurst Caribou. However, this program is still in the development stages and the objectives and research questions still have to be fine-tuned. Because TK is holistic and looks at everything, the monitors will observe insect harassment, feeding behaviour, predator behaviour etc. The program will also have a scientific research component. The monitors will collect caribou scat for diet analysis. The monitors will also record caribou behaviour using a standardized behavioral sampling method so that results can be interpreted and applied in the context of describing behavioral responses of caribou to disturbance.

Table 1, Part 1. Biological monitoring of Bathurst herd

Indicator(s)	Rationale	Desired Response	Adaptive Management Options	How Often	Notes
1. Numbers (density) of 1+ year old caribou on calving ground from reconnaissance surveys	Provides index of number of breeding cows on calving grounds; number of 1+ year old caribou correlated with number of breeding females.	Increasing trend in numbers of 1+ year old caribou on annual calving ground.	If trend in 1+ year old caribou is increasing, continue as before; if trend stable-negative, re-consider management.	Annual (between photo-surveys)	Precision improved 2013 using 5-km spacing between flight lines.
2. Estimate of breeding cows from calving ground photo survey	Most reliable estimate for abundance of breeding cows & can be extrapolated to herd size based on pregnancy rate and sex ratio.	Increasing trend in numbers of breeding cows by 2018.	If trend in breeding cows increasing, continue as before; if trend stable-negative, re-consider management.	Every 3 years	Last surveys 2009, 2012, 2015, next in 2018. Trend in breeding females is most important for herd trend.
3. Cow productivity; composition survey on calving ground in spring (June)	Relatively low calf:cow ratio in June 2009 – many sub-adult cows not yet breeding; establishes basis for potential calf recruitment through fall & winter.	High calf:cow ratio (80-90 calves:100 cows).	Low ratio indicates poor fecundity and poor nutrition in previous summer; survey data integrates fecundity & neonatal survival.	Every 3 years	Essential component of calving ground photographic survey.
4. Fall sex ratio; composition survey (October)	Tracks bull:cow ratio; Bathurst ratio increased from 31-38 bulls/100 cows 2004-2009 to 57-58/100 in 2011-2012; prime bulls key for genetics, migration.	Maintain bull:cow ratio above 30:100.	If bull:cow ratio below target, consider reducing bull harvest. Fall calf:cow ratios indicate spring & summer calf mortality relative to June ratios.	Every 2-3 years	Needed for June calving ground photographic survey – extrapolation to herd size. Provides fall estimate for calf:cow ratio.
5. 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.	>40 calves:100 cows on average.	If average calf:cow ratio $\geq 40:100$, continue as before; if average ratio $\leq 20:100$, herd likely declining; re-evaluate management.	Annual	Calf productivity & survival vary widely year-to-year, affected by several variables, including weather.
6. Cow survival rate (estimated from OLS model, including collar data)	Cow survival estimated 67% in 2009, 78% in 2012 (from model). Need survival of 83-86% for stable herd.	Increase to 83-86% by 2018	If cow survival increases to 83-86%, continue as before; if survival stays below 80%, re-assess harvest & wolf management.	Regular (every 3 years)	Population trend highly sensitive to cow survival rate; recovery will depend on increased cow survival.
7. Maintain 50 collars on Bathurst herd (30 cows & 20 bulls, with annual increments)	Reduce uncertainty in defining winter herd distribution; improve confidence in assigning herd identity to hunter-kills and improve overall harvest management; provide a direct & more precise estimate of adult female survival	More reliable harvest management & improve datasets for OLS model analysis of demography.	Develop options for implementing new management zones with Tłı̨chǫ communities; has potential for improved zoning strategies that permit more flexible and effective harvest management.	Annual deployment of collars to maintain 50 on the herd	Tracking movements and locations of collared bulls (n=20) would assist in directing hunters to areas with bulls.
8. Monitor annual indices of environmental conditions	Indices of range condition, drought index, warble fly index may help explain trends in calf:cow ratios, pregnancy rates	Indices positive for herd, but focus is explanatory.	Adaptive management does not apply but indicators may help explain and predict possible herd responses	Annual	Trends in environmental indices may help explain underlying drivers of change in herd trend.

