



October 3, 2016

Sjoerd van der Wielen, Manager
Culture & Lands Protection
Tłıchǫ Government
Box 412, Behchokǫ, NT X0E 0Y0
Email: SjoerdvanderWielen@tlicho.com

Via Email

SjoerdvanderWielen@tlicho.com
Bruno_Croft@gov.nt.ca

Bruno Croft, A/Superintendent
North Slave Region
Environment and Natural Resources
Government of the Northwest Territories
Box 1320, Yellowknife, NT X1A 2L9
Email: Bruno_Croft@gov.nt.ca

Re: WRRB Reasons for Decision Final Report, Part B – Bluenose-East Caribou Herd

Dear Mr. van der Wielen and Mr. Croft:

The Wek'èezhì Renewable Resources Board (WRRB) is pleased to submit its Final Report, Part B, entitled "*Reasons for Decisions Related to a Joint Proposal for the Management of the Bluenose-East ʔekwǭ (Barren-ground caribou) Herd, Part B*" to the Tłıchǫ Government (TG) and Department of Environment & Natural Resources (ENR), Government of Northwest Territories in response to the "*Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019*". The Reasons for Decision final report will be posted to the public registry: <http://wrrb.ca/public-information/public-registry>.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Grant Pryzyk".

J. Grant Pryzyk
Chair

Cc Hon. Robert C. McLeod, Minister, ENR
Erin Kelly, A/Deputy Minister, ENR
Lynda Yonge, Director of Wildlife, ENR
Grand Chief Eddie Erasmus, TG
Laura Duncan, Tłıchǫ Executive Officer, TG
Walter Bayha, Délıne First Nation
Shin Shiga, Regulatory Analyst, North Slave Métis Alliance
Michael Neyelle, Chair, Sahtú Renewable Resources Board

**Reasons for Decisions Related to a
Joint Proposal for the Management of
the Bluenose-East?ekwò
(Barren-ground caribou) Herd**

PART B



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LIST OF ACRONYMS

ACCWM	Advisory Committee for Cooperation on Wildlife Management
BGCTWG	Barren-ground Caribou Technical Working Group
CEAMM	Cumulative Effect Assessment, Monitoring and Management
DFN	Déḻṉ First Nation
ENR	Environment & Natural Resources
GNWT	Government of the Northwest Territories
INAC	Indigenous and Northern Affairs Canada
IR	Information Request
NSMA	North Slave Métis Alliance
NWT	Northwest Territories
PAS	Protected Areas Strategy
SRRB	ʔehdzo Got'̱ṉ Gots'̱ Nákedı/Sahtú Renewable Resources Board
TAH	Total Allowable Harvest
TG	Tł̱cẖ Government
TK	Tł̱cẖ Knowledge
TLUP	Tł̱cẖ Land Use Plan
WRRB	Wek'̱ezẖ Renewable Resources Board

LIST OF TŁ̱CH̱ TERMS

ḏ	land
ḏga	wolf
ʔekw̱	barren-ground caribou
M̱wẖ Gogha Ḏ Ṉtḻ	traditional area of the Tł̱cẖ, described by Chief Monfwi during the signing of Treaty 11 in 1921
sahcho	grizzly bear
tataa	corridors between bodies of water used by ʔekw̱ herds to access feeding grounds along their migration route
ṯdzi	boreal woodland caribou
Wek'̱ezẖ	management area; within the boundaries of

LIST OF SAHTÚ TERMS

Ḏḻṉ Got'̱ne	Dene of Déḻṉ
ʔeʔa	law
Edaǰ̱la	Caribou Point
ʔekw̱	barren-ground caribou
Luchaniline	Whitefish River
Tehkaicho Dé	Jonny Hoe River

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 Bluenose-East ʔekwò (barren-ground caribou) herd. In November 2015, the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT) reported that, in their view, the Bluenose-East herd had continued to decline significantly and that further management actions were required.

In December 2015, the Tłıchǵ Government (TG) and ENR submitted the *Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019* to the Board, which proposed new restrictions on hunter harvest, predator management and ongoing monitoring. More specifically, TG and ENR proposed implementing a herd-wide total allowable harvest of 950 bulls-only and allocation for the Bluenose-East caribou herd and conducting a feasibility assessment of a full range of *dìga* (wolf) management actions. The WRRB considers 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 Tłıchǵ Agreement and held a public hearing in Behchokò, NT on April 6-8, 2016.

The WRRB concluded, based on all available Aboriginal and scientific evidence, that a serious conservation concern exists for the Bluenose-East 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 will require regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed *dìga* feasibility assessment.

As the Bluenose-East ʔekwò herd situation is so dismal, the Board feels that it would be irresponsible to limit its discussion to harvest management as there is a real risk that the herd will follow the same path as the Bathurst ʔekwò herd and face extirpation. Therefore, this second report, Part B, will deal with self-regulation, additional predator management actions, biological and environmental monitoring, and cumulative effects.

In anticipation of the proposal, the ʔehdzo Got'ıne Gots'è Nákedı/Sahtú Renewable Resources Board (SRRB) and the WRRB signed a "*Memorandum of Understanding Regarding Collaborative Efforts for the Management of the Bluenose-East Caribou Herd*" in October 2015 to ensure management of proceedings related to the Bluenose-East ʔekwò herd would be as effective as possible. Each Board conducted its own proceeding, including public hearings in both the Sahtú and Wek'èezhì areas, and submitted their own Reasons for Decision report.

