

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

PART B



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LIST OF ACRONYMS

BGCTWG	Barren-ground Caribou Technical Working Group
CEAMM	Cumulative Effect Assessment, Monitoring and Management
CIMP	Cumulative Impacts Monitoring Program
ENR	Environment & Natural Resources
ESSA	ESSA Technologies Ltd.
GNWT	Government of the Northwest Territories
ILC	Inventory of Landscape Change
IR	Information Request
MVEIRB	Mackenzie Valley Environmental Impact Review Board
NSMA	North Slave Métis Alliance
NWT	Northwest Territories
PAS	Protected Areas Strategy
TAH	Total Allowable Harvest
TG	Tłıchǫ Government
TK	Tłıchǫ Knowledge
TLUP	Tłıchǫ Land Use Plan
WEMP	Wildlife Effects Monitoring Program
WRRB	Wek'èezhì Renewable Resources Board
WWHPP	Wildlife and Wildlife Habitat Protection Plan
YKDFN	Yellowknives Dene First Nation

LIST OF TŁIČHǪ TERMS

dè	land
dìga	wolf
ʔeʔa	law
ʔekwò	barren-ground caribou
Mòwhì Gogha Dè Nìttlèè	traditional area of the Tłıchǫ, described by Chief Monfwi during the signing of Treaty 11 in 1921
sahcho	grizzly bears
tataa	corridors between bodies of water used by ʔekwò herds to access feeding grounds along their migration route
tòdzì	boreal woodland caribou
Wek'èezhì	management area; within the boundaries of
Délìne Got'ìne	people of Délìne

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 *dìga* (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. The first report, Part A, dealt with the proposed harvest management actions that required regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed mobile *dìga*-hunter camp and the *dìga* feasibility assessment.

As the Bathurst ʔekwò herd situation is so dire, the Board feels that it would be irresponsible to address harvest management only as there is a real risk that the herd will be extirpated within a few short years. Therefore, this second report, Part B, will deal with self-regulation, additional predator management actions, biological and environmental monitoring, and cumulative effects.

The WRRB understands that in order for Tłıchǫ Citizens to fully take ownership of the Board's determinations and recommendations it is imperative that Tłıchǫ laws are implemented to continue the Tłıchǫ way of life and maintain their cultural and spiritual connection with ʔekwò. Therefore, the WRRB recommended consultations with Tłıchǫ communities to determine a path forward for implementation of Tłıchǫ laws.

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

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

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

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

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 Tł̨ch̨ 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. The scope of the joint management proposal is focused on short-term monitoring and management actions for the Bathurst ʔekwò herd with the recognition that a more comprehensive approach to research and monitoring is needed.

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

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 decided that prioritization and organization of its decisions and recommendations was necessary; therefore, the Board has prepared two separate reports to respond to the proposed management actions in the joint management proposal.

The first report, Part A, dealt with the proposed harvest management actions that required regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed mobile diga-hunter camp and the diga feasibility assessment.

While the joint management proposal was “*focused on relatively short-term monitoring and management actions for the Bathurst herd*”,² the WRRB believes that the current circumstances warrant a discussion immediately on long-term management and monitoring actions. As the Bathurst ʔekwò herd situation is so dire, the Board feels that it would be irresponsible to address harvest management only as there is a real risk that the herd will be extirpated within a few short years. Therefore, this second report, Part B, will deal with self-regulation, additional predator management actions, biological and environmental monitoring, and cumulative effects.

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’èezhìi (Figure 1) set out in the Tłı̨chǫ Agreement. The Board’s legal authorities came into effect at the time the Agreement was ratified by Parliament.³ The WRRB’s major authorities and responsibilities in relation to wildlife are set out in Chapter 12 of the Tłı̨chǫ Agreement.

² PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

³ Tłı̨chǫ *Land Claims and Self-Government Act*, S.C. 2005, c.1. Royal assent February 15, 2005. See s.12.1.2 of the Tłı̨chǫ Agreement.

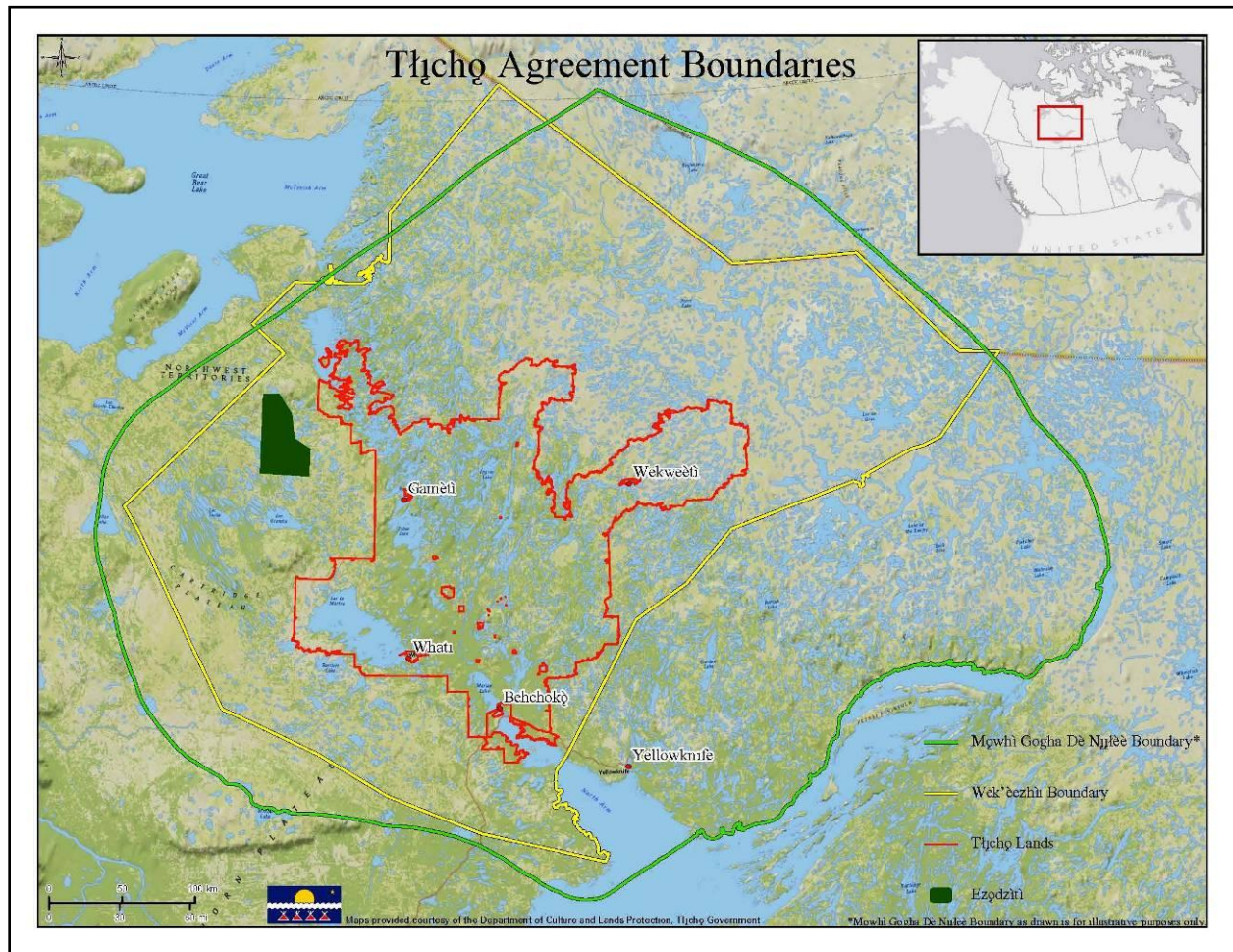


Figure 1: Wek'èezhì Management Area.⁴

As required by Sections 12.5.1 and 12.5.4 of the Tłı̨chǫ Agreement, any Party⁵ proposing a wildlife management action in Wek'èezhì must submit a management proposal to the WRRB for review. 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.

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 Tłı̨chǫ 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

⁴ Department of Culture & Lands Protection, Tłı̨chǫ Government. 2014.

⁵ As defined in the Tłı̨chǫ Agreement, “Parties” mean the Parties to the Agreement, namely the Tłı̨chǫ, as represented by the Tłı̨chǫ Government, the Government of the Northwest Territories and the Government of Canada.

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.⁶ The rights of Tłıchǵ citizens to use wildlife for sustenance, cultural and spiritual purposes are protected by the Tłıchǵ Agreement and the Constitution⁷, subject to the management framework set out in Chapter 12.

2.3.2 Rule for Management Proposals

Under Section 12.3.6, the WRRB has the authority to make rules respecting the procedure for making applications to the Board. 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 Tłıchǵ 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.

2.3.3 Implementation

As per Section 12.5.12 of the Tłıchǵ Agreement,

*“each Party shall, to the extent of its power under legislation or Tłıchǵ 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.”*

The WRRB has provided specific timelines for implementation in each of its **Recommendations #1B-2016** through to **#21B-2016**. The Board further requests that for each recommendation that the responsible Party reports back to the WRRB at the time of initiation, at quarterly intervals throughout the process, and during implementation.

3. SUMMARY OF CURRENT PROCEEDING

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

⁶ See Section.12.1.1 of the Tłıchǵ Agreement.

⁷ *Constitution Act*. 1982. Section 35.

proposed management actions for the Bathurst Ɂekwò herd in Wek'èezhì, including new restrictions on hunter harvest, predator management to reduce dìga 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 dìga-hunter camps. The WRRB considered the proposed restriction of harvest as the establishment of a TAH and, therefore, was required to hold a public hearing.

The Board initiated its 2016 Bathurst Caribou Herd Proceeding on January 18, 2016 and established an online public registry: <http://www.wrrb.ca/public-information/public-registry>. The proceeding and hearing were conducted in accordance with the WRRB's *Rules of Procedures, September 23, 2015*.⁸

Full intervenor status was granted to the Yellowknives Dene First Nation (YKDFN) and the North Slave Métis Alliance (NSMA) on February 1, 2016. The final list of registered Parties included TG, ENR, YKDFN and NSMA.

Two rounds of Information Requests (IRs) were issued to the registered Parties on January 18, 2016 and February 8, 2016, respectively. The IRs and responses are all available on the online 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 full written transcript of each day's session was produced and is available on the public registry.

The WRRB adjourned the hearing on February 24, 2016. Final written arguments were to be submitted by registered intervenors on March 15, 2016, and by TG and ENR on March 18, 2016. The public record was closed on March 18, 2016 and the WRRB's deliberations followed.

The WRRB responded to the proposed short-term harvest and dìga management actions as follows:

- Determination of a total allowable harvest of zero to be implemented for all users of the Bathurst Ɂekwò herd within Wek'èezhì for the 2016/17, 2017/18, 2018/19 harvest seasons.
- Recommendation that TG and ENR agree on an approach to harvest zoning and conduct aerial and ground-based surveillance throughout the fall and winter harvests seasons from 2016 to 2019 as monitoring of the Ɂekwò wildlife management units and Bathurst Ɂekwò harvest are intricately linked to the implementation of a TAH.

⁸ http://wrrb.ca/sites/default/files/WRRB%20Rules%20of%20Procedure%2023Sep2015_0.pdf

- Recommendation for the timely implementation of hunter education programs in all Tł̥chq̥ communities.
- Continued support for the Community-based Diga Harvesting Project as a training program, with recommendations related to implementation and assessment.
- Recommendation for the completion of a diga feasibility assessment, led by the Board and with input and support from TG and ENR. The feasibility assessment would primarily be an examination of all options for diga management, including costs, practicality and effectiveness.

Additional details of the harvest management actions can be found in the WRRB’s final report, entitled “*Report on a Public Hearing Held by the Wek’èzhù 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*”.