Table 1, Part 2: Harvest monitoring of Bathurst herd & monitoring of wolves and wolf harvest

Indicator(s)	Rationale	Desired Response	Adaptive Management Options	How Often	Notes
9. (Harvest) Numbers of cows and bulls taken by all hunters	Cannot assess effectiveness of management if harvest is poorly tracked; harvest well over target could lead to further decline.	Compliance with 0 harvest of Bathurst herd	If unplanned harvest occurs, review/revise harvest reporting & management immediately	Annual	As recommended harvest will be 0, frequent monitoring by ground patrols and aerial patrols will be needed to ensure compliance.
9. Numbers of wolves killed/year	Wolves are main non-human predator on caribou; natural cow and calf survival rates should increase at low wolf numbers.	Increasing # of breeding caribou cows, increased cow survival. Annual wolf harvest increased to 80-100.	If cow numbers, survival increasing, continue as before; if trend stable-negative, re-assess management.	Annual	Experience in Alaska & elsewhere indicates need to remove significant numbers of wolves for several years to affect caribou survival rates.
10. Wolf abundance	Index of relative wolf abundance	Declining trend in wolf abundance		Regular, pending wolf monitoring review	ENR to review methods of monitoring wolf abundance. Input & collaboration from Dean Cluff, other biologists.

C. Consultation

Describe any consultation undertaken in preparation of the management proposal and the results of such consultation.

ENR sent an initial letter with preliminary results of the June 2015 Bathurst calving ground photographic survey to all parties with an interest in this herd on September 2, 2015 and requested input on potential management actions, including a continuation of the 2014-2015 Bathurst mobile conservation zone into 2015-2016. A further letter was sent December 2, 2015 to all parties with an interest in the Bathurst herd with an update on herd status and proposed management actions.

TG sent a letter to WRRB on August 25, 2015 proposing management actions for the BNE and Bathurst herds. This included a harvest limit of 200 Bathurst caribou. ENR sent a letter to WRRB on September 22, 2015 on management actions for the Bathurst and BNE herds, which recommended 0 harvest from the Bathurst herd. WRRB recommended to TG and ENR on September 25, 2015 that the governments come to agreement on the Bathurst harvest (and other actions); TG and ENR then met in October 2015 and TG announced in late October that the Tłıchq would not harvest Bathurst caribou in 2015-2016.

WRRB requested in October 2015 that draft versions of joint proposals on Bathurst and BNE caribou be made available to WRRB in November for initial review. Draft proposals were sent by TG and ENR to WRRB on November 22, 2015. WRRB provided comments on the draft proposals on November 27, 2015, which were used to modify the two draft proposals.

TG and ENR staff met several times in fall 2015 to discuss caribou management and related issues, including interim management for winter 2015-2016 and management proposals for the two herds for 2016-2019. In addition, the Caribou Technical Working Group, which includes TG, ENR and WRRB at a staff level, met six times in 2015.

TG and ENR technical staff held 1 community meeting in early December 2015 in all the 4 Tłıchq communities to review caribou management issues for the short and long term. In these meetings the interim measures and the joint management proposals for both herds effecting the Tłıchq were discussed.

TG held a workshop on wolves with Tłıchq elders and hunters on October 29, 2015; elders agreed that the wolf was a problem for the caribou and that something needs to get done. The elders also said that they want Tłıchq hunters to harvest wolves as long as traditional laws are followed.

The North Slave Métis Alliance (NSMA) on September 16, 2015 wrote to ENR generally expressing support for management actions proposed for caribou herds in the North Slave region (including the Bathurst mobile conservation zone), provided that NSMA received an equitable share of caribou harvests in the N. Slave region for the 2015-2016 harvest season.

ENR met on September 16, 2015 with representatives of the YKDFN to discuss caribou management. YKDFN had generally supported the Bathurst mobile conservation zone in 2014-2015. YKDFN requested support for community monitoring and for community hunts. ENR met again with representatives of YKDFN on caribou issues on November 30, 2015. YKDFN did not support 0 harvest of Bathurst herd in 2015-2016 and suggested an ENR-YKDFN agreement as was signed in October 2010.

ENR met on November 6, 2015 with representatives of Lutsel K'e Dene First Nation (LKDFN) to discuss status and management of Bathurst and other caribou herds. LKDFN agreed that the Bathurst herd's decline was serious and required management action, but did not express support for 0 harvest of Bathurst caribou. There was support for increased incentives for community hunters harvesting wolves. LKDFN also expressed concern over the mines and roads and effects of disturbance on the caribou and asked for support for a community monitoring program.

ENR met on November 20, 2015 with representatives of the NWT Métis Nation (NWTMN) to discuss caribou management. NWTMN representatives were generally supportive of conservation measures for the Bathurst herd, and expressed strong interest in increasing harvest of wolves from the Bathurst range with ENR support.