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

In addition, the WRRB recommended several Tłıchq Knowledge (TK) research and monitoring programs focusing on dıga, *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 TK monitoring data is to be provided to BGCTWG annually to ensure ongoing adaptive management.

The WRRB recommended the implementation of Tłıchq Land Use Plan Directives as well as completing a Land Use Plan for the remainder of Wek’èezhì. The Board also 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 development of monitoring thresholds for climate indicators.

2. INTRODUCTION

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

The WRRB was established to perform the wildlife management functions set out in the Tłıchq Agreement in Wek’èezhì¹ and shares responsibility for the monitoring and management of the Bluenose-East ʔekwò herd. On December 15, 2015, TG and ENR submitted the “*Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019*” (Appendix A) to the WRRB outlining proposed management actions for the Bluenose-East ʔekwò herd in Wek’èezhì, including new restrictions on hunter harvest, predator management and ongoing biological monitoring.

The short-term goal of the proposed management actions is to stop the herd’s decline and promote recovery, over the period of November 2016-November 2019; a long-term goal

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

of herd recovery is that sustainable harvesting that meets community needs levels is once again possible within Mq̄whì Gogha Dè Nìtlèè.

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 will require regulation changes in order for new regulations to be in place for the start of the 2016/17 harvest season, as well as the proposed diga feasibility assessment.

While the joint management proposal focused on harvest management,² the WRRB believes that the current circumstances of the Bluenose-East ʔekwò herd warrant an immediate discussion on long-term management and monitoring actions. As the Bluenose-East ʔekwò herd situation is so dismal, the Board feels that it would be irresponsible to limit its discussion to harvest management as there is a real risk that the herd will follow the same path as the Bathurst ʔekwò herd and face extirpation. 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'èezhì (Figure 1) set out in the Tł̓chq̓ 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 Tł̓chq̓ Agreement.

² PR (BNE) – 001: Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019.

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

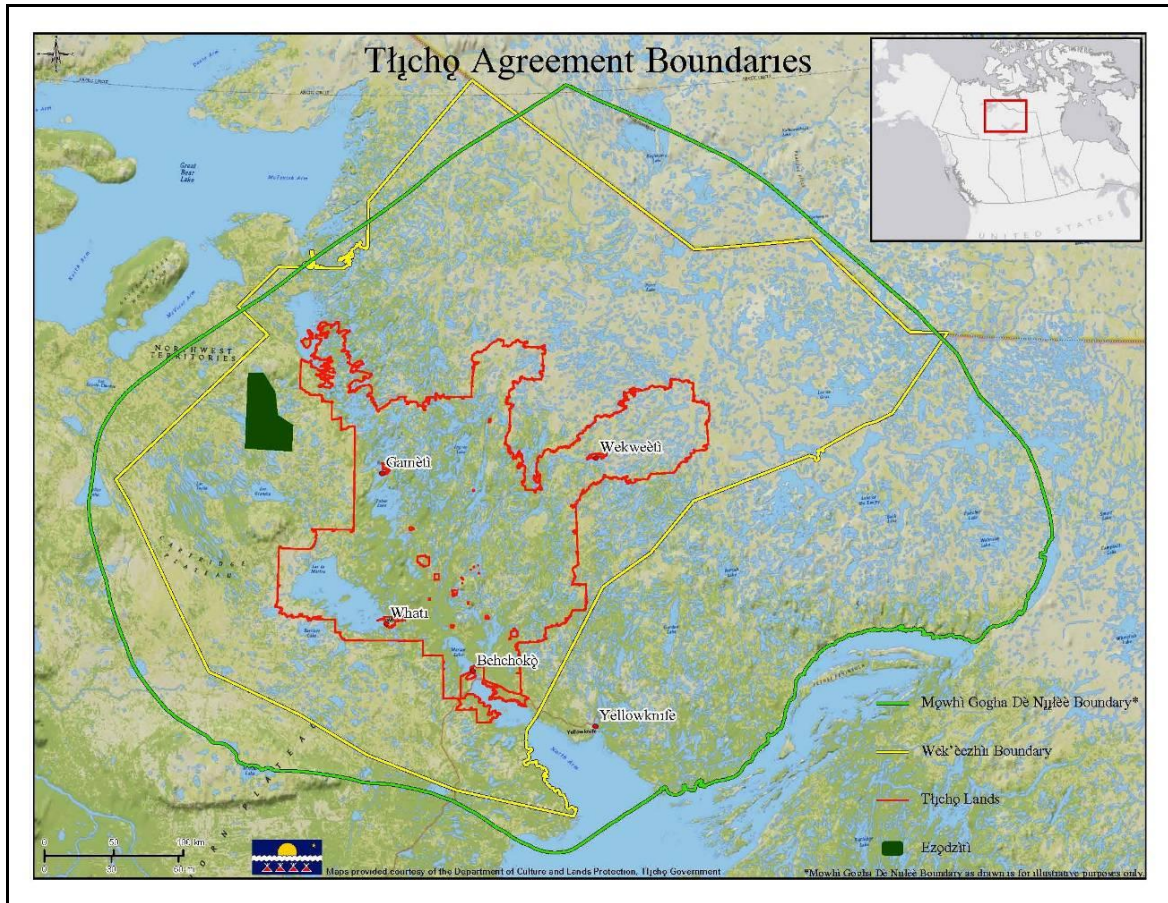


Figure 1: Wek'ezhıı Management Area.⁴

As required by Sections 12.5.1 and 12.5.4 of the Tłıchǫ Agreement, any Party⁵ proposing a wildlife management action in Wek'ezhıı must submit a management proposal to the WRRB for review. Prior to making a determination or recommendation, the WRRB must consult with any body that has authority over that wildlife species both inside and outside of Wek'ezhıı.