4. WRRB RECOMMENDATION ON SELF-REGULATION⁹

Adhering to Tł̥chq̥ laws that govern human behaviour with ʔekwò demonstrates respect for oneself, the *dè* (land) and ʔekwò.¹⁰ Dismissing the laws that govern human behaviour can lead to “*a decline in caribou population*”, and “*changes in caribou distribution*”.¹¹ In 2006, the Chief Executive Council, TG, requested funding from the West Kitikmeot Slave Study Society to document Tł̥chq̥ laws associated with ʔekwò.¹² This step was taken to encourage community members to follow Tł̥chq̥ rules associated with harvesting, using and sharing ʔekwò.¹³ The Tł̥chq̥ Regional Elders’ Committee “*stressed that when people ignore the [Tł̥chq̥] laws the caribou either migrate elsewhere or the caribou spirit chooses not to be re-born, causing a population decline.*” At the 2016 WRRB Public Hearing in Behchokò, Elder Joe Rabesca emphasized the importance of Tł̥chq̥ laws and rules when harvesting:

“[We] have to treat everything with respect or else it will be taken away from us [leave us]. ... Sometimes ... we [humans] talk a lot, but if we don't want to listen we don't pay attention. And then -- and when -- when it comes to wildlife we -- we use it for development, we use it for money, and we also abuse it in a lot of different ways. And the Elders way back had said that we [all humans] were abusing our animals in a lot of different ways. One is for -- was economic use. And then there's also different ways of abusing it. ... Elders predicted that this is the situation that we [all humans] will come to if we didn't treat the animals with respect.”¹⁴

⁹ In most law dictionaries, self-regulation and self-governance are synonymous. See Black’s Law Dictionary (10th edition); Daphne A Dukelow, *The dictionary of Canadian Law* 4th editions.

¹⁰ PR (BATH) – 21: Monitoring the Relationship between People and Caribou. 2008.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ PR (BATH) – 163: Transcript – April 6, 2016 (Day 1) Bluenose East Caribou Herd Public Hearing. pp. 117-118.

The Délı̨nę Got'ı̨nę agree with the Tłı̨chǫ rules when they expressed,

“It is more critical than ever to restore these traditional relationships based on respect and reciprocity now. Many ɁeɁa [Dene law] have a direct conservation impact (e.g. take only what you need, do not waste any parts of the caribou, when it's [Ɂekwǫ are] low give it a rest, etc.).”¹⁵

In 2007, TG held a workshop in Whatı̨ during which Tłı̨chǫ community members from all the communities made recommendations after Tłı̨chǫ lawyer, Mr. Salter, explained:

“Protecting the caribou is not the responsibility of the territorial government ... the responsibility of protecting the caribou is in this [Tłı̨chǫ] Agreement and the Tłı̨chǫ have the full responsibility to protect the caribou because that's in your constitution as well. The Government of the Northwest Territories can't, even in their assembly come up with laws that they want to put in place that they think will help the caribou unless the Tłı̨chǫ Government is in agreement with it, that's what this agreement says. Before they used to have to ask your opinion, what do you think? What would you like? Now it goes one step further, it's not just what your opinion is and what you like but it's what do you agree with. So ... now we want to hear what the Tłı̨chǫ have to say about it and what should be done about it and then your government, your chiefs will make it happen...”¹⁶

Recommendations made, by the Tłı̨chǫ public, during the workshop and comments made during the public hearings for both the Bathurst and Bluenose-East Ɂekwǫ herds indicate the Tłı̨chǫ people would prefer self-regulation by the TG to observe and protect the Ɂekwǫ and the Tłı̨chǫ way of life. As John B. Zoe explained,

“The caribou is our primary source of our language, culture and way of life.... It brings up a whole number of things for how we apply and exercise our language, culture – our culture and way of life. That is, like I said, very deep in the psyche in how the caribou – how we lived with the caribou in our area.”¹⁷

Tłı̨chǫ as well as other Dene understand the Ɂekwǫ need time to recover, but would rather have the process be overseen by their own government. Elder Phillip Dryneck stressed,

“I thought once we get our own self- government we would -- we would control what goes on in our -- in our district ... And now that we have a boundary under Wek'èezhı̨ everything seems to be restricted for us. It's like we -- we're -- we don't run our own policies. We don't implement our

¹⁵ PR (BNE) – 170: Undertaking #3 – Délı̨nę First Nation to WRRB – Bluenose-East Caribou Herd Public Hearing.

¹⁶ PR (BATH) – 106: Transcript – Tłı̨chǫ Government Caribou Workshop, Whatı̨, NT – Day 1. pp. 6-7.

¹⁷ PR (BATH) – 163: Transcript – April 6, 2016 (Day1) – Bluenose East Caribou Herd Public Hearing. pp. 134 & 140.

own policies. ... They [our ancestors] always -- always worked together. The best possible options that they had, that's what they -- they would use. Thank you.”¹⁸

Further to Elder Dryneck's comment, self-regulation for the Tłı̨chǫ includes the principle of bringing community members together to discuss issues while their Chiefs listen. The leaders give direction after listening to the elders' advice. Elder Romie Wetrade advised Tłı̨chǫ Citizens, at the 2007 workshop in Whatı̨, to take governance seriously when he said,

“Now we have everything at our disposal but we don't want non-aboriginal people to tell us how to live. We can't allow them to tell us what to do. We have to do what we think is right for us and this is why we are here to help and support each other.”¹⁹

Similarly, the Délı̨nę Conservation Plan shows how the community can acknowledge the responsibility of hunters, *“We are our own bosses, but we have to follow Dene ɁeɁa [law], while following the leaders”*.²⁰ As Walter Bayha explained,

“I was telling your Chief there, just over dinner, how our people dealt with people that didn't behave the way the community decided to behave. You know, they had huge gatherings, two, three, I remember that. ... We used to be small and they let us play around and there'd be a huge gathering with women, babies, children, they're all there. I can tell you right now when you're making the decision with all your family there you're going to make a good decision. And those people that don't behave have to answer to that group about why they don't behave the way the community decided to behave. Or why he didn't harvest the way he should be harvesting. Or why he didn't follow the [Dene] laws that I just mentioned. That is much harder than being charged and paying a fine.”²¹

Another aspect of self-regulation, discussed during the 2007 workshop in Whatı̨, was the proposed idea that Tłı̨chǫ communities patrol popular hunting areas and report wastage.²² While elders noted that communication between TG and the GNWT needed fixing to ensure wildlife management actions are not implemented without consultations, the elders also suggested that Tłı̨chǫ Citizens should work more closely with wildlife officers while out on the dè.²³ Both TG and Délı̨nę Got'ı̨nę agree self-regulation includes collaborating with the GNWT, *“Since we started our collaborative process with ENR we*

¹⁸ PR (BATH) – 164: Transcript – April 7, 2016 (Day 2) – Bluenose East Caribou Herd Public Hearing. pp. 196-197.

¹⁹ PR (BATH) – 107: Transcript – Tłı̨chǫ Government Caribou Workshop. Whatı̨, NT – Day 2. pp. 7-8.

²⁰ PR (BNE) – 170: Undertaking #3 – Délı̨nę First Nation to WRRB – Bluenose-East Caribou Herd Public Hearing.

²¹ PR (BATH) – 165: Transcript - April 8, 2016 (Day 3) – Bluenose-East Caribou herd Public Hearing. pp. 126-130.

²² PR (BATH) – 107: Transcript – Tłı̨chǫ Government Caribou Workshop. Whatı̨, NT – Day 2. p. 19.

²³ Ibid. pp. 19-20.

*know how important it is to work together, especially when you have a partner that has abilities beyond what we can do ourselves ... ”.*²⁴

During the WRRB’s Traditional Knowledge Technical Session in March 2016, participants agreed the bigger picture is important when thinking about self-regulation as there are a number of factors tied to the harvesting of ʔekwò, such as tags vs. rights to hunt and how regions plan community hunts.²⁵ But the Board cannot neglect the importance of drawing on TK when managing ʔekwò²⁶ – a social and spiritual animal whom Tłıchq live with.²⁷

Given Section 7.4.4 (a) of the Tłıchq Agreement, states the

“Tłıchq Government has the power to enact laws in relation to protection of spiritual and cultural beliefs and practices of Tłıchq Citizens and protection and promotion of the Tłıchq language and of the culture of the Tłıchq First Nation”,

and Section 7.4.2 of the Tłıchq Agreement states,

“The Tłıchq Government has the power to enact laws in relation to the use, management, administration and protection of Tłıchq lands and the renewable and non-renewable resources found thereon ... ”,

the WRRB encourages TG to implement laws and rules related to Tłıchq ʔekwò harvesting practices.

Recommendation #1B-2016: The WRRB recommends that TG consult with Tłıchq communities, by March 2017, to ensure Tłıchq laws are implemented with respect to ʔekwò harvesting practices to maintain the Tłıchq way of life and their relationship with ʔekwò.

5. WRRB RECOMMENDATIONS ON PREDATOR MANAGEMENT

5.1 Aboriginal Discussion

Dıga and sahcho are the two main predators noted as having impacts on the Bathurst ʔekwò herd.²⁸ John Nishi, TG, encapsulated the importance of maintaining a balance between knowledge and belief systems while highlighting the importance of TK,

²⁴ PR (BATH) – 165: Transcript April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 26-27.

²⁵ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016 – Bluenose-East Caribou Herd.

²⁶ PR (BATH) – 165: Transcript April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 26-27.

²⁷ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016 - Bluenose-East Caribou Herd and PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

²⁸ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

“It's really important to understand that the harvest closures have tremendous implications for Tł̓ch̓q̓ from their values, from their culture. And they do not lightly take the notion of predator management as something that needs to be done. Consider for a moment that top down management stopping of hunting is different than a bottom up perspective, suggesting that predator management be undertaken or predator reductions be undertaken. And even from a technical perspective I think we have to collectively open our hearts to understanding these values, even though you may not fully understand or agree with them. Once that happens, then the -- your mind -- or technical creative minds can follow with accepting an invitation from a co-management partner in collaborating on developing effective and respectful manners of implementation. ... And finally, with respect to wolf hunting and predator management, the Tł̓ch̓q̓ Government is embarking on a difficult path, but is doing so in a thoughtful and very serious manner to ensure the continued respectful relationship with caribou, the land, and with the wolves is maintained.”²⁹

Elder Joe Rabesca explained the difficulty associated with culling d̓iga in Wek'èezhii,

“I talk to a lot of Elders, and some are saying Joe, make people kill it [wolves]. Shoot it. But for some of us, we can't. That's what they're saying. There's reasons. ... But a lot of people know what the wolves are all about.”³⁰

Shin Shiga, NSMA, also noted the reluctance towards predator management by explaining,

“Predator management is a difficult management response for NSMA members to support because of its -- because of their cultural values, ecological impacts and economic effectiveness. NSMA also has not had sufficient time and resources to consult our members in depth on this issue”.³¹

During the 2016 Bathurst Caribou Herd Public Hearing, Elder Joseph Judas talked about how saho prey upon the herd at their calving grounds and the need for their own Tł̓ch̓q̓ stories and information,

“And I'm talking about the calving ground. I'm really concerned about the calving ground. ... And so in the – in the calving grounds area, all the grizzly bears, wolves, are predation that kill the calves.

²⁹ PR (BATH) – 153: Transcript-February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. pp. 110-111.

³⁰ PR (BATH) – 153: Transcript-February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p. 127.

³¹ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p. 61.

Sometimes the survival of the calves are – are very limited, and – and so – and so these are the stories that we're hearing. And so what is it that we can do? The people who are in there – maybe there's other people in other jurisdiction, in other areas. Maybe if other people in other jurisdiction are here with us, because the calving ground is happening in – in the – in their jurisdiction, maybe we have to ask them if we're going to help predation.

We may have to get grizzly bears, wolves in their area, and so we have to talk to that government. And it's like that on our side with our government, as well. And so if we're planning something, we need to plan something. We need to get people in place if we're going to do all this kind of work. ... And if we're harvesting [predators] annually, is it – will it show how well we know that we are helping the caribou? ”³²

John Nishi, TG, also highlighted the importance of TK in terms of managing sahcho populations:

“And I think that from Inuit knowledge and local knowledge of grizzly bears in – in that part of the range, then, that would – that would probably be another useful question to be considering in the feasibility assessment if it were to consider grizzly bears, is to try and rely on that local knowledge to establish a target for – for managing bears, which initially should be, I would think, within the kind of the current management up – regime in – in Nunavut, which has a annual allowable harvest of grizzly bears. ”³³

Elder Joe Rabesca expanded on the need for observations of predator behaviour to be recorded, from a Tłı̄chǫ perspective, so the stories can be shared and used when making decisions. He exemplifies this by describing the physical and behavioural differences between dı̄ga,

“But if you talk about the wolf, look at the map. It's a huge country. And the wolf/[wolves] are different. ... The wolf to the west, (Tłı̄chǫ spoken) ... means "further west." The wolves, they're bigger. And the wolf to the east that follows the caribou are a lot smaller. A lot smaller. The wolf on this side to the west are very aggressive, I know, because -- and they're dangerous too. There's a friend over there, Charlie (phonetic), that's where he lives. ”³⁴

Given the lack of Aboriginal evidence for both dı̄ga and sahcho provided at the public hearing and posted on the public registry, the WRRB is making two recommendations:

³² PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, pp. 116-17.