D. Communications Plan

Describe the management proposal's communications activities and how the Tłıchq communities will be informed of the proposal and its results.

TG and GNWT leadership will, together, hold an information session in each of the 4 Tłıchq communities.

Technical workshops will be held in each of the 4 Tłıchq communities to inform on the implementation of any harvesting season restrictions.

Further meetings will occur through winter 2015-2016 as needed to provide updates on caribou status and continue dialogue with Tłıchq communities.

Table 1 (listed earlier in this proposal) describes approaches and objectives for increased public engagement and hunter education for caribou in Wek'èezhii.

E. Relevant Background Supporting Documentation

List or attached separately to the submission all background supporting documentation, including key references, inspection/incident reports and annual project summary reports.

Advisory Committee for the Cooperation on Wildlife Management (ACCWM). 2014. Taking Care of Caribou – The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan (Final). C/O Wek'èezhii Renewable Resources Board, 102A, 4504 – 49 Avenue, Yellowknife, NT, X1A 1A7.

Adamczewski, J., J. Boulanger, B. Croft, H. D. Cluff, B. Elkin, J. Nishi, A. Kelly, A. D'Hont, and C. Nicolson. 2009. Decline in the Bathurst caribou herd 2006–9: a technical evaluation of field data and modeling. Environment and Renewable Resources, Government of Northwest Territories, Yellowknife, NWT, Canada.

Boulanger, J. 2015. Interim report: Estimates of breeding females and herd size from the 2015 Bathurst calving ground survey, Draft September 3, 2015. Environment and Natural Resources, GNWT, Yellowknife, unpublished report.

Boulanger, J., B. Croft, and J. Adamczewski. 2014a. An estimate of breeding females and analyses of demographic indicators from the Bathurst herd 2012 calving ground photographic survey. Environment and Natural Resources, Government of Northwest Territories. File Report 142.

Chen, W., L. White, J. Z. Adamczewski, B. Croft, K. Garner, J. S. Pellissey, K. Clark, I. Olthof, R. Latifovic, G. L. Finstad. 2014 Assessing the Impacts of Summer Range on Bathurst Caribou's Productivity and Abundance since 1985. *Natural Resources*, 5, 130-145. <http://dx.doi.org/10.4236/nr.2014.54014>

Unpublished Report, Yellowknife, NT. 20 pp.

Witter, L. A., C. J. Johnson, B. Croft, A. Gunn, and L. M. Poirier. 2012. Gauging climate change effects at local scales: weather-based indices to monitor insect harassment in caribou. *Ecological Applications* 22:1838-1851.

Government of Yukon. 2012. Yukon Wolf Conservation and Management Plan. Environment Yukon, Whitehorse, Yukon, 24 pp

F. Time Period Requested

Identify the time period requested for the Board to review and make a determination or provide recommendations on your management proposal.

November 2016-November 2019; the next Bathurst calving ground photographic survey is scheduled for June 2018, which may lead to a new management proposal that year. Management actions should be reviewed annually or when key new information is available.

G. Other Relevant Information

If required, this space is provided for inclusion of any other relevant project information that was not captured in other sections.

H. 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' èezhii Renewable Resources Board
102A, 4504 – 49 Avenue
Yellowknife, NT X1A 1A7
(867) 873-5740
(867) 873-5743
jsnortland@wrrb.ca

**APPENDIX B Previous WRRB Recommendations related to Bathurst ʔekwò
(Barren-Ground Caribou) Management – March 2007
Proceeding**

March 2007 Proceeding

In December 2006, ENR submitted a management proposal recommending management actions to reduce harvest levels in a manner consistent with the Tłıchǫ 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 caribou, including eliminate all commercial meat tags held by Tłıchǫ 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 Behchokò, NT.

During the course of the hearing, ENR officials admitted that the Minister and Department had not consulted the Tłıchǫ Government about their proposal, as required in the Tłıchǫ 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 Tłıchǫ Government time to initiate a consultation process. Specifically, ENR and the Tłıchǫ 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 Tłıchǫ 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 Tłıchǫ 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 Tłıchǫ Government.

Emergency Measure

On April 17, 2007, the Minister of ENR advised the Tłıchǫ Government and the WRRB that the Big Game Hunting Regulations had been amended to reduce the number of tags available for outfitted hunts for barren-ground caribou 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 Tłıchǫ Agreement as ENR considered its action necessary due to an emergency situation regarding declining populations of the barren-ground caribou.