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 Tłıchǫ 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, Tłıchǫ Government. 2014.

⁵ As defined in the Tłıchǫ Agreement, "Parties" mean the Parties to the Agreement, namely the Tłıchǫ, as represented by the Tłıchǫ 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 Tłıchq Agreement.⁶ The rights of Tłıchq citizens to use wildlife for sustenance, cultural and spiritual purposes are protected by the Tłıchq 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 Tłıchq 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.⁸

2.3.3 Taking Care of Caribou – The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan

The Advisory Committee for Cooperation on Wildlife Management (ACCWM) was established to exchange information, help develop cooperation and consensus, and make recommendations regarding wildlife and wildlife habitat issues that cross land claim and treaty boundaries. The committee consists of Chairpersons (or alternate appointees) of the Wildlife Management Advisory Council (NWT), Gwich'in Renewable Resources Board, SRRB, WRRB, Kitikmeot Regional Wildlife Board, and Tuktut Nogait National Park Management Board.

These wildlife management boards have authority through their land claim agreements to make recommendations and decisions on wildlife management issues. The ACCWM can make consensus-based recommendations to governments, land use regulators, and respective Boards on general types of wildlife management actions. ACCWM recommendations do not prohibit individual boards from providing additional recommendations, nor are individual boards bound by ACCWM recommendations.

⁶ See Section 12.1.1 of the Tłıchq Agreement.

⁷ *Constitution Act*. 1982. Section 35.

⁸ http://wrrb.ca/sites/default/files/Rev%20FINAL%20Rule%20-%20Management%20Proposals%20-%2023sep15_0.pdf

The ACCWM decided to develop a management plan for the Cape Bathurst, Bluenose-West, and Bluenose-East ʔekwò herds, entitled “*Taking Care of Caribou – The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan*”.⁹ The management plan is supported by two companion documents: a report that summarizes recent scientific information about the herds,¹⁰ and a report that provides a summary of the information that was shared during community meetings to develop the plan.¹¹

While the immediate need for the management plan was in response to reported declines in the herds, the intent is to address ʔekwò management and stewardship over the long term. The management goals are to maintain herds within the known natural range of variation, conserve and manage ʔekwò habitat, and ensure that harvesting is respectful and sustainable. The plan describes the consensus-based approach, herd definitions, principles, and goals that guided the process. It provides a framework for monitoring the herds, making decisions, and taking action. Five different categories of management actions are outlined in the plan, including Education, Habitat, Land Use Activities, Predators and Harvest Management. The WRRB notes that its recommendations in the following sections are also supportive of and strengthen the management plan.

Submitted to TG, GNWT and the Government of Nunavut in November 2014, the management plan is a working document used in developing specific management tools such as action plans for Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground ʔekwò. The action plans will provide details on the types of actions that are recommended based on a herd’s status, as well as who is responsible for the actions, and when they should be done. The action plans are currently being developed by the ACCWM, with the Bluenose-East Caribou Herd Action Plan to be submitted to governments in fall of 2016. Both the management plan and subsequent action plans will be updated and revised as new information becomes available.

2.4 Collaborative Memorandum of Understanding with SRRB

On December 15, 2015, ENR submitted a management proposal, entitled “*Government of the Northwest Territories Proposal on Management Actions for Bluenose-East Caribou 2016-2019*”, to the SRRB, which proposed management actions for the Bluenose-East ʔekwò herd in the Sahtú Settlement Area, including new restrictions on hunter harvest, predator management and ongoing monitoring. The SRRB initiated its Bluenose-East Caribou Management Proceeding – March 2016 on January 11, 2016.

⁹ PR (BNE) – 091: Taking Care of Caribou – The Cape Bathurst, Bluenose-West and Bluenose-East Barren Ground Caribou Herds Management Plan. 2014.

¹⁰ PR (BNE) – 041: Technical Report on the Cape Bathurst, Bluenose-West and Bluenose-East Barren ground Caribou Herds Companion Report to Taking Care of Caribou: The Cape Bathurst, Bluenose-West and Bluenose-East Barren ground Caribou Herds Management Plan. 2015.

¹¹ PR (BNE) – 099: 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’. 2014.

In anticipation of the proposals, the SRRB and WRRB signed a *Memorandum of Understanding (MOU) Regarding Collaborative Efforts for the Management of the Bluenose-East Caribou Herd* (Appendix B) on October 27, 2015 to minimize duplication, increase consistency and ensure management of the Bluenose-East ʔekwò herd is as effective as possible. The Board agreed to establish and maintain linked public records and to collaborate in the conduct of their proceedings prior to making final decisions under their respective jurisdictions. The WRRB attended the SRRB's hearing in Délı̨ne in early March 2016; the SRRB attended the WRRB hearing in Behchokò in early April 2016.

2.5 Implementation

As per Section 12.5.12 of the Tłı̨chǫ Agreement,

“each Party shall, to the extent of its power under legislation or Tłı̨chǫ 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 **#17B-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 Management Actions for Bluenose-East Caribou 2016-2019*” to the Board outlining proposed management actions for the Bluenose-East ʔekwò herd in Wek'èezhì, including new restrictions on hunter harvest, predator management and ongoing monitoring (Appendix A). More specifically, TG and ENR proposed implementing a herd-wide total allowable harvest of 950 bulls-only and allocation for the Bluenose-East ʔekwò herd, and conducting a feasibility assessment of a full range of dı̨ga management actions. The WRRB considered the proposed restriction of harvest as the establishment of a TAH and, therefore, was required to hold a public hearing.