³³ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, p. 168.

³⁴ PR (BATH) – 155: Transcript – February 24, 2015 (Day 2) – Bathurst Caribou Herd Public Hearing, p. 60-61.

Recommendation #2B-2016: The WRRB recommends that TG conduct TK research to define, from the Tł̄chq̄ perspective, types of d̄iga, their behavior and their annual range, and their relationship with ʔekwò and people by March 2017.

Recommendation #3B-2016: The WRRB recommends that TG conduct TK research on sahcho predation on ʔekwò, and their relationship with ʔekwò, other wildlife and people by June 2017.

5.2 Scientific Discussion

While sahcho are effective predators of ʔekwò, especially on calving grounds, and there is TK about sahcho predation on ʔekwò outside calving grounds, TG and ENR are not currently considering sahcho management to benefit the Bathurst ʔekwò herd.³⁵ Additionally, any consideration of predator management on the Bathurst ʔekwò calving grounds would depend on the involvement of Nunavut management authorities and their processes for wildlife management.³⁶

The WRRB requested additional information about sahcho during both rounds of Information Requests (IR). Figure 2 shows that the sighting rate of sahcho is higher than d̄iga for the calving grounds.³⁷ It is suggested that sahcho predation on ʔekwò occurs primarily during the calving season, with relatively lower rates of predation during summer and fall.³⁸ Preliminary findings suggest that collared ʔekwò mortality is more common in the late summer or early fall, which may suggest predation by d̄iga.³⁹ Additional scientific information about sahcho on the Bathurst ʔekwò herd's seasonal ranges, including diet and movements, is available for analysis.⁴⁰

³⁵ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

³⁶ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, p. 107-108; and, PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

³⁷ PR (BATH) – 006: TG & ENR Information Request No.1 Responses. Bathurst Caribou Herd. Appendix A.

³⁸ PR (BATH) – 113: TG & ENR Information Request No.2 Responses. Bathurst Caribou Herd. Question #11.

³⁹ PR (BATH) – 006: TG & ENR Information Request No.1 Responses. Bathurst Caribou Herd. Question #13.

⁴⁰ PR (BATH) – 113: TG & ENR Information Request No.2 Responses. Bathurst Caribou Herd. Question #11.

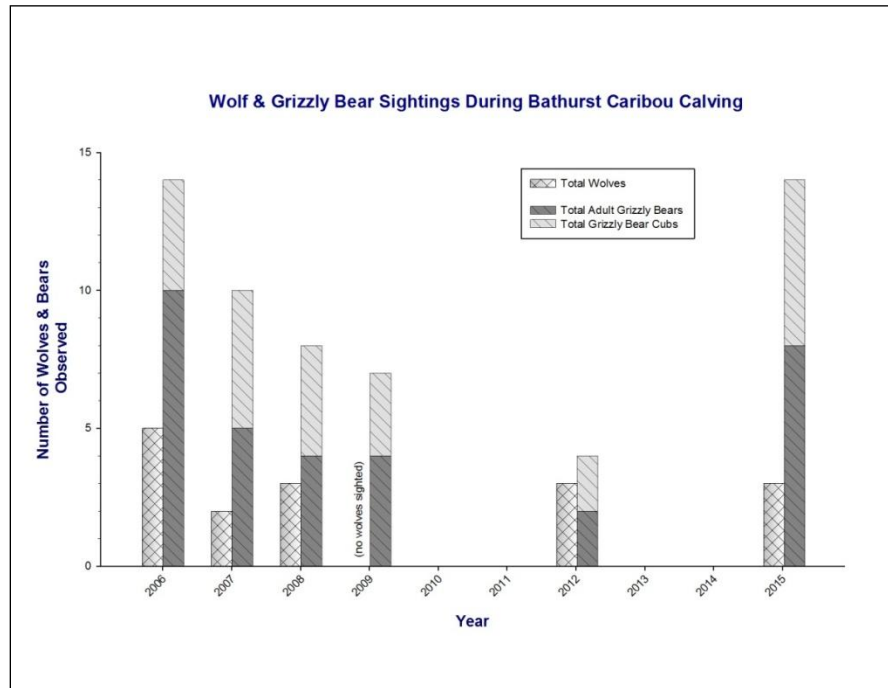


Figure 2: Wolf & Grizzly Bear Sightings during Bathurst Caribou Calving.⁴¹

YKDFN enquired about predator control programs for sahcho, and, in their subsequent response,⁴² ENR noted that sahcho management has occurred in Alaska. However, ENR further stressed that densities of sahcho are much higher in Alaska than in the NWT and Nunavut.⁴³ Additionally, TG suggested that targeting specific animals within the calving or post-calving range instead of a broad-scale sahcho reduction program may be a preferred approach.⁴⁴ Initial discussions with Nunavut regarding potential sahcho research and monitoring options to assess the significance of predation on the calving grounds suggest that communities may be open to discuss collaborative research and management.⁴⁵

Given the perilous state of the Bathurst ʔekwò herd and the uncertainty about the role of sahcho predation, the Board recommends:

Recommendation #4B-2016: The WRRB recommends that TG and ENR conduct a collaborative sahcho biological assessment, following the completion of the ongoing diga feasibility assessment. The assessment should include summarizing available information on sahcho abundance, movement and diet for the Bathurst ʔekwò herd’s seasonal ranges as well as including TK collected in Recommendation #3B-2016.

⁴¹ PR (BATH) – 006: TG & ENR Information Request No.1 Responses. Bathurst Caribou Herd. Appendix A.

⁴² PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, p. 163.

⁴³ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, pp. 166-167.

⁴⁴ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing, pp. 168.

⁴⁵ PR (BATH) – 113: TG & ENR Information Request No.2 Responses. Bathurst Caribou Herd. Question #11.

6. WRRB RECOMMENDATIONS ON BIOLOGICAL MONITORING OF THE BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU)

6.1 Collars and Aircraft Over-Flights

A number of concerns were raised about the impacts of collars and aerial flyovers on the calving grounds. Elder Moise Martin considered collars to impact on the fitness of ʔekwò when he said,

“There are hardly any fat caribou around now. Even their bone marrow has no more taste to it. A lot has changed. Could it be because of the wildlife management? It is because nobody does anything or says anything to those Wildlife, Economic Development, and Renewable Resource people. That’s the reason why they still put radio collars on the caribou and other animals. And they use a tranquillizer to put animals to sleep that spreads throughout the animal’s body, which does not make the meat tasty.”⁴⁶

While collars, airplanes and helicopters are part of the technical approach used to manage ʔekwò populations, a number of individuals expressed concerns over the effects that aerial flyovers have on ʔekwò herds. Elder Joseph Judas suggested that airplanes could cause disturbances for the ʔekwò, which may have resulted in the ʔekwò going somewhere else, resulting in lower herd size:

“[Now a-days] Hunting takes place so fast. Using airplanes, using fast mobile equipment to go hunting. That – and maybe that’s what can be the cause of disturbance for ʔekwò. We need to listen to each other. We need to believe one another. And that is why when you get lucky.”⁴⁷

In 2007, the Tłı̨chǝ Executive Council documented Tłı̨chǝ rules and laws associated with ʔekwò, one of which is, “Do not bother caribou [ʔekwò], do not collar or count them.”⁴⁸ Elders considered capturing caribou and forcing them to wear a collar as showing a lack of respect.⁴⁹ In addition, it was noted that human behaviors impact on the well-being of caribou, such as when “people choose to put collars on caribou”, and “the low flying planes stress the caribou”.⁵⁰ The Elders felt that collars cause discomfort, loss of appetite, poor sleeping patterns, and that ʔekwò might develop illness from the collars.⁵¹

As the herd has declined, it has become more difficult to survey a smaller calving ground. ENR’s solution is to suggest increasing the number of over-flights by flying the transects

⁴⁶ PR (BATH) – 21: Monitoring the Relationship between People and Caribou. 2008.

⁴⁷ PR (BATH) – 153: Transcript – February 23, 2016 (DAY 1) – Bathurst Caribou Herd Public Hearing. p. 120.

⁴⁸ PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

⁴⁹ Ibid.

⁵⁰ PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

⁵¹ PR (BATH) – 108: Transcript – Tłı̨chǝ Government Caribou Workshop. Whatı, NT – Day 2. p. 10.

closer together. John Boulanger, “a statistician who has worked on contract with Environment and Natural Resources [ENR] for many years”⁵² participated in the 2016 Bathurst Caribou Herd Public Hearing. Mr. Boulanger proposed narrowing the transect spacing used in the reconnaissance surveys, which would increase the number of over-flights on the calving ground. This represents a trade-off between increasing statistical precision at the cost of increasing calving caribou stress.

Increasing the number of over-flights raises concerns among the Tłı̨chǫ and their neighbouring communities about the stress aircrafts cause to Ɂekwǭ. Over the years, Aboriginal people have consistently linked low flying aircrafts to stressed Ɂekwǭ, declining Ɂekwǭ populations, and changing migratory patterns. One such statement was made by a harvester from Kugluktuk, NU,

*“I don’t like the planes flying low. It’s like no caribou are going to the shore because of too many flights. Mines are too close to Kugluktuk and there are too many planes. In the past there were not many planes and lots of caribou. Now there are lots of planes and less caribou.”*⁵³

Elder Joseph Judas echoed this by sharing his observations: *“a lot of exploration’s taking place within some areas that they are using choppers and all the noise that, you know, causes some barrier for, you know, caribou.”*⁵⁴ In speaking about the use of airplanes and other “fast mobile equipment”, he emphasized the importance of open dialogue and trust, saying, *“That – and maybe that’s [low flying aircraft and other fast machines] what can be the cause of disturbance for caribou. We need to listen to each other. We need to believe one another. And that is why when you get lucky.”*⁵⁵

As the Board is respectful of the concerns expressed by the Aboriginal harvesters who know Ɂekwǭ through experience and by observing their behaviour, the WRRB recommends:

Recommendation #5B-2016: The WRRB recommends that TG conduct TK research about stress and impacts on Ɂekwǭ and people related to collars and aircraft over-flights by September 2017, which should be considered in determining number of collars deployed in 2018 and beyond.

Recommendation #6B-2016: The WRRB recommends that ENR determine whether reconnaissance surveys should be conducted during non-photo survey years with renewable resource boards, Aboriginal governments and other affected organizations in the NWT and Nunavut prior to conducting the next reconnaissance survey in June 2017.

⁵² PR (BATH) – 153: Transcript – April 6, 2016 (DAY 1) – Bluenose-East Caribou Herd Public Hearing, p. 19.

⁵³ PR (BATH) – 050: We have been Living with the Caribou all our Lives: a report on information recorded during community meetings for ‘Taking Care of Caribou – the Cape Bathurst, Bluenose-West, and Bluenose-East Barren-ground Caribou Herds Management Plan’, p. 52.

⁵⁴ PR (BATH) – 163: Transcript – April 6, 2016 (DAY 1) – Bluenose-East Caribou Herd Public Hearing, p. 107.

⁵⁵ PR (BATH) – 153: Transcript – February 23, 2016 (DAY 1) – Bathurst Caribou Herd Public Hearing, p. 120.

6.2 Monitoring Indicators and Thresholds

6.2.1 Aboriginal Evidence

During the 2007 Tłıchǫ Government Caribou Workshop, one of the break-out groups discussed how the

“zekwò monitoring program has to stay because eventually the Tłıchǫ government will take over the care of wildlife in the region. The information compiled now will become useful to the Tłıchǫ people when they take over the management of wildlife in the future.”⁵⁶

Since the Bathurst zekwò herd migrates over multiple jurisdictions, participants at the workshop pointed out that TG should also share data with other co-management parties:

“Nunavut has its own monitoring program for Bathurst zekwò when the herd migrates north to have their calves, the Nunavut government counts the zekwò and sends the information to the Wek’èezhù [Renewable Resources] Board and to the territorial government. We want to continue sharing information with other organizations but we would like the Tłıchǫ Government to run the zekwò monitoring program [in our region]. Nunavut monitors and takes care of the herd once the zekwò arrive in the Arctic and the Tłıchǫ want to do the same when the herd is in the Tłıchǫ country”.⁵⁷

Also at the 2007 workshop, Tłıchǫ participants were interested in receiving information collected on Tłıchǫ harvest during their annual hunt and recommended that *“a report should be released to the Tłıchǫ Government on how many zekwò are killed during the Tłıchǫ annual fall hunt.”⁵⁸* This was echoed at the 2016 Bathurst Caribou Herd Public Hearing by Elder Joseph Judas, who highlighted how the harvest data is important to plan for the future:

“How – how are we going to – we – we need to know also the numbers that we’re harvesting. Sometimes if we see something with our own eyes and we can say that it’s evidence that – that – and some things that we see with our own eyes, if it’s happening, if it’s being implemented, maybe by implementing some programs like this will help the zekwò increase over time. And so – and so how – how can we – how can we plan?”⁵⁹

⁵⁶ PR (BATH) – 108: Transcript – Tłıchǫ Government Caribou Workshop, Whatı, NT – Day 3, p. 6.