Board Decision

On May 30, 2007 and June 4, 2007 respectively, the Tłıchǵ 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 caribou 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 caribou herd not be implemented as submitted. The WRRB strongly encouraged ENR and the Tłıchǵ Government to continue their consultations towards the development of a joint proposal for the management of the Bathurst caribou 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.

Barren-ground Outfitter's Association Tag Request

In October 2007, the Barren-ground Caribou Outfitter's Association requested that the tag quota for caribou 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 caribou in Wek'èezhì by ENR and Tłıchǵ Government.

APPENDIX C

Review of 2010 Recommendations – Government Responses and Programs

Review of 2010 WRRB Recommendations				
No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
1	TG and ENR 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 - ENR 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'èezhii 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'èezhii 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	ENR 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'èezhii.	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'èezhii 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	ENR 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'èezhii. 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'èezhii 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 Tłı̨ch̨o Citizens (225) and members of an Aboriginal people with rights to hunt in M̨owhi Gogha D̨e N̨ı̨tl̨ęe (75)	Varied - As per prior agreement with TG to share a limited harvest of Bathurst caribou equally (150 animals for Tłı̨ch̨o citizens and 150 caribou outside of Wek'èezhii)	Establish a sharing of harvest between the Tłı̨ch̨o and other Aboriginal hunters that is equitable.	Completed

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
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 - ENR 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 ENR have information to suggest that the harvest of Bathurst caribou has <u>or will in the near future</u> 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 - ENR 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 ENR have information to suggest that the harvest of Bathurst caribou has <u>or will or in the near future</u> 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) - ENR 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>fall</u> 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>winter</u> 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'èezhìi 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 Tłıchq.	Varied - Based on new 2010 estimate of the Bluenose-East herd's size, wildlife co-management boards are reviewing information and the proposed harvest target's recommended by the WRRB. ENR 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 Tłıchq and other Aboriginal hunters that is equitable.	Incomplete; target exceeded in 1 of 3 years

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
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) - ENR 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 ENR have information to suggest that the harvest of Bluenose-East caribou has <u>or will in the near future</u> 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 ENR have information to suggest that the harvest of Bluenose-East caribou has <u>or will or in the near future</u> 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>fall</u> 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>winter</u> 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 ENR do not provide harvester assistance and/or incentives to access the Bluenose-East herd.	Rejected - ENR and TG agree that conservation measures for the Bluenose-East herd are required. However, ENR had previously agreed to provide support to construct a winter road to Hottah Lake so that people from Wekweëti 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

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
23	All commercial, outfitted and resident harvesting from the Ahiak caribou herd within Wek'èezhì 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 ENR do not provide harvester assistance and/or incentives to access the Ahiak herd.	Rejected - ENR and TG did not provide support for fall caribou harvests in 2010. However, for ENR, it may be necessary to provide some assistance as part of accommodation for limiting harvest of the Bathurst herd. ENR 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>fall</u> 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	ENR should, in discussion with TG and other Aboriginal groups, identify and make public, prior to the annual <u>winter</u> 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 Tłıchǫ 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 Tłıchǫ 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 Tłıchǫ cultures of sharing information and building knowledge.	Incomplete; not implemented

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
<p>PREAMBLE: (#29-39) - The Tłıchq Government agrees with the recommendations 28-42 of the Recommendation Report related to the Revised Joint Proposal on Caribou Management Actions in Wek'èezhìi. We are committed to documenting and reporting on observations and trends observed by caribou harvesters and elders. Implementation of the Tłıchq Knowledge Research and Monitoring Program: Special Project, Using Tłıchq 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 has yet to be initiated. The program requires trained Tłıchq researchers, offices, and equipment, all of which requires a realistic annual budget and extensive fundraising with those who will also benefit from Tłıchq knowledge research and monitoring.</p>				
29	TG and ENR implement the <i>spring calf survival</i> monitoring action as identified for TK and SK.	Scientific: Accepted - ENR will provide the Board with a power analysis of how frequently spring composition surveys are required. ENR has not recently used collars to assess cow mortality rate. ENR 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.	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 ENR implement the <i>health and condition</i> monitoring action as identified for TK and SK.	Scientific: Accepted - ENR 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 ENR 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