The Board initiated its 2016 Bluenose-East 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, 2015.¹²

¹² http://wrrb.ca/sites/default/files/WRRB%20Rules%20of%20Procedure%2023Sep2015_0.pdf

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

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.

To ensure that any outstanding scientific and traditional knowledge technical aspects of the proceeding were clarified, the Board hosted a Science Technical Session on March 17, 2016 as well as a Traditional Knowledge Technical Session on March 22, 2016. The information gathered during each session is available on the public record as part of the body of evidence used by the WRRB to make its final decision.

During the April 6-8, 2016 hearing in Behchokò, NT, the registered Parties gave oral presentations and asked questions of the other Parties. In addition to the questioning by the SRRB, the registered general public was 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 April 8, 2016. Final written arguments were submitted by registered intervenors on April 19, 2016, and by TG and ENR on April 22, 2016. The public record was closed on April 22, 2016 and the WRRB's deliberations followed.

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

- Determination of a TAH of 750 bulls-only to be implemented for all users of the Bluenose-East Ɂekwò herd within Wek'èezhìı̨ for the 2016/17, 2017/18, 2018/19 harvest seasons.
- Determination that the proportional allocation of the TAH of the Bluenose-East Ɂekwò herd for the 2016/17, 2017/18, 2018/19 harvest seasons shall be as follows: Tı́chq Citizens – 39.29%, and Members of an Aboriginal people who traditionally harvest Bluenose-East Ɂekwò (including Nunavut) – 60.71.
- 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.
- Recommendation that weekly communication updates be provided, the timely implementation of hunter education programs for all harvesters of the Bluenose-East herd and the development of harvesting overlap agreements with the Sahtú and Nunavut.

- 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.
- Recommendation that if the Community-based Diga Harvesting Project is deemed successful on the Bathurst ʔekwò herd, the approach could be extended in 2016-2017 to the Bluenose-East herd and incorporated into an adaptive wolf management approach.

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'èezhù Renewable Resources Board, 6-8 April 2016, Behchokò, NT & Reasons for Decisions Related to a Joint Proposal for the Management of the Bluenose-East ʔekwò (Barren-ground caribou) Herd – Part A*".

4. SUMMARY OF WRRB PARTICIPATION IN SRRB PROCEEDING

Two management proposals were filed with the SRRB. The Délı̨ne ʔehdzo Got'ı̨ne, DFN and Délı̨ne Land Corporation jointly filed a ʔekwé conservation plan, *Belarewılé Gots'é ʔekwé*; ENR filed a *Proposal on Management Actions for Bluenose East Caribou 2016-2019*. As both plans recommended harvest limitations, and the SRRB agreed to consider the plans, Section 13.8.21(b) of the Sahtú Dene and Métis Comprehensive Land Claim Agreement required that a hearing be held.

The SRRB held their public hearing on March 1-3, 2016 in Délı̨ne, NT. Registered Parties included Délı̨ne ʔehdzo Got'ı̨ne, Délı̨ne Land Corporation and DFN; ENR; Tulı́t'a Renewable Resources Council; Tulı́t'a Dene Band; Norman Wells Renewable Resources Council; Fort Good Hope ʔehdzo Got'ı̨ne; K'asho Got'ı̨ne Community Council; Colville Lake Renewable Resources Council; Ayoni Keh Land Corporation; Bedzi Ahda First Nation; and, Irene Kodakin (resident of Délı̨ne). The WRRB attended the SRRB hearing as an observer. 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 SRRB in the hearing. A full written transcript of each day's session was produced and is available on the SRRB's online public registry.¹³

The SRRB adjourned the hearing on March 3, 2016. Final written arguments were submitted by registered intervenors on May 13, 2016, and by ENR and DFN on May 20, 2016. The SRRB submitted its final recommendations to ENR on July 28, 2016. The final report, entitled "*ʔekwé hé Dene Ts'ı̨l - Sustaining Relationships: Final Report of the ʔehdzo Got'ı̨ne Gots'é Nákedı (Sahtú Renewable Resources Board) Bluenose East ʔekwé (Caribou) Hearing 2016*", includes 39 recommendations which address four main

¹³ http://srrb.nt.ca/index.php?option=com_content&view=category&id=140&Itemid=1225

topics: Caribou Status, Governance, Causes of Decline and Harvesting. Additional details of the SRRB's final report can be found on the SRRB's online public registry.¹⁴

5. WRRB RECOMMENDATIONS ON SELF-REGULATION¹⁵

Adhering to Tłıchq laws that govern human behaviour with Ɂekwò demonstrates respect for oneself, the dè (land) and Ɂekwò.¹⁶ Dismissing the laws that govern human behaviour can lead to “a decline in caribou population”, and “changes in caribou distribution”.¹⁷ In 2006, the Chiefs Executive Council, TG, requested funding from the West Kitikmeot Slave Study Society to document Tłıchq laws associated with Ɂekwò.¹⁸ This step was taken to encourage community members to follow Tłıchq rules associated with harvesting, using and sharing Ɂekwò.¹⁹ The Tłıchq Regional Elders' Committee “stressed that when people ignore the [Tłıchq] laws the caribou either migrate elsewhere or the caribou spirit chooses not to be re-born, causing a population decline.” At the 2016 Bluenose-East Public Hearing in Behchokò, Elder Joe Rabesca emphasized the importance of Tłıchq 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.”²⁰

The Délıne Got'ıne agree with the Tłıchq 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 [Ɂekwò are] low give it a rest, etc.).”²¹

¹⁴ http://srrb.nt.ca/index.php?option=com_docman&view=document&slug=srrb-bne-caribou-hearing-report-16-07-28-final&layout=default&alias=1580-srrb-bne-caribou-hearing-report-16-07-28-final&category_slug=final-report&Itemid=697.