⁵⁷ PR (BATH) – 108: Transcript – Tłıchǫ Government Caribou Workshop, Whatı, NT – Day 3, p. 7.

⁵⁸ PR (BATH) – 107: Transcript – Tłıchǫ Government Caribou Workshop, Whatı, NT – Day 2, p. 15.

⁵⁹ PR (BATH) – 153: Transcript – February 23, 2016 (DAY 1) – Bathurst Caribou Herd Public Hearing, p. 117.

Thresholds and indicators for biological monitoring often differ between scientists and Aboriginal harvesters. Scientific knowledge and understanding is based on data collection and statistical analysis; Aboriginal knowledge and understanding is based on experience and observation with analysis being done while discussing and talking with others who have observed and experienced events and activities. Documentation on the public registry shows monitoring indicators relating to ʔekwò fitness, which often resonates with traditional laws.⁶⁰ Elder Joseph Judas linked the lack of fat on the ʔekwò today to changes in the environment that are causing the animal to be stressed:

“And the ʔekwò, the Bathurst that – that come our area, it didn't look the same as a Bathurst. The fat – the fat on the ʔekwò looked different. And so the Bathurst ʔekwò, wherever they travelled in their traditional migration area, was exactly where all the mine industry is existing now. And so maybe there's some contaminants that – that could be stressing the ʔekwò. It could be some areas that the ʔekwò could be stressed.”⁶¹

While on the dè, Elder Judas is more specific about how taste is an indication that the animal is stressed, when he said:

“In those times when we were here (at Bezaiti), then the bone marrow was good to eat with the dry meat. The bone marrow at times were ever big, huge inside and kind of greasy. Because the [ʔekwò] were on their own and they can travel wherever they want and stop to eat, they are not worried about anything.

But today the bone marrow is different, because everything is there and they always rush around, always walk all the time. The bone marrow is not the way it tasted. It's kind of not greasy. It's kind of red. Because of the running and walking all the time. By chasing them all the time.”⁶²

Similarly, Elder Jimmy Kodzin, like many other TK holders, also uses taste and consistence of ʔekwò meat as an indicator of well-being and fitness:

“Fifty years ago when we went hunting and cut the meat, there was nothing wrong with it. Juicy and delicious when we cooked it. Now it's not the same at all. It's not fresh and juicy. It's different than before.”⁶³

A harvester from Łutsel K'e Dene First Nation spoke about how apparent the changes are and how one can see the changes both on the outside and insides of the animals:

⁶⁰ PR (BATH) – 021: Monitoring the Relationship between People and Caribou. 2008.

⁶¹ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing, p. 76.

⁶² PR (BATH) – 050: Ekwò zò gha dzò nats'èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou, p. 41.

⁶³ PR (BATH) – 050: Ekwò zò gha dzò nats'èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou, p. 19.

“When we first got to MacKay Lake the ʔekwò herd didn’t look too healthy and [the ʔekwò were] very skinny. When we harvested some ʔekwò, started cutting up the ʔekwò – it was every skinny. Usually you see fat around the kidney there wasn’t any, the fur condition wasn’t what I expected – they were different and in poor shape, male, female, and calf.”⁶⁴

Traditional knowledge holders are often concerned that thresholds and indicators used for monitoring are not based on the full picture. For example, one harvester emphasized that what people see out on the dè may be different than an indicator once the harvested animal arrives in the community,

“The people at home might only see the good stuff. Hunters may see unhealthy animals with injuries or pus, but they probably don’t bring it home. That’s why it’s important to get both perspectives – do the interviews out on the land with the hunters, and also interview the women at home who fix the meat and hides.”⁶⁵

6.2.2 Scientific Evidence

The WRRB considers monitoring to be the collection of information to support adaptive management. Results of monitoring can be used to identify whether management actions and mitigations need to be changed to meet specific objectives. The core biological monitoring actions conducted on the Bathurst ʔekwò herd, unchanged from the 2010 Joint Management Proposal,⁶⁶ include adult survival; harvest; sex-ratio; calf-cow ratios; annual numbers of caribou on the calving ground; estimated number of breeding females; cow productivity; and, seasonal distribution.⁶⁷ Additional indicators are for environmental monitoring and wolf harvest.

Established in 2011, the Barren-ground Caribou Technical Working Group (BGCTWG), which reviews annual biological monitoring information, is composed of representatives from TG, ENR and the WRRB.⁶⁸ While the WRRB, in general, is satisfied with the core biological monitoring conducted on the Bathurst ʔekwò herd and the work carried out by the BGCTWG, the Board is concerned about the monitoring in the context of adaptive management and about the timely availability of monitoring information. The Board is

⁶⁴ PR (BNE) – 127: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase Three, pp. 47-48.

⁶⁵ PR (BNE) – 126: Ni hat’ni – Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Lutsel K’e Denésq̄liné, pp. 55-56.

⁶⁶ 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.

⁶⁷ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

⁶⁸ PR (BATH) – 134: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek’èezhì – Implementation Plan, 17Jun2011.

aware of ENR and TG's limitations for funding and personnel, and notes that ENR identified difficulties in having sufficient time to provide monitoring information.⁶⁹

On March 17, 2016, the WRRB held a scientific technical session for the Bluenose-East ʔekwò herd to discuss outstanding concerns post-IRs No.1 and 2.⁷⁰ The meeting's summary is relevant for the Bathurst ʔekwò herd as the monitoring indicators are similar for both herds. Participants identified that monitoring indicators are not independent of each other, e.g. pregnancy rates and cow survival influence the ratios of calves to cows, and that a hierarchical approach to monitoring would be useful.⁷¹

Exchanges between ENR, TG and the Board's technical expert during the 2016 Bathurst Caribou Herd Public Hearing suggest that adaptive management thresholds still need to be developed, including adult survival and changes in caribou numbers recorded during reconnaissance surveys on the annual calving grounds.⁷² While ENR argued that specific thresholds were premature and that it was more useful to diagnose causes of the decline,⁷³ the WRRB agrees with TG that thresholds are needed to determine and evaluate management actions.⁷⁴

The WRRB is sensitive to the concerns expressed during the 2016 Bathurst Caribou Herd Public Hearing (see above section 6.1) about monitoring, specifically the use of over-flights and collars. The Board recognizes that there are different views on indicators and how to collect sufficient information to make decisions for the Bathurst ʔekwò herd. Therefore, the WRRB would like to see the BGCTWG outline the trade-off between concerns about effects on ʔekwò and the collection of statistically credible information for both the number of collars and over-flights on the calving grounds. The Board believes that BGCTWG could provide this information while prioritizing monitoring indicators and thresholds for management actions.

While TG and ENR acknowledged the need to meet annually to discuss monitoring results,⁷⁵ the WRRB would like to be assured of a strong approach to adaptive management to ensure timely and efficient responses to changes in the Bathurst ʔekwò herd. One such approach that may be useful for Bathurst ʔekwò herd monitoring and adaptive management is the Conservation Measures Partnership's Open Standards for the Practice of Conservation.⁷⁶ The Open Standards approach was developed in 2002 and is an internationally and well-practiced tool for collaborative adaptive management.

⁶⁹ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 9 & 22.

⁷⁰ PR (BNE) – 108: Summary of Science Technical Session, March 17, 2016 – Bluenose-East Caribou.

⁷¹ Ibid.

⁷² PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 12-21.

⁷³ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #2.

⁷⁴ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 14-16.

⁷⁵ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #2.

⁷⁶ PR (BNE) – 130: Open Standards for the Practice of Conservation, Version 3.0/April 2003.

6.2.3 Conclusion

The strength of the Open Standards approach lies on the emphasis of collaboration, transparency and sharing data to determine appropriate management. Given the plight of the Bathurst ʔekwò herd, the WRRB is very interested in increasing the level of collaboration to ensure success of adaptive management. The Board believes that strengthening communication among the members of the BGCTWG will increase collaboration and, through working together, will advance adaptive management. Given the importance of communications in adaptive co-management process, the WRRB recommends:

Recommendation #7B-2016: The WRRB recommends that TG and ENR provide a summary of scientific and TK monitoring data, including harvest and collar mortalities, as soon as available each year, to the BGCTWG.

Recommendation #8B-2016: The WRRB recommends that the BGCTWG prioritize biological monitoring indicators in order of need for effective management and develop thresholds under which management actions can be taken and evaluated. Implementation of this recommendation should be completed by no later than the end of March 2017.

7. WRRB RECOMMENDATIONS ON ENVIRONMENTAL MONITORING ON THE BATHURST ʔEKWÒ (BARREN-GROUND CARIBOU) RANGE

7.1 Cumulative Effects

Cumulative effects can be defined as

“...changes to the biophysical, social, economic and cultural environments resulting from the combined effect of past, present and future anthropogenic activities and natural events.”⁷⁷

Related to cumulative effects is the “precautionary principle” which can be defined as:

“...where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁷⁸

There is a shared interest in a comprehensive approach to managing cumulative effects in the NWT. However, strategies listed in the NWT Barren-ground Caribou Management Strategy 2011-15 related to assessing and mitigating cumulative impacts of land use

⁷⁷ PR (BATH – 094: Tłıchq Wenek’e – Tłıchq Land Use Plan.

⁷⁸ Canadian Environmental Protection Act CEPA 1999; <http://laws-lois.justice.gc.ca/eng/acts/c-15.31/>.

activities and natural factors on ʔekwò habitat are categorized as “ongoing”.⁷⁹ There is also recognition that research and monitoring have been conducted largely on an ad hoc basis, with agencies concentrating on their own processes and priorities, and the integration of local-scale monitoring with regional effects assessment is still being discussed and developed.⁸⁰

Ongoing discussions related to monitoring and managing cumulative effects show how components are interrelated, and how initiatives may be arranged and coordinated. For example, developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province⁸¹ has resulted in a draft framework for cumulative effects assessment and management of the Bathurst ʔekwò herd. This framework proposes how project-specific and landscape/species-specific scales and components are related and are a part of an adaptive management cycle.⁸² An evaluation of cumulative effects tools conducted by ESSA Technologies Ltd. (ESSA) on behalf of the GNWT⁸³ led to a conceptual model of barren-ground caribou dynamics describing how interrelated factors may impact ʔekwò, and how these factors could be considered in a modeling and management context.

ENR has recognized the community concerns about cumulative effects and landscape changes across the range of the Bathurst ʔekwò herd. In 2014, a collaborative range planning process was initiated, which includes computer modelling to integrate ʔekwò behavior and energy costs relative to the foot print of current and proposed mines.⁸⁴

In the 2011 Revised Joint Proposal on Caribou Management Actions in Wek’èezhì – Implementation Plan, under “Development, Habitat and Management Planning for Caribou Herds”, TG and ENR recognized comments from community members emphasizing the need to consider all factors that affect ʔekwò herds, including cumulative effects, fire on the winter range, and climate change.⁸⁵ The Board also recognized that the 2010 revised joint management proposal primarily focused on short term-management of ʔekwò deaths. The 2015 joint management proposal continued the focus on short-term actions.⁸⁶ However, both TG and ENR recognize that a more comprehensive approach to research and monitoring is needed, especially research into

⁷⁹ PR (BATH) – 097: Caribou Forever – Our Heritage, Our Responsibility. A Barren-ground Caribou Management Strategy for the Northwest Territories.

⁸⁰ PR (BATH) – 078: Discussion Paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province.

⁸¹ Ibid.

⁸² PR (BATH) – 047: Insights into integrating cumulative effects and collaborative comanagement for migratory tundra caribou herds in the Northwest Territories, Canada.

⁸³ PR (BATH) – 076: Evaluation of Tools Available for Cumulative Effects Assessment for the Northwest Territories – Literature Reviews: Models and Management.