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
31	TG and ENR implement the <i>birth rate</i> monitoring action as identified for TK and SK.	<p>Scientific: Varied - Birth rate information will be collected in different ways for different herds.</p> <p>- 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.</p> <p>- 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.</p> <p>TK – See Preamble</p>	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 ENR implement the <i>adult sex ratio and fall calf survival</i> monitoring action as identified for TK and SK.	<p>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.</p> <p>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.</p> <p>TK – See Preamble</p>	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 ENR implement the <i>estimate of herd size</i> monitoring action as identified for TK and SK.	<p>Scientific: Accepted - ENR will work with all partners to undertake the:</p> <ul style="list-style-type: none"> • 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. <p>TK – See Preamble</p>	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

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
34	TG and ENR implement the <i>wolf abundance (den occupancy)</i> monitoring action as identified by TK and SK.	Scientific: Varied - ENR will continue with current wolf den surveys, which provide an index of wolf abundance. ENR 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 ENR implement the <i>wolf condition and reproduction</i> 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 ENR implement the <i>wolf harvest</i> monitoring action as identified by TK and SK.	Scientific: Accepted - ENR 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 ENR implement the <i>state of habitat</i> monitoring action as identified by TK and SK.	Scientific: Varied - ENR will continue to provide an annual report to the WRRB and TG on fire activity. ENR 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. ENR will continue to explore new ways to monitor landscape change driven by industrial exploration and development with our partners (e.g., INAC). TK – See Preamble	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
38	TG and ENR implement the <i>pregnancy rate</i> monitoring action as identified by TK and SK.	Scientific: Accepted - Note: ENR 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

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
39	ENR implement the <i>density of cows on calving ground</i> monitoring action as identified.	Scientific: Varied - ENR 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 <i>caribou harvest</i> monitoring action as identified.	Varied - ENR 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 Tłıchq 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 Tłıchq cultures of sharing information and building knowledge.	Incomplete; information not consistently provided
41	TG and ENR 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, ENR will also post reports provided to the WRRB on the ENR 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 Tłıchq have for caribou.	Accepted - TG has developed a Tłıchq 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 Tłıchq 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	ENR develop and implement a scientific conservation education program to foster an increased appreciation of the resource.	Accepted - ENR will undertake this work jointly with TG in Wek'èezhii and with other Aboriginal groups outside of Wek'èezhii. ENR will prepare facts sheets that will be posted on the ENR website. ENR has developed an interactive Caribou Educational Program that can be used in schools for youth to learn about scientific management practices.	Ensure Tłıchq 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
44	TG and ENR 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 ENR 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 and make revisions if necessary.	Completed; Barren-ground Caribou Technical Working Group created

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
46	Criteria be developed by TG and ENR 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	ENR 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 Ahik caribou herds.	Completed; ongoing
48	ENR 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 Ahik 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'èezhii, 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'èezhii.	Ensure the landscape is managed in such a way that considers the sustainability of the Bathurst, Bluenose-East and Ahik caribou herds.	Recommendation rejected - GNWT responsibility; Tłı̨chǫ Land Use Plan completed
50	ENR and INAC monitor landscape changes, including fires and industrial exploration and development, to assess potential impacts to caribou habitat.	Varied (as per response #37) - ENR 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 Ahik caribou herds.	Incomplete; range plan process not completed
51	TG and ENR 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 Ahik 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 ENR 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 not completed

No.	WRRB Recommendation	TG/ENR Response	Management Objective	Status
54	TG and ENR submit a joint management proposal for wood bison in Wek'èezhìi 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'èezhìi. Draft plan will be provided to WRRB for approval. In December 2010, ENR 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 ENR 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	ENR, TG and INAC implement its recommendations no later than January 1, 2011. ENR'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 ENR 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 ENR 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	ENR develop and implement an effective and continuing enforcement and compliance program.	Accepted - The current protocol for ENR enforcement and compliance program is effective. However given the scope of the issues ENR 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.	Incomplete; not implemented

APPENDIX D List of Registered Parties

Proponents

Tłıchǫ Government

Department of Environment & Natural Resources, Government of the Northwest Territories