¹⁵ 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.

¹⁶ PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tłıchq Laws and Indicators of Change. 2008.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ PR (BNE) – 166: Transcript – April 6, 2016 (Day 1) – Bluenose East Caribou Herd Public Hearing. pp. 117-118.

²¹ PR (BNE) – 170: Undertaking #3 – Délıne First Nation to WRRB – Bluenose-East Caribou Herd Public Hearing.

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

“Protecting the caribou is not the responsibility of the territorial government ... the responsibility of protecting the caribou is in this [Tłıchǫ] Agreement and the Tłıchǫ 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 Tłıchǫ 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 Tłıchǫ have to say about it and what should be done about it and then your government, your chiefs will make it happen...”²²

Recommendations made, by the Tłıchǫ public, during the workshop and comments made during the public hearings for both the Bathurst and Bluenose-East ɛekwǝ herds indicate the Tłıchǫ people would prefer self-regulation by the TG to observe and protect the ɛekwǝ and the Tłıchǫ 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.”²³

Tłıchǫ as well as other Dene understand the ɛekwǝ 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’èezhì 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 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.”²⁴

Further to Elder Dryneck’s comment, self-regulation for the Tłıchǫ 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

²² PR (BNE) – 121: Transcript – Tłıchǫ Government Caribou Workshop, Whati, NT – Day 1, pp. 6-7.

²³ PR (BNE) – 166: Transcript – April 6, 2016 (Day1) – Bluenose East Caribou Herd Public Hearing, pp. 134 & 140.

²⁴ PR (BNE) – 167: Transcript – April 7, 2016 (Day 2) – Bluenose East Caribou Herd Public Hearing, pp. 196-197.

Tł̥chq Citizens, at the 2007 workshop in Whatì, 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.”*²⁵

Similarly, the Dél̥nq̥ Conservation Plan shows how the community can acknowledge the responsibility of hunters, *“We are our own bosses, but we have to follow Dene ɁɁa [law], while following the leaders”*.²⁶ 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.”*²⁷

Another aspect of self-regulation, discussed during the 2007 workshop in Whatì, was the proposed idea that Tł̥chq communities patrol popular hunting areas and report wastage.²⁸ 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 Tł̥chq Citizens should work more closely with wildlife officers while out on the dè.²⁹ Both TG and Dél̥nq̥ Got̥̥nq̥ agree self-regulation includes collaborating with the GNWT, *“Since we started our collaborative process with ENR we know how important it is to work together, especially when you have a partner that has abilities beyond what we can do ourselves ...”*.³⁰

During the WRRB’s Bluenose-East Caribou Herd 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 Ɂekwò, such as tags vs. rights to hunt and how regions plan community hunts.³¹ But the Board

²⁵ PR (BNE) – 122: Transcript – Tł̥chq Government Caribou Workshop. Whatì, NT – Day 2. pp. 7-8.

²⁶ PR (BNE) – 170: Undertaking #3 – Dél̥nq̥ First Nation to WRRB – Bluenose-East Caribou Herd Public Hearing.

²⁷ PR (BNE) – 168: Transcript – April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 126-130.

²⁸ PR (BNE) – 122: Transcript – Tł̥chq Government Caribou Workshop. Whatì, NT – Day 2. p. 19.

²⁹ Ibid. pp. 19-20.

³⁰ PR (BNE) – 168: Transcript April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 26-27.

³¹ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016 – Bluenose-East Caribou Herd.

cannot neglect the importance of drawing on Tłıchq Knowledge (TK) when managing ʔekwò³² – a social and spiritual animal whom Tłıchq live with.³³

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.

6. WRRB RECOMMENDATIONS ON PREDATOR MANAGEMENT

6.1 Aboriginal Evidence

The information presented from Aboriginal governments and community members on predator management indicates varying perspectives between regions and people. Harvesters from Kugluktuk have traditionally harvested wolves stating *“Predator numbers have increased (wolves and grizzlies), partly because few people harvest them now that harvesters no long take predators as much as they used to”,*³⁴ and emphasize that *“impacts of predations on caribou populations need to be studied”*.³⁵

³² PR (BNE) – 168: Transcript April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 26-27.

³³ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016 – Bluenose-East Caribou Herd and PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tłıchq Laws and Indicators of Change. 2008.

³⁴ PR (BNE) – 099: 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.40.

³⁵ Ibid. p.41.