⁸⁴ PR (BATH) – 152: ENR to WRRB – Bathurst Caribou Public Hearing Presentation.

⁸⁵ PR (BATH) – 134: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek’èezhì – Implementation Plan, 17 Jun 2011.

⁸⁶ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

ᚖekwò environment and habitat. TG called for assistance from the WRRB on longer-term monitoring of the impacts that development and habitat loss have on herd decline.⁸⁷

The WRRB's 2010 Recommendations #47-51, and 55 focused on calving ground protection in Nunavut (47), industry best practices for ᚖekwò calving and post-calving ranges (48), a land use plan for Wek'èezhìi (49), monitoring landscape changes (fire and development) (50), forest fire management in areas of important ᚖekwò habitat, and long-term management planning for ᚖekwò herds (55).⁸⁸ As of submission of this 2016 report, calving ground protection (47, 48) is under discussion as part of the draft Nunavut Land Use Plan.⁸⁹ A land use plan for Wek'èezhìi (49) does not yet exist, though the Board is aware that, in coordination with TG, the GNWT's Department of Lands is exploring the possibility of moving forward with a land use plan for Wek'èezhìi.⁹⁰ ENR Forest Management Division keeps a database of fires (50, 51) and carries out research on fire ecology, including burn intensity.⁹¹

The WRRB notes that management of ᚖekwò herds is inherently linked to, influenced and guided by, comprehensive land claim agreements, regional land use plans, herd specific caribou management plans, and strategies which protect important components of landscapes. A short description of the various planning initiatives follows.

7.1.2.1 Plans

7.1.2.1 a) Land Use Plans

The NWT Department of Lands states that

*“... land use plans define where certain activities can take place and determine the effect of human impacts on the landscape. They are also used to assign special areas of spiritual, ecological or cultural importance for protection, and areas designated for development. In addition, land use plans are used to establish regional zones and broad criteria to help evaluate and screen project proposals as part of regulatory permitting processes”.*⁹²

⁸⁷ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #23.

⁸⁸ 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.

⁸⁹ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 37 & 117; and, <http://www.nunavut.ca/en/draft-plan>.

⁹⁰ <http://www.lands.gov.nt.ca/en/wek%E2%80%99%C3%A8ezh%C3%ACi-management-area>.

⁹¹ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #22.

⁹² <http://www.lands.gov.nt.ca/en/land-use-planning>

7.1.2.1 b) *Tłchq Wenek'e – Tłchq Land Use Plan*

The 2013 Tłchq Land Use Plan (TLUP) is a guide for future developments by outlining how Tłchq Dè will be protected, and how activities and development on Tłchq Dè should occur.⁹³ Under Chapter 5 of the TLUP, there are five Tłchq Land Protection Zones, with each zone setting out what land uses may be considered. In addition, under Chapter 6, there are Land Protection Directives, including Directive 6.2A which calls for the development of a strategy of permitting and managing land uses within seasonal ʔekwò ranges, and Directive 6.3A which calls for TG to seek opportunities to work in partnership to develop a cumulative effects monitoring, assessment and management framework for valued ecosystem components.

The TLUP zones and directives are viewed as the mechanisms that can be used to ensure development on Tłchq Dè does not adversely affect ʔekwò.⁹⁴ However, during the 2016 Bathurst Caribou Herd Public Hearing, it was clarified that, though the TLUP has been completed, implementation of different components of the TLUP, including the caribou strategy, has not occurred.⁹⁵ The Board believes that implementation of aspects of the TLUP can benefit from concurrent processes, such as the Bathurst Range Plan, of which the TG currently has input.⁹⁶

Recommendation #9B-2016: The WRRB recommends that TG refine and implement Tłchq Land Use Plan Directives, under Chapter 6 related to ʔekwò, land use and cumulative effects by March 2018.

7.1.2.1 c) *Wek'èezhì Land Use Plan*

Section 22.5.1 of the Tłchq Agreement states that

“government may establish a mechanism for the preparation, approval and implementation of a Land Use Plan that applies to all parts of Wek'èezhì, other than Tłchq lands, national parks and lands in a community.”

The WRRB's 2010 Recommendation #49 was specific to the development of a land use plan for Wek'èezhì.⁹⁷ However, TG rejected the WRRB's recommendation, clarifying that it is not responsible to establish a mechanism for the preparation, approval and implementation of a land use plan in Wek'èezhì, and that pursuant to Section 22.5.3 of

⁹³ PR (BATH) – 094: Tłchq Wenek'e – Tłchq Land Use Plan.

⁹⁴ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #15.

⁹⁵ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 94-95.

⁹⁶ Ibid. p. 98.

⁹⁷ 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.

the Tłı̨chǫ Agreement, the parties will determine how to move forward in the development of a land use plan for Wek'èezhìi once the TLUP is complete.⁹⁸

Recommendation #10B-2016: The WRRB recommends that TG and ENR initiate, develop and implement a land use plan for Wek'èezhìi by March 2019.

7.1.2.1 d) Bathurst Caribou Range Plan

During the 2016 Bathurst Caribou Herd Proceeding, there were questions specific to the status of the Bathurst Caribou Range Plan as the Board is concerned that the Plan will not be completed until 2018.⁹⁹ Comments by the Mackenzie Valley Environmental Impact Review Board (MVEIRB) as part of their Report of Environmental Assessment and Reasons for Decision for Dominion Diamond Ekati Corporation Jay Project (Jay Project) indicate that the WRRB's concerns are shared:

“Wildlife management plans are designed to a large extent to manage human activities, which are likely contributors to the decline of the herd. At present, the Bathurst caribou population continues to decline rapidly without any management actions from the territorial government apart from harvest restrictions. Despite the urgency of the caribou herd's status, the territorial government does not, in the Review Board's view, plan to complete a management plan soon enough. There is no evidence the GNWT is developing a herd recovery strategy. This deeply concerns the Review Board (emphasis added).”¹⁰⁰

The MVEIRB recognized that GNWT initiated separate planning processes for the Bathurst Caribou Range Plan and a cumulative effects framework for ʔekwò, and further observed that the Review Board's proposed measures to assist in mitigating significant adverse impacts to caribou could be partially met by requiring the existing Bathurst Caribou Range Plan Working Group and the Cumulative Effects Assessment Monitoring and Management (CEAMM) Framework to make interim recommendations for the GNWT to implement within one year.¹⁰¹

In their response to how the range plan will be implemented, TG and ENR clarified that, unlike the land use planning process, there is no single implementation tool for the

⁹⁸ PR (BATH) – 134: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhìi – Implementation Plan, 17 Jun 2011.

⁹⁹ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 134 and PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #14.

¹⁰⁰ PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. p. 135.

¹⁰¹ PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. p. 135-136.

Bathurst Caribou Range Plan, though there are many implementation opportunities through the use of existing legislation, policy and regulatory processes.¹⁰²

TG and ENR also mention that the TLUP identified the need “to work in partnership to develop a cumulative effects monitoring, assessment and management framework for valued ecosystem components” under Land Protection Directive 6.3, which also stipulates the need to “focus on the relationship between caribou and land use activities with focus on range utilization in response to surface disturbance”.¹⁰³ TG and ENR believe the Bathurst Caribou Range Plan partially addresses these areas and its guidance could be incorporated into future revisions of the TLUP.¹⁰⁴

Recommendation #11B-2016: The WRRB recommends ENR complete the Bathurst Caribou Range Plan, with an implementation strategy, by March 2018. In the interim, the Board recommends that ENR develop interim thresholds for developments and other human activities within the range of the Bathurst ʔekwò herd by March 2017.

7.1.2.1 e) Bathurst Caribou Herd Management – Comprehensive Proposal under Section 12.11.2 of the Tłıchǝ Agreement

The WRRB is concerned about the slow progress on longer term management planning for the Bathurst ʔekwò herd. The Board’s 2010 Recommendation #55 stated that ENR and TG work collaboratively with the WRRB on long-term plans for the Bathurst ʔekwò herd, as per Section 12.11.2 of the Tłıchǝ Agreement, with a completion date in late 2012.¹⁰⁵ In their Reasons for Decision, the MVEIRB noted that the GNWT was required by Section 12.11.2 of the Tłıchǝ Agreement to prepare a comprehensive proposal for the management of the Bathurst ʔekwò herd within three years of the effective date, further commenting that “there is no evidence before the Review Board that this legal obligation has been satisfied”.¹⁰⁶

The TG and ENR noted that, to date, “Organizational meetings to define this long-term process began in 2012 and work continues to develop a comprehensive approach to managing the Bathurst herd”.¹⁰⁷ In response to WRRB questions on what efforts have been made to comply with the obligations of the Agreement, TG and ENR clarified that Section 12.11.2 states,

¹⁰² PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #14.

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ 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.

¹⁰⁶ PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. p. 136.

¹⁰⁷ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

“Within three years after the effective date or another date agreed to by the Parties, the Parties shall, separately or jointly, to the extent of their powers, prepare a comprehensive proposal for the management of the Bathurst caribou herd” (emphasis added by ENR and TG).¹⁰⁸

Further, TG and ENR provided explanations as to why an interim proposal had not been provided, and why the process has been delayed.

TG and ENR also clarified that the requirement for a comprehensive proposal for the management of the Bathurst ʔekwò herd under Section 12.11.2 is an independent process from the Bathurst Caribou Range Plan, and that *“the Range Plan has not delayed or detracted from development of the comprehensive Bathurst management.”¹⁰⁹* They further clarified that the timeline for the development of the Bathurst Caribou Range Plan is independent of the comprehensive proposal required under Section 12.11.2, and that the Plan may be close to completion and available for use by the Advisory Committee established under Section 12.11.1 as it begins operations.¹¹⁰

The WRRB recognizes the work that has gone into the range planning process, and that there is broader application of components and concepts to other cumulative effects and ʔekwò-related concerns. However, though there are positive aspects to the ongoing Range Planning process, the Bathurst Caribou Range Plan is not complete and expected completion is not until 2018. The MVEIRB commented that initiatives that will not be completed for three years do not constitute a *“timely response”*. Under Measure 6-6, timely completion of caribou management plans, the MVEIRB suggested that the *“GNWT should work towards producing interim thresholds for developments and other human activities within the range of the Bathurst caribou herd”*.¹¹¹

The WRRB agrees with the MVEIRB that actions are not being taken in a timely manner, and is frustrated that management actions are primarily focused on harvest management instead of including other possible options, such as the use of conservation areas and offsets. Delays in concurrent initiatives, such as the comprehensive proposal under s.12.11.2 of the Tłchq Agreement and implementation of Directives in the TLUP, add to the WRRB’s concerns.

Recommendation #12B-2016: The WRRB recommends that TG and ENR complete and implement a long-term Bathurst Caribou Management Plan, with associate Action Plan, by March 2018.

¹⁰⁸ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #13.

¹⁰⁹ Ibid. Question #14.

¹¹⁰ Ibid.

¹¹¹ PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. pp.136-137.

7.1.2.2 Tools

7.1.2.2 a) Conservation Areas

The *Wildlife (NWT) Act*, under Part 6 – Conservation and Management Measures, has provisions for the establishment of conservation areas.¹¹² The Board understands that the use of conservation areas is not related to land use planning, as the provisions for establishing conservation areas falls under the *Wildlife (NWT) Act*, and decisions on establishment of conservation areas require a decision by Cabinet.¹¹³

Though the conservation areas approach has not yet been utilized, the establishment of conservation areas is an option for protecting ʔekwò habitat in addition to land use planning-related possibilities. To illustrate, ʔekwò water crossings are recognized as being important.¹¹⁴ A conservation areas approach offers a possibility for protection of water crossings outside of a protected areas approach, though the WRRB understands that specifics regarding the circumstances and the regulations required to establish conservation areas have not been finalized. While ENR clarified that water crossings are being considered under the Bathurst Caribou Range Plan, and are also considered under Environmental Assessments when looking at the potential impacts of development, they further clarified that, at this time, ENR is not prepared to support a conservation areas designation around crossings.¹¹⁵

Recommendation #13B-2016: The WRRB recommends TG and ENR develop criteria under which the Conservation Area approach in the NWT's *Wildlife Act* will be used to protect key ʔekwò habitat by March 2018.