Intervenors

Yellowknives Dene First Nation

North Slave Métis Alliance

Registered General Public

Tony Rabesca

Madelaine Chocolate Pasquayak

George Mackenzie

APPENDIX E Summary Table of Party Recommendations

<i>Harvest Management</i>			
Party	Recommendation	Rationale	WRRB Response
Tłıchǫ Government & Environment and Natural Resources	Aboriginal harvest of Bathurst caribou be reduced to 0, subject to annual review, and as further information becomes available. Resident and commercial harvest would remain closed.	The herd has declined by 96% since 1986. The abundance of breeding females declined by ~23% per year, which corresponds to a halving time of ~3 years. Key population indicators such as late-winter calf: cow ratios, estimated cow survival rate, and recent pregnancy rates are consistent with a declining trend, and further decline appears likely.	Sec 7.1.1, Determination #1-2016, Part A
	Creation of sub-zones developed in collaboration with Aboriginal groups, where harvest could be managed depending on distribution of collared caribou.	To define zones for the three herds that protect the Bathurst herd (based on collared caribou locations) and maintain harvest opportunities from the Bluenose-East and Beverly-Ahiak herds with the least limitation of hunting opportunities and a clear and easily understandable way of defining zone boundaries.	Sec 7.1.3, Recommendation #1-2016, Part A
	Reliable harvest reporting and increased public education on the status and management of caribou herds.		Sec 7.1.4, Recommendation #3-2016, Part A
	Hunter education on sound hunting practices including limiting wounding losses and wastage, management of caribou herds.	Promoting traditional practices of using all parts of harvested caribou and minimizing wastage.	Sec 7.1.4, Recommendation #3-2016, Part A
Yellowknives Dene First Nation	Concerned about harvesting restrictions and food security.	“The flip side of the conservation coin is on a food shortage and the inability to engage in traditional cultural practices.”	Sec 7.1.1, Determination #1-2016, Part A
North Slave Métis Alliance	Temporary Bathurst caribou harvest restriction to zero; shared fairly and equitably by all Aboriginal people who traditionally harvest from Bathurst caribou.	The Bathurst Caribou population is in a perilous state, for reasons not yet clearly known. Harvesting from a herd in such a state, scientifically and culturally, is not viable.	Sec 7.1.1, Determination #1-2016, Part A
	More and better education and outreach to caribou harvesters, Aboriginal and non-Aboriginal.		Sec 7.1.4, Recommendation #3-2016, Part A

<i>Predator Management</i>			
Party	Recommendation	Rationale	WRRB Response
Tłıchǫ Government & Environment and Natural Resources	Developed with Tłıchǫ hunters and communities, mobile wolf-hunter camps will be established in early or late winter, with the initial goal of harvesting 100 wolves from the Bathurst winter range. Resident and specialized wolf hunters will also be allowed to access incentives for prime wolf pelts, and ENR will work with other Aboriginal groups to promote increased wolf harvest in the Bathurst range.	The objective being to increase and sustain an elevated annual harvest of wolves on the Bathurst winter range.	Sec 8.1, Recommendation #4-2016, Part A
	ENR will lead a review of wolf monitoring methods in the NWT and carry out a feasibility assessment of predator management options to increase caribou survival rates.	To increase caribou survival rates.	Sec 8.2, Recommendation #5-2016, Part A
Yellowknives Dene First Nation	Concerned about predator management.		
North Slave Métis Alliance	Open to considering various predator management options suggested in the proposed management plan.	Careful analysis and deliberation will be required before support for any drastic predator control measures; a difficult management response to support, due to cultural values, ecological impacts, and economic effectiveness.	Sec 8.2, Recommendation #5-2016, Part A

Biological Monitoring			
Party	Recommendation	Rationale	WRRB Response
Tłıchǫ Government & Environment and Natural Resources	Biological monitoring of the Bathurst herd proposed for 2016-2019, including: calving ground photographic surveys every 3 years, annual calving ground reconnaissance surveys, fall composition surveys every 2-3 years, and annual late winter composition surveys.	Carried out since 2010; to build a continuing picture of the herd's population size and trend.	Part B
	Increased monitoring of the herd (e.g. annual fall composition surveys, annual composition surveys on the calving grounds, annual assessments of pregnancy rate from fecal collections on the late-winter range, assessments of wolf numbers on the winter range, and annual assessments of environmental indicators that may affect caribou condition and feeding conditions) will be considered if resources are available.	Improve monitoring and understanding of the Bathurst herd's status, distribution and ecology.	Part B
	Up to 50 satellite radio-collars would be maintained on the herd (30 on cows and 20 on bulls). Additional collars may be considered if resources are available.	Improves confidence in monitoring herd trend and many other herd attributes.	Part B
	Support research that increases understanding of drivers of change in caribou abundance and increased community-based monitoring by monitors from the Tłıchǫ communities.	To broaden our collective understanding and provide recommendations for management of cumulative effects of disturbance.	Part B
Yellowknives Dene First Nation			
North Slave Métis Alliance	Supports more and better monitoring programs to improve management responses.	Wise use of resources to answer some of the key outstanding monitoring questions, such as standardized behavioural monitoring protocols and zone of influence, to help recover the herd	Part B