Harvesters from the Sahtú Settlement Area suggested, “predation rates and impact on herds should be studied”³⁶ while the Délı̨nę Got’ı̨ne stated they “can’t do much about predators because they need to achieve their own balance”.³⁷ During the 2016 Bluenose-East Caribou Herd Public Hearing, Walter Bayha expanded on these statements,

*“We need to find out which families we shouldn't impose [harvesting of wolves] because they -- they say that they don't want to deal with wolves, and we leave them alone. But then there's people that want to do that [harvest wolves] and that's fine.”*³⁸

Tł̨chq Elder Joseph Judas also spoke of the relationship wolves have with the people and with ʔekwò as well as Sahcho (grizzly bear) when he said,

*“We have a lot of interest in the wolf control system ... because like the -- the wolves have a good relationship with the -- with the animal [ʔekwò]. And somehow, they have a good relationship with other animals, such as grizzly bears. ... In theory, our ancestors ..., they inform us about all that. So today, I think the -- we have to have a good dialogue -- working relationship with the animals, and the land, and the environment, and the other formal government, like ENR.”*³⁹

Elder Phillip Dryneck continued discussing how animals and Dene lived in harmony, while emphasizing the confusion when he said,

*“Caribou has been with us for many, many years. And now that we're -- we're blame -- we're blaming the predators, like wolves, bears. ... that is not possible, because they always co-existed, even with our ancestors, but there was abundance back then. But -- but today, there's just so many -- so many information. So many stories. So I'm thinking very, very heavy, standing here.”*⁴⁰

A Sahtú individual from Colville Lake, though, did express concerns that the continual discussion of ʔekwò and sahcho may have a negative impact on herd numbers, perhaps reflecting the need to consider traditional knowledge and practices regarding the animals and their relationship with humans:

“It's not good to always talk about the caribou or bears. They might stay away because we are talking about them. We can't make decisions on

³⁶ PR (BNE) – 099: 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.106.

³⁷ PR (BNE) – 175: Undertaking #3 – ENR to WRRB – Bluenose East Caribou Public Hearing.

³⁸ PR (BNE) – 168: Transcript – April 8, 2016 (Day 3) – Bluenose-East Caribou Herd Public Hearing. pp. 135-136.

³⁹ PR (BNE) – 167: Transcript – April 7, 2016 (Day 2) – Bluenose-East Caribou Herd Public Hearing. pp. 114-115.

⁴⁰ Ibid. pp. 194-195.

behalf of the animals because we don't own them. The caribou has its own mind and should be free."⁴¹

While there is concern about the impact of predators on ʔekwò, the evidence above also suggests that to understand these impacts from an Aboriginal perspective, it is important to understand predator behaviors as well as their relationships with ʔekwò and humans. Further, given the concern that decision makers need to consider TK in relation to all wildlife, and the WRRB is mandated under Section 12.1.6 of the Tłıchq Agreement to “acquire and use traditional knowledge as well as other types of scientific information”, the WRRB recommends the following in relation to predators:

Recommendation #2B-2016: The WRRB recommends that TG conduct TK research to define, from the Tłıchq perspective, types of dıga, 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.

6.2 Scientific Evidence

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 Bluenose-East ʔekwò herd.⁴² Additionally, any consideration of predator management on the Bluenose-East ʔekwò calving grounds would depend on the involvement of Nunavut management authorities and their processes for wildlife management.⁴³

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 dıga for the calving grounds.⁴⁴ It is suggested that sahcho predation on ʔekwò occurs primarily during the calving season, with relatively lower rates of predation during summer and fall.⁴⁵ Preliminary findings suggest that collared ʔekwò mortality is more common in the late summer or early fall, which may suggest predation by dıga.⁴⁶ While the most of the additional scientific information available for analysis about sahcho,

⁴¹ PR (BNE) – 099: 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. 133 [alteration in original].

⁴² PR (BNE) – 001: Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019.

⁴³ PR (BNE) – 166: Transcript – April 6, 2016 (Day1) – Bluenose East Caribou Herd Public Hearing, p. 104; and, PR (BNE) – 001: Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019.

⁴⁴ PR (BNE) – 006: TG & ENR Information Request No.1 Responses. Bluenose-East Caribou Herd. Appendix A.

⁴⁵ PR (BNE) – 018: TG & ENR Information Request No.2 Responses. Bluenose-East Caribou Herd. Question #11.

⁴⁶ PR (BNE) – 006: TG & ENR Information Request No.1 Responses. Bluenose-East Caribou Herd. Question #13.

including diet and movements, is for the Bathurst Ɂekwò herd's seasonal ranges,⁴⁷ the Board believes that this information is also applicable to the Bluenose-East Ɂekwò herd.