In the mid-1990s, the Tłı̨chǫ Regional Elders' Committee directed their community researchers to document ʔekwò water crossing within Mǫwhi Gogha Dè Nı̨łtłèè as well as where ʔekwò fences were placed¹¹⁶ as they were known to be significant locales along migration routes where the harvesters expected the ʔekwò to travel.¹¹⁷ As is evident on the map documenting the water crossing, at least three water crossings were located in the region developed by Diavik and BHP Billiton Mines.¹¹⁸

Since the documentation of these water crossings, there have been many statements made concerning development in important areas and along routes that ʔekwò use. Take for example, in 1997, Elder Eddie Lafferty said,

¹¹² <http://www.enr.gov.nt.ca/programs/wildlife/new-wildlife-act>.

¹¹³ PR (BATH) – 164: Bluenose-East Caribou Herd Public Hearing Transcript – Day 2 (April 7, 2016). pp. 175-176.

¹¹⁴ PR (BATH) – 005: *Ekwò zò gha dzò nats 'édè - "We Live Here For Caribou": Cumulative Impacts Study on Bathurst Caribou*.

¹¹⁵ PR (BATH) – 155: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 41-42.

¹¹⁶ PR (BATH) – 068: Caribou Migration and the State of their habitat – Final Report, March 2001.

¹¹⁷ Ibid.

¹¹⁸ PR (BATH) – 068: Caribou Migration and the State of their habitat – Final report, March 2001.

*“Louie Whane’s father used to tell a story. ... Louie’s father used to canoe to Kok’eghotì with birch bark canoe. And to ʔek’atì (Lac de Gras) where there is a mine today around that area there used to be lots of ʔekwò (barrenland caribou), [and water crossings]. ... [And] there’s a place called Kwek’aghotì (southern end of Point Lake] and that’s where there is a lot of ʔekwò, that’s where the water crossing is”.*¹¹⁹

Tł̥chq̣ elders have emphasized that ʔekwò know their dè and their trails; once the ʔekwò leaders see that their trails are obstructed by human activities, they choose to travel other trails, towards better quality feeding grounds.¹²⁰ As stated by Elder Joseph Judas,

*“The caribou go around all those mines. They don’t go through there by that mine, because if there were no mine that’s where it goes through, right there before. Now it’s a mine and all the buildings and all the noise and all the explosions happening and also all these [poor quality] food that they eat. The caribou can’t use it no more, so they got to move somewhere. They got to move somewhere else.”*¹²¹

Tataa are corridors between bodies of water used by ʔekwò herds to access feeding grounds along their migration route.¹²² The “wall” created by mining activities separates the ʔekwò from their tataa, with the consequence being a division of the ʔekwò herd, resulting in less ʔekwò migrating towards Tł̥chq̣ communities.¹²³ Figure 5 shows the Bathurst ʔekwò herd migration prior to and after development of mines.

¹¹⁹ Ibid.

¹²⁰ PR (BATH) – 005: Ekwò zò gha dzò nats’èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou. 2016. p.35.

¹²¹ Ibid. p.36.

¹²² Ibid.

¹²³ Ibid.

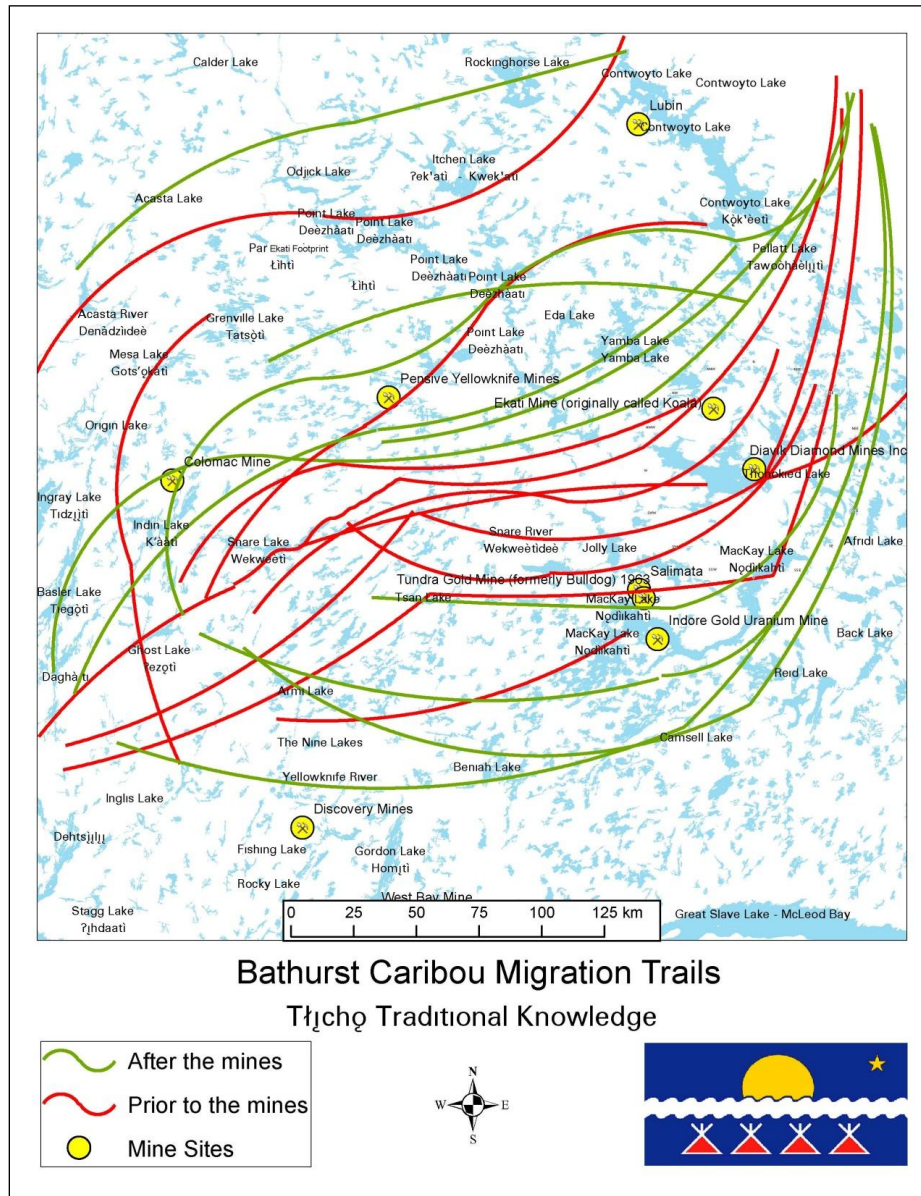


Figure 3: Bathurst ʔekwò (Barren-ground Caribou) Migration Trails.¹²⁴

Over the last 20 years, harvesters have observed changes in ʔekwò behaviour. Most recently Elders Joseph Judas said,

“Ever since the caribou migration stopped coming to this area [ʔek’atı] caribou no longer swim across from Nàgotsaà to the water flow which goes into Bezaitì (Winter Lake). So now the caribou come from over there

¹²⁴ PR (BATH) – 005: Ekwò zò gha dzò nats’èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

*to Weyburn Lake going north and they retrace their trails this way. The migration seems to be going further north so the caribou do not come close to us anymore. Because there are so many mines, the caribou are frightened so they don't eat. They don't like their feeding areas because of the dust from explosions".*¹²⁵

In 2011, Elder Francis Simpson expressed similar concerns with more dismay,

*"Ever since the mine was built, seems like they are forced and chased away. And the places where they lived are different, it changes with them. They don't seem to stay longer or something seems to chase them away. When your trail is not healthy and you don't feel comfortable with it then you don't stay in one place, but right away you keep moving on, that's how it seems to be with the caribou. Because their traditional path is not good, it's blocked up so the caribou don't stay that long. Because of the mining. When you travel somewhere and your ski-doo trail is nice and clear, but as soon as you know that something is bothering you on your trail, like mining, you don't feel comfortable with it and you turn away".*¹²⁶

John Nishi, TG, reflected on a comment made by Elder Joseph Judas, who said *"adult caribou survive, and where they travel to, and how they migrate into a tree line. ... and they have to migrate on the eskers, and the water crossing"*¹²⁷, by saying,

*"Joseph Judas's comments about water crossings and the importance of migration pathways ... points us to thinking about really acknowledging and incorporating the Tłı̨chǫ traditional knowledge of -- of sites and important areas for caribou, and applying those in a new way ... [to]-- the Bathurst herd, to try to define where those important places are and to start thinking about possibly land use rules".*¹²⁸

Therefore, in light of the support for protecting Ɂekwò water crossings and tataa, the Board recommends:

Recommendation #14B-2016: The WRRB recommends that TG and ENR develop criteria to protect Ɂekwò water crossings and tataa from exploration and development activities in the NWT. The criteria should be developed by March 2018 and included in the Bathurst Caribou Range Plan and Tłı̨chǫ Land Use Plan.

¹²⁵ PR (BATH) – 005: Ekwò zò gha dzò nats'édè "We Live Here For Caribou" Cumulative Impacts Study on the Bathurst Caribou.

¹²⁶ Ibid.

¹²⁷ PR (BATH) – 155: Transcript – February 24, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p. 66

¹²⁸ Ibid. p.161

7.1.2.2 b) Offsets

The WRRB heard concerns about the effects of development and how to reduce those effects through mitigation. The conventional hierarchy for mitigation of cumulative effects includes tradeoffs, also known as off-setting.¹²⁹ In their Reasons for Decisions Report on the Jay Project, the MVEIRB stated that ENR supported the Business Biodiversity Offsets Programme definition for biodiversity offsets:

“measureable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken”.¹³⁰

Under the “Caribou Mitigation Plan (Compensatory Mitigation)” section of their Reason for Decisions Report, the MVERIB states that:

“The purpose of offsetting is to make impacts from the Jay Project to caribou neutral or even positive so that the Bathurst caribou herd is no worse off, or ideally possibly even better off, with the Jay Project” (emphasis added).¹³¹

The MVEIRB further goes onto clarify that:

“by definition, offsets need to be measureable so that their effectiveness at mitigating residual effects can be assessed and known”.¹³²

However, in its closing submission to the MVEIRB regarding the Jay Project Environmental Assessment, while the GNWT recognized “*the value of offsetting as a cumulative effects management strategy*”, the GNWT also clarified that because the offset approach is new to the NWT, it was unable to provide a suite of offsetting opportunities beyond Ekati, or suggest an approach to measure effectiveness.¹³³ The Board has noted that offsets are already in place and more is being considered as parties are implementing harvest restrictions and considering predator control to increase ʔekwò survival to offset the reduced herd growth resulting from reduced pregnancy rates potentially linked to the impacts of development.

Though offsets may appear as a relatively new concept in the NWT, the WRRB believes that offsets can address impacts of exploration and development activities on ʔekwò

¹²⁹ PR (BATH) – 047: Insights into integrating cumulative effects and collaborative comanagement for migratory tundra caribou herds in the Northwest Territories, Canada.

¹³⁰ PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. p. 103.

¹³¹ Ibid. p. 121.

¹³² PR (BATH) – 027: Mackenzie Valley Review Board Report of Environmental Assessment and Reasons for Decision, Dominion Diamond Ekati Corporation Jay Project, EA 1314-01. p. 121.

¹³³ PR (BATH) – 029: Government of the Northwest Territories Closing Argument for the Dominion Diamond Ekati Corporation Jay Project. p.15.

ranges. Though discussion and development of offsets falls under project-specific mitigation, the WRRB believes that offsets may also be considered on a range basis to compensate for cumulative impacts in a broader sense. For example, providing protection to important ʔekwò water crossings may in part compensate for impacts to other portions of migratory routes that have been documented by Tłıchǫ.¹³⁴ Further use of tools outside the land use planning process, such as conservation areas, may provide an option for protecting areas more rapidly than land use planning options.

Recommendation #15B-2016: The WRRB recommends TG and ENR investigate and report to the WRRB and other stakeholders on the potential use of offsets for ʔekwò recovery to compensate for losses caused by exploration and development activities by March 2018. A set of criteria should be developed to assess the effectiveness of each type of offset as it is investigated.

7.1.2.3 Actions to Address Cumulative Effects

When asked what specific actions can be taken in the short-term to address the impacts of cumulative effects, ENR clarified that it is through environmental assessments that offsets or compensatory mitigation are being examined in addition to mitigations directly related to development.¹³⁵ ENR mentioned work with the mining companies, the MVEIRB, and the independent diamond mine monitoring agencies on wildlife monitoring and protection plans.¹³⁶ ENR also clarified that they participate in assessments both in NWT and in Nunavut.

The Slave Geological Province Discussion Paper mentions that:

*“Industry contributes to monitoring of project-level baseline conditions and impacts through requirements under environmental assessment processes, regulatory requirements and environmental agreements. Once a project is underway, surveillance monitoring and mitigation measures outlined in the Wildlife and Wildlife Habitat Protection Plan can avoid adverse wildlife interactions while effects monitoring for direct and indirect effects typically required as part of follow-up programs are captured under the Wildlife Effects Monitoring Program. Monitoring outlined in a proponent’s WEMP is meant to test the validity of impact predictions made during environmental assessment and to test the effectiveness of mitigations”.*¹³⁷

Further, the Discussion Paper mentions that if monitoring is to be conducted by more than one partner, monitoring protocols should be developed to ensure compatibility

¹³⁴ PR (BATH) – 005: Ekwò zò gha dzò nats’èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

¹³⁵ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #21.

¹³⁶ PR (BATH) – 162: ENR to WRRB – Final Written Argument – Bathurst Caribou Herd Public Hearing.

¹³⁷ PR (BATH) – 078: Discussion Paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province.

among datasets, and provide guidance to new proponents in the development of their WEMPs.

In their closing submission to the MVEIRB, the GNWT clarified that the CEAMM Framework is an overall approach to managing cumulative effects for the Bathurst ʔekwò herd.¹³⁸ GNWT also described other approaches to managing cumulative effects: 1) the collaborative Bathurst Range planning process, and 2) working through the co-management process, citing the Joint Proposals put forward by TG and ENR to implement management options in the short term related to harvest and predator control.¹³⁹

Under the heading “Moving Toward Implementation”, the ESSA report recommends steps for further implementation of cumulative effects tools to support the NWT’s regional CEAMM Framework, including:

*“4. Begin the consolidation of databases of impact information needed as input to the models and make them available through a single web based portal to facilitate access to regulators, project proponents and the public throughout the NWT. We note that the need for this is already clearly recognized and that NWT CIMP has recently issued a call for participation in the Inventory of Landscape Change. In addition to consolidation of existing data, what is also needed is the establishment of ongoing procedures to update this information as new developments are approved,” and “9. Develop protocols for integration/coordination of monitoring efforts across the agencies and territorial government”.*¹⁴⁰

This availability of information is increasing as, for example, the Mackenzie Valley Land and Water Board is beginning to require that proponents submit spatial data with applications.¹⁴¹ The NWT Cumulative Impacts Monitoring Program (CIMP) has initiated an ILC that will be a central repository of datasets from various sources that will track human and natural disturbances.¹⁴² The ILC is currently available through the NWT Centre for Geomatics, and will be updated regularly.¹⁴³ The ILC has been used by the Bathurst Caribou Range Planning process as a starting point for current disturbances on the landscape as part of developing industrial development scenarios.¹⁴⁴

¹³⁸ PR (BATH) – 029: Government of the Northwest Territories Closing Argument for the Dominion Diamond Ekati Corporation Jay Project. p. 19.

¹³⁹ Ibid. pp. 19-20.

¹⁴⁰ PR (BATH) – 076: Evaluation of Tools Available for Cumulative Effects Assessment for the Northwest Territories – Literature Reviews: Models and Management.

¹⁴¹ MVLWB online review system: http://lwbors.yk.com/LWB_IMS/ReviewComment.aspx?appid=10901.

¹⁴² PR (BATH) – 078: Discussion Paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province.

¹⁴³ <http://www.nwtgeoscience.ca/forum/session/nwt-inventory-landscape-change-web-accessible-platform-viewing-and-managing-natural>, and http://apps.geomatics.gov.nt.ca/Html5_SDW/Index.html?configBase=http://apps.geomatics.gov.nt.ca/Geocortex/Essentials/REST/sites/CIMP_ILC_Webmap/viewers/ILC_Viewer/virtualdirectory/Resources/Config/Default.

¹⁴⁴ PR (BATH) – 006: TG & ENR Information Request No.1 Responses – Bathurst Caribou Herd.

The Slave Geological Province Discussion Paper acknowledged that

*“though initiatives are underway to coordinate the accessibility of landscape data, it may be some time before any of them are operational at a level that can provide ongoing support for repeated cumulative effects assessment exercises”.*¹⁴⁵

The Board recognizes that the Bathurst herd is currently subject to a significant amount of human disturbances. Though the Bathurst Herd is the focus of cumulative effects initiatives, there is the need for continued coordination among initiatives and approaches.¹⁴⁶ The Board believes that while there are many aspects of cumulative effects monitoring and management that remain to be initiated, developed and implemented, tools and initiatives that are currently being used can be leveraged to the benefit of a number of users and processes. The WRRB recognizes the continuing need for coordination among components that support landscape-level and project level considerations related to environmental assessments, as well as the need for overall coordination of approaches to monitoring and managing cumulative effects. The recommendations are provided with the intent that current opportunities are recognized and capitalized on in order to benefit multiple agencies and processes, and support cumulative effects assessment and mitigation.

Recommendation #16B-2016: The WRRB recommends that ENR continue to refine and update the Inventory of Landscape Change to ensure a comprehensive and standardized database of human and natural disturbance in the NWT.

Recommendation #17B-2016: The WRRB recommends that TG and ENR integrate WEMP and WWHPP objectives and standardize approaches for monitoring the effects of development on ʔekwò in Wek’èezhì.

7.2 Fire

7.2.1 Aboriginal Evidence

Since the mid-1990s, Tłı̨chʔ as well as other Dene have been concerned about the ever increasing intensity and size of forest fires.¹⁴⁷ As Terri Nasken said at the 2007 Tłı̨chʔ Caribou Workshop in Whatì, *“Fires destroy caribou vegetation.”*¹⁴⁸ Denésq̓liné elders from Łutsel K’e describe the increased frequency of forest fires caused by lightning storms as an unnatural occurrence, and they worry about the impact of these fires on ʔekwò habitat. One individual emphasized,

¹⁴⁵ PR (BATH) – 078: Discussion Paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province.

¹⁴⁶ PR (BATH) – 164: Bluenose-East Caribou Herd Public Hearing Transcript – Day 2 (April 7, 2016). p. 52.

¹⁴⁷ PR (BATH) – (068) Caribou Migration and the State of their Habitat – Final Report, March 2001; and PR (BATH) – 109: Traditional Ecological Knowledge in the Kaché Study Region, Phase 1 and 2.

¹⁴⁸ PR (BATH) – 107: Transcript – Tłı̨chʔ Government Caribou Workshop, Whatì, NT – Day 2. p. 14.

“Regarding the forest fires - some scientists say it’s good for new growth. But do you know what the caribou eat? If the lichen burns - it will take over 100 years for the plants to grow back. Some scientists say the forest fires are good but it’s not like that for us. There never used to be so many forest fires. I have never before seen a forest fire started by lightening. We look after the land and we respect the land and the animals. During a forest fire - the animals must be pitiful - burning alive. The government wants to be the boss of the land but they won’t even control the forest fires.”¹⁴⁹

Elder Joseph Judas summarized the overall concerns when he said, *“if you look at the -- the -- how the caribou [migrate] -- want to survive is quite minimum because the -- the land itself is pretty well taken over by forest fire.”¹⁵⁰*

7.2.2 Scientific Evidence

Fires are a major driver of landscape change in the NWT, and along with human activities, fires must be considered when assessing and responding to cumulative effects. It is understood that ʔekwò have co-existed with fires for thousands of years, with fires being a key natural disturbance which creates and sustains a habitat mosaic that ʔekwò and other species utilize. However, it is also understood that more severe and frequent fires can affect winter range by possibly shifting forests to a younger age, which can impact the abundance and availability of lichens, an important winter forage for ʔekwò. Though habitat is not currently considered to be limiting, information provided by TG and ENR, along with comments provided during the proceedings, indicates there are concerns over the impacts of the recent severe fire seasons, as well as the impacts that climate change and future fires may continue to bring.¹⁵¹

Factors which can be actively managed in the short-term can include harvest, land use, predators, and to a certain extent, fire. However, management actions that can be implemented are subject to a variety of constraints, with the severe fires in 2014 and 2015 providing examples of practical and financial limitations, and clarification that fire suppression will always place the highest priority on communities and human infrastructures.¹⁵² A Value at Risk is any feature on the dè that would be “negatively affected by fire”. The WRRB recognizes that protection of Values at Risk with regards to infrastructure and human life is of utmost importance to the Forest Management Division, and that prioritization of fire actioning reflects this importance.¹⁵³ However,

¹⁴⁹ PR (BATH) – 109: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase 1 and 2.

¹⁵⁰ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p. 68

¹⁵¹ PR (BATH) – 152: ENR to WRRB – Bathurst Caribou Public Hearing Presentation; and, PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. pp. 81-88.

¹⁵² PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p. 84.

¹⁵³ <http://www.enr.gov.nt.ca/programs/fire-operations/protecting-your-property-values-risk>.

protection of rare habitat can also influence suppression decisions;¹⁵⁴ therefore, it is important to have clarity under which circumstances fire suppression may occur.

The WRRB's 2010 Recommendation #50 suggested monitoring landscape changes due to developments and fire, with Recommendation #51 calling for an assessment of the need for fire control in areas of important ʔekwò habitat.¹⁵⁵ The 2011 Revised Joint Proposal on Caribou Management Actions in Wek'èezhì –Implementation Plan mentioned that the ENR fire management program was under review, and that the new program would reflect the position of ENR regarding the need for forest fire control in areas of important ʔekwò habitat.¹⁵⁶ ENR clarified that, as part of the review, areas of unburnt key ʔekwò habitat that should be considered for fire protection would be identified through community input.¹⁵⁷

However, during the 2016 Bathurst Caribou Herd Public Hearing, it was made clear that ENR does not have a defined position regarding management of unburnt ʔekwò winter range.¹⁵⁸ Further, the Bathurst Caribou Range Planning Working Group is still considering how fire will be incorporated into the Plan, though it is suggested that if the annual area of winter habitat burnt exceeds the average then recommendations could be triggered to take action in priority areas.¹⁵⁹

The Board appreciates the limitations and constraints that ENR faces, especially during the recent severe fire years. The Board understands that fiscal considerations have an impact on managing fire, and that managing risk with regards to life and property are difficult, and the Board appreciates the efforts of ENR staff. However, though there are criteria used to inform decisions with regards to values at risk that are related to people, absence of a clearly defined approach and criteria for fire suppression in areas of key ʔekwò habitat leads to uncertainty. A clearly defined approach and criteria provide greater certainty with regards to what management actions are truly available, and which management actions are impractical and not feasible. For example, if fire suppression is deemed impractical in important ʔekwò habitat, then the knowledge that fire suppression is not an option can assist with prioritizing and implementing remaining available management actions. Further, clarity on fire suppression in key ʔekwò habitat also provides value-added information that is relevant to management of other species which overlap barren-ground winter range, such as *Tòdzì* (boreal woodland caribou).

¹⁵⁴ Ibid.

¹⁵⁵ 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.

¹⁵⁶ PR (BATH) – 134: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhì – Implementation Plan, 17 Jun 2011.

¹⁵⁷ Ibid.

¹⁵⁸ PR (BATH) – 155: Transcript– February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p. 86.

¹⁵⁹ PR (BATH) – 113: TG & ENR Information Request No.2 Responses – Bathurst Caribou Herd. Question #22.

7.2.3 Conclusion

As ʔekwò habitat is valued; large tracks of dè are needed for ʔekwò to survive and fire is a threat to ʔekwò habitat that could be managed, the WRRB recommends:

Recommendation #18B-2016: The WRRB recommends that TG and ENR complete and implement a fire management plan with criteria identifying under which the key ʔekwò habitat is defined as a value-at-risk by March 2018.

7.3 Habitat/Climate

7.3.1 Aboriginal Discussion

When discussing changing habitat condition, debris from industry and infrastructure is most often cited, and when discussing climate and weather conditions the focus is most often on moisture and water level and/or forest fires. Łutsel K'è Denésq̄lné reported, *“although mining activities are seen to be the main cause of the changes in migration routes, forest fires were also mentioned as contributing to this change.”*¹⁶⁰

During the 2016 Bathurst Caribou Herd Public Hearing, Elder Joseph Judas explained how at one time, his elders were concerned there wasn't sufficient habitat to support the number of ʔekwò even though the vegetation was lush, and now they are concerned about the low numbers of ʔekwò and the state of the vegetation on which they forage,

*“In -- in 1986, around the time when there was abundance of caribou, there was so much caribou that there wasn't land big enough to feed the caribou, and -- and we had that concern at one time. Now, today we're concerned about no caribou. But at the same time, we had such a large fire that -- that -- on the land that burned a lot of feed of the caribou, so we need to find all those stressors”.*¹⁶¹

Further, Elder Joseph Judas explained that the tundra where ʔekwò should be foraging in the summer is like *“walking on potato chips. ... The vegetation was that dry and dusty. The area in close proximity to the mines are thus of poor quality as caribou forage.”*¹⁶² Sjoerd van der Wielen, TG, discussed how TG's TK monitoring program will consider *“how they [ʔekwò] will react on drought, how they react on fires”*¹⁶³ indicating that both summer and winter habitats are at risk.