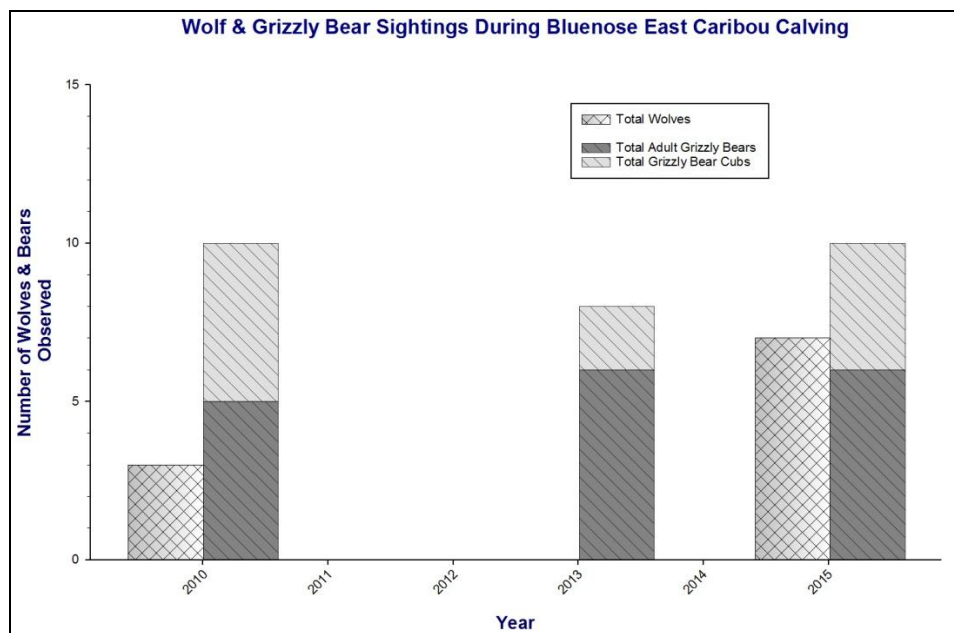


Figure 2: Wolf & Grizzly Bear Sightings during Bluenose-East Ɂekwò (Barren-ground Caribou) Calving.⁴⁸

Given the recent acceleration of the Bluenose-East Ɂekwò herd's decline and the uncertainty about the role of sahcho predation, the Board believes that much of the information compiled for ḏiga feasibility assessment for the Bathurst Ɂekwò herd is applicable to the Bluenose-East Ɂekwò herd. Additionally, the WRRB recommends:

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

⁴⁷ PR (BNE) – 018: TG & ENR Information Request No.2 Responses. Bluenose-East Caribou Herd. Question #11.

⁴⁸ PR (BNE) – 006: TG & ENR Information Request No.1 Responses. Bluenose-East Caribou Herd. Appendix A.

7. WRRB RECOMMENDATIONS ON BIOLOGICAL MONITORING OF THE BLUENOSE-EAST ʔEKWÒ (BARREN-GROUND CARIBOU)

7.1 Collars and Aircraft Over-Flights

Consistent concerns are raised about the impacts of putting collars on ʔekwò. Perhaps the strongest statement made during the 2007 TG Caribou Workshop was by Johnny Simpson:

*“Tłıchq citizens want the caribou collar program discontinued in the Tłıchq country. Collars could cause discomfort, loss of appetite, it could cause poor sleeping patterns, and caribou might develop illness from the collars so the group wants it stopped.”*⁴⁹

Participants at the 2016 Bluenose-East Caribou Herd Traditional Knowledge Session agreed that collars are necessary for scientific information but, for the Dene, collaring ʔekwò is disrespectful due to human-animals relations. The participants recognized it as a dilemma as most participants at meeting consider collars as one of the reasons why ʔekwò are not returning to the people in larger numbers.⁵⁰ At a meeting in the Sahtú Settlement Area, an individual from Colville Lake wondered if the collars were the reason for a significant number of ʔekwò have gone missing, “we are missing 20,000 caribou, so maybe that [satellite collars] is part of the problem.”⁵¹

Another aspect of scientific information gathering for management is aircraft over-flights. Low flying air travel is common in northern areas where airplanes and helicopters are used in a number of activities. Several Tłıchq expressed concerns over the effects aircraft over-flights have on ʔekwò herds, making statements like Elder Margaret Lafferty’s comment, “low flying planes stress the caribou”.⁵²

An individual from Délıne suggested that flyovers may be impacting the migration routes of the herd as well:

“Animals are like human beings – if you bother them too much they don’t like it. How many times have we got to keep telling ENR this? They should treat animals like human beings and with respect. In the old days when there was no ENR, animals roamed anywhere they wanted. It seems now

⁴⁹ PR (BNE) – 123: Transcript – Tłıchq Government Caribou Workshop, Whatı, NT – Day 3, p. 10.

⁵⁰ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016. Bluenose-East Caribou Herd.

⁵¹ PR (BNE) – 099: 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. 107 [alteration in original].

⁵² PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tłıchq Laws and Indicators of Change. 2008.

with all the activity and the flying around, that's why the migration route has changed and we must acknowledge that."⁵³

Similarly, Elder Joseph Judas stated that such over-flights create a barrier to the ʔekwò in the contexts of their migration patterns due to the noise they produce:

*"Yes, there are a lot of other thing that the animals are impacted by. The – like I said, the – the industries that have some impact as we know it because ... 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

As the Board is respectful of the concerns expressed by the Aboriginal harvesters who know ʔekwò 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 ʔekwò 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.

7.2 Monitoring Indicators and Thresholds

7.2.1 Aboriginal Evidence

Monitoring indicators can be derived from stories associated with traditional knowledge. Aboriginal harvesters have an in-depth and intimate knowledge of ʔekwò and their predators, due to the manner in which they live with the environment and how they observe and share their knowledge through stories.

For example, an individual from Behchokò, participating in a community engagement session in February 2011 for the 'Taking Care of Caribou' management plan, considered the amount of fat on the ʔekwò as an indicator when he said,

⁵³ PR (BNE) – 099: 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. 30.

⁵⁴ PR (BNE) – 166: Transcript – April 6, 2016 (DAY 1) – Bluenose-East Caribou Herd Public Hearing, p. 107.