¹⁶⁰ PR (BATH) – 081: Ni hat'ni – Watching the land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of Łutsel K'è Denésq̄lné. p. 56

¹⁶¹ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p 118-119.

¹⁶² PR (“BATH) -005: Ekwò zò gha dzò nats'èdè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

¹⁶³ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p 38.

The WRB applauds TG's initiative to understand the relationship between ʔekwò fitness and how they behave during and after periods of drought and times of extensive fires. While the WRRB is aware of the baseline traditional knowledge research undertaken by the Tł̨chq̨ and the Denésq̨hné relating to ʔekwò and their habitat,¹⁶⁴ there has been no follow-up to determine how ʔekwò fitness is impacted by the state of vegetation on which they depend in the summer or winter, and how climate change is impacting summer and winger forage. Therefore, the Board recommends,

Recommendation #19B-2016: The WRRB recommends TG conduct a TK monitoring project with elders to document how climate conditions have affected preferred summer forage and impacted ʔekwò fitness by September 2018.

Recommendation #20B-2016: The WRRB recommends that TG conduct TK monitoring to assess the quality and quantity of winter forage by September 2018.

7.3.2 Scientific Discussion

TG and ENR identified the likely role of climate, i.e. drought and high indices for warble fly harassment, in reducing productivity for Bathurst ʔekwò in 2012 and 2014.¹⁶⁵ However, while ENR includes climate as a monitoring indicator, they do not include climate indicators as a part of adaptive management,¹⁶⁶ and do not have any suggestions about how climate such as drought could be accommodated through management actions.¹⁶⁷

However, the WRRB believes that management actions have to accommodate environmental variation, such as summer droughts, especially if the frequency of droughts or other extremes are increasing in a warming climate. Management actions may need to be adjusted depending on the severity of changes on summer and winter ranges, and the adjustments will require monitoring environmental conditions and a collaborative approach to determining thresholds. Thus, the WRRB suggests that management actions can be used to offset extreme climate events.

Recommendation #21B-2016: The WRRB recommends that the BGCTWG develop monitoring thresholds for climate indicators by March 2017.

¹⁶⁴ PR (BATH) – 021: Monitoring the Relationship between People and Caribou; PR (BATH) 068: Caribou Migration and the State of their Habitat – Final Report, March 2001; PR (BATH) – 095: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase 3; and, PR (BATH) – 109: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase 1 and 2.

¹⁶⁵ PR (BATH) – 006: TG & ENR Information Request No.1 Responses – Bathurst Caribou Herd. Question #14.

¹⁶⁶ PR (BATH) – 004: Joint Proposal on Caribou Management Actions for the Bathurst Herd: 2016-2019.

¹⁶⁷ PR (BATH) – 155: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p 32.

8. CONCLUDING COMMENTS

With the “unprecedented severity of the decline and potential collapse”¹⁶⁸ of the Bathurst ʔekwò herd, there must be commitment, collaboration and communication amongst all users and managers “to develop knowledge, to develop the best plans, to develop the capacity to implement actions and to monitor”.¹⁶⁹ Additionally, research into the drivers of the decline and the relationships between ʔekwò, other wildlife and people is imperative for understanding the Bathurst herd. As noted by John Nishi, TG,

*“... where there is considerable uncertainty in our current state of knowledge of the key drivers responsible for the continued decline, an adaptive co-management approach is well suited to generate new information or new knowledge through sharing of traditional and scientific perspectives, sustaining social and cultural learning, and prepare for adaptation to transformative change, such as that imposed by the dramatic decline in caribou abundance, the recommended closure of caribou hunting, and the potential impacts to Tł̨chq̨ culture, language, and way of life”.*¹⁷⁰

¹⁶⁸ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p 109-110.

¹⁶⁹ PR (BATH) – 153: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p 109-110.

¹⁷⁰ Ibid.

APPENDIX A

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

Wek'èezhii Renewable Resource Board Management Proposal

1. Applicant Information
<p>Project Title: Government of the Northwest Territories and Tłıchǫ Government Joint Proposal on Caribou Management Actions for the Bathurst herd: 2016-2019</p>
<p>Contact Persons: Organization Names: Addresses: Phone/Fax Numbers: Email addresses:</p> <p>Sjoerd van der Wielen Manager, Lands Section Department of Culture and Lands Protection Tłıchǫ Government BEHCHOKQ, NT X0E 0Y0 Phone: 867-392-6381 Fax: 867-392-6406 SjoerdvanderWielen@tlicho.com</p> <p>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</p>

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

This management proposal carries forward recommendations that arose from the “Revised Joint Proposal on Caribou Management Actions in Wek’èezhii”, which was submitted to the Wek’èezhii Renewable Resources Board (WRRB) in May 2010 by the Tłıchǫ 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.

The goal of the actions presented in this 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. 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 Tłıchǫ 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 Tłı̨chǫ 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

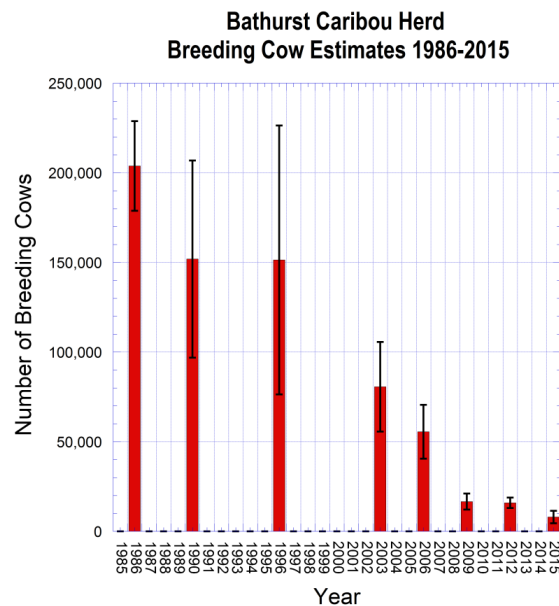


Fig. 1. Estimates of breeding females in the Bathurst herd 1986-2015 based on calving ground photographic surveys.

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 Tłı̄ch̄q 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 Tłı̄ch̄q 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 Tłı̨ch̨ 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'èezhii 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 Tłı̨ch̨ right to harvest throughout M̨qwhì Gogha Dè N̨jłtłèè 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 Tłı̄chǫ 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.

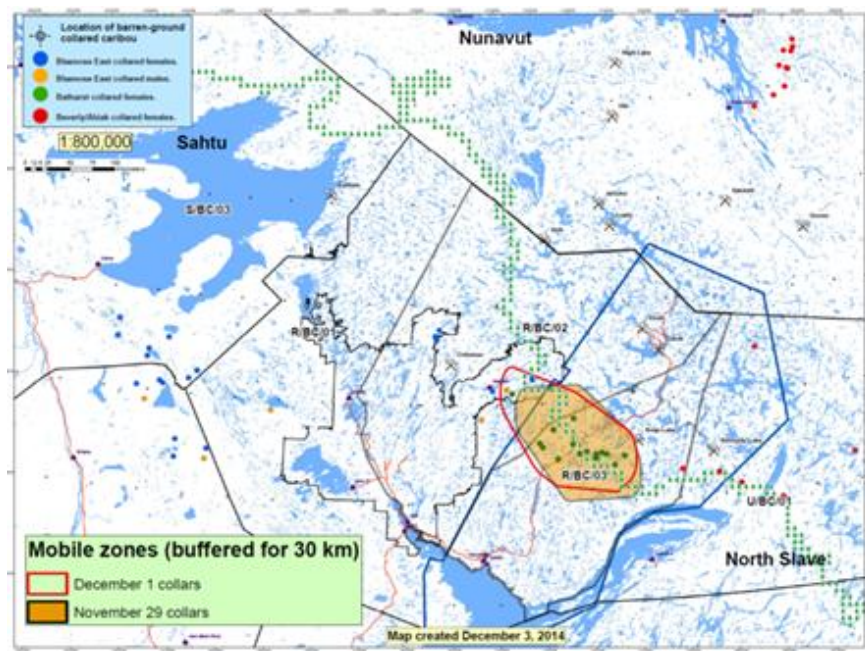


Fig. 2. An example of the mobile Bathurst conservation area (MCBCCA) centered on Bathurst caribou collar locations, winter 2014-2015. Zones RBC02 and RBC03 had previously been closed to harvest except for the harvest target of up to 300 caribou (80% bulls) 2010-2014.

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 (Sahtu region), modified approaches to management of caribou harvesting zones would need to be reviewed with other communities, boards and Aboriginal organizations.

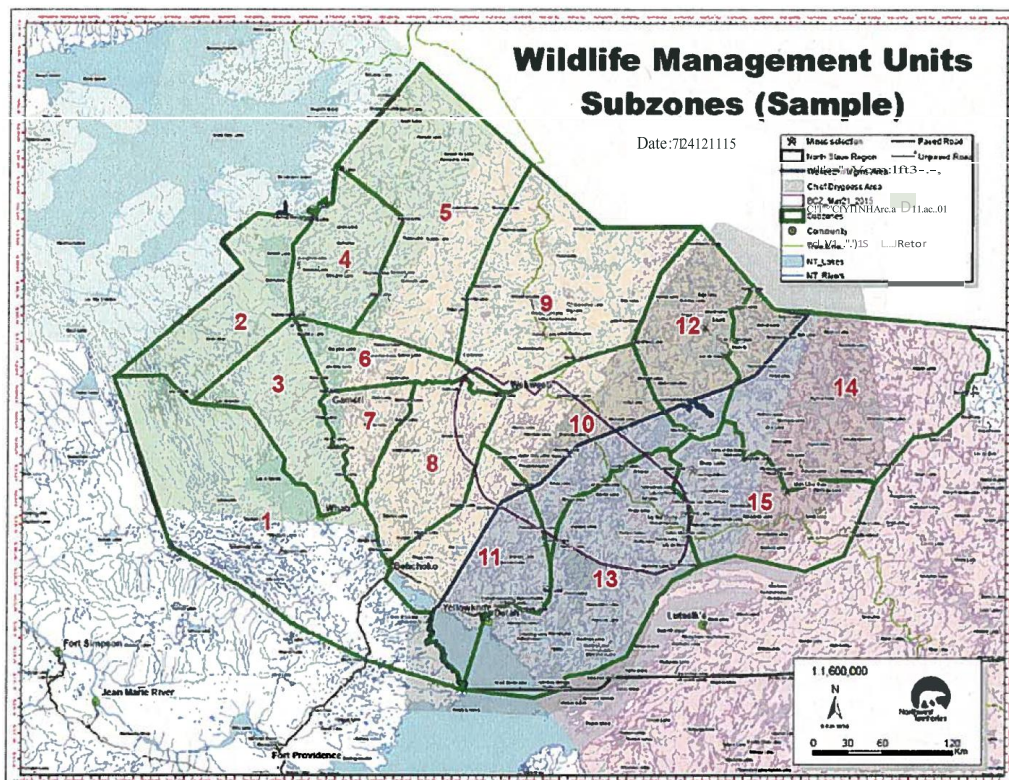


Fig. 3. An example of caribou management subzones that could be developed in the North Slave region (courtesy of TG letter to WRRB Aug. 25, 2015). An example of the Bathurst mobile zone from winter 2014-2015 is outlined in purple.

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 Wekweèti and Gamèti. 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 Wekweèti 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 Tłchq 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 Tłı̄chǫ 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 Tłı̄chǫ communities.

Technical workshops will be held in each of the 4 Tłı̄chǫ 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 Tłı̄chǫ 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.

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- Government of the Northwest Territories. 2013. Discussion paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province. Wildlife Division, Yellowknife, NT, 27 pp.
- Government of Yukon. 2012. Yukon Wolf Conservation and Management Plan. Environment Yukon, Whitehorse, Yukon, 24 pp.
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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.

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