“The ʔekwò is not fat as it once was. Is it because of the burnt area or contaminants? For the last nine years I’ve been talking about this. I don’t want ʔekwò to go into contaminated areas. Because of the mineral exploration and mining there is a big impact on ʔekwò. The ʔekwò would be hard to eat.”⁵⁵

At another community engagement session for the ‘Taking Care of Caribou’ management plan in 2007, an individual from Kugluktuk spoke about the many changes he had noticed in the health of the Bathurst ʔekwò herd:

“The number of diseased ʔekwò is increasing and there are different types of diseases being reported now – lungs stuck to rib cage, pus in joints, tape worm cysts, and sandpaper skin.”⁵⁶

Tł̥chq Elder Louis Whane used the state of hides as an indicator,

“Before when we skin a ʔekwò we only use our hands and our hands feel smooth, just like we put on hand lotion – that’s how good the hides used to be. ... Now today, when we skin the ʔekwò with our hands it feels rough, like sand, and when we pull the ʔekwò hide it can rip. It never did that in the past.”⁵⁷

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.”⁵⁸

In 2010, the WRRB recommended that the “Tł̥chq Knowledge Research and Monitoring Program: Special Project, Using Tł̥chq Knowledge to Monitor Barren-ground Caribou” be initiated, ensuring Tł̥chq observations are documented and shared.⁵⁹ The project was

⁵⁵ PR (BNE) – 099: 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. 57.

⁵⁶ Ibid. p. 58.

⁵⁷ PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tł̥chq Laws and Indicators of Change. 2008.

⁵⁸ PR (BNE) – 126: Ni hat’ni – Watching the Land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of the Łutsel K’e Denéşq̓liné, pp. 55-56.

⁵⁹ PR (BNE) – 124: Report on a Public Hearing Held by the Wek’èezhił Renewable Resources Board 22-26 March 2010, 5-6 August 2010 Behchokò, NT & Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd: Appendix F.

suggested by the Tłıchq elders who were interested in having Tłıchq harvester and elders share their experiences and observations with other Aboriginal governments and with those whom they co-manage. Sharing stories and communicating information is critical to their knowledge system.⁶⁰

Similarly, the Délıne First Nation's responses to the BNE Undertaking #3, highlighted the importance of sharing information as an extension of traditional practices to ensure everyone understand occurrences:

*"Délıne hunters and harvesters are a main information source for Dene perspectives and traditional knowledge about the land. Hunters may travel all over the Great Bear Lake watershed, often from early winter (November) to spring (late May), observing and experiencing the elements that make up ɛekwə habitat (e.g., plants, air, water, land). It is traditional for hunters to then share their information with each other and interpret it collectively. We expect that these traditions will continue in a collaborative research and monitoring setting that can help everyone understand more about ɛekwə and their habitat."*⁶¹

The desire for regular information sharing was also expressed at the TG Caribou Workshop in 2007 in relation to harvest mortalities during the Tłıchq annual harvest, with a recommendation that *"a report should be released to [by] the Tłıchq Government on how many caribou are killed during the Tłıchq annual fall hunt."*⁶²

7.2.2 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 Bluenose-East ɛekwə herd, unchanged from the 2010 Joint Management Proposal,⁶³ include adult survival; harvest; sex-ratio; calf-cow ratios; annual numbers of ɛekwə on the calving ground; estimated number of breeding females; cow productivity; and, seasonal distribution.⁶⁴ These monitoring actions are generally consistent with the monitoring listed in the *"Taking Care of Caribou"* management plan.⁶⁵ Additional indicators are for environmental monitoring and wolf harvest.

⁶⁰ Ibid.

⁶¹ PR (BNE) – 170: Undertaking #3 – Délıne First Nation to WRRB – Bluenose-East Caribou Herd Public Hearing.

⁶² PR (BNE) – 122: Transcript – Tłıchq Government Caribou Workshop, Whatı, NT – Day 2, p. 15.

⁶³ PR (BNE) – 124: Report on a Public Hearing Held by the Wek'èezhıı Renewable Resources Board 22-26 March 2010, 5-6 August 2010 Behchokò, NT & Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd.

⁶⁴ PR (BNE) – 001: Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019.

⁶⁵ PR (BNE) – 091: Taking Care of Caribou – The Cape Bathurst, Bluenose-West and Bluenose-East Barren Ground Caribou Herds Management Plan. 2014.

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.⁶⁶ The BGCTWG reviews annual monitoring information for both the Bathurst and Bluenose-East ʔekwò herds. While the WRRB, in general, is satisfied with the core biological monitoring conducted on the Bluenose-East 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 WRRB is aware of ENR and TG's limitations for funding and personnel, and notes that monitoring information is shared with the ACCWM, which may add to time demands for ENR in providing monitoring updates.

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 2.⁶⁷ 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.⁶⁸ The Board understands the importance of monitoring vital rates such as adult survival and productivity which are essential to understanding trends in herd abundance; however, during the scientific technical session, participants noted shortcomings in adult cow survival and gaps in how harvest levels are recorded. Tłıchʔ communities have voiced the importance of community-based collection of harvest information,⁶⁹ and that the "*Taking Care of Caribou*" management plan refers to the need for a flexible approach to compiling harvest information.⁷⁰ Coordinating community and agency-based harvest monitoring becomes both more complex and more important in a rapidly declining herd.

The WRRB is sensitive to the concerns expressed during the 2016 Bluenose-East Caribou Herd Public Hearing (see above section 7.1) 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 Bluenose-East 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.

⁶⁶ PR (BNE) – 153: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhì – Implementation Plan, 17Jun2011.

⁶⁷ PR (BNE) – 108: Summary of Science Technical Session, March 17, 2016 – Bluenose-East Caribou Herd.

⁶⁸ Ibid.

⁶⁹ PR (BNE) – 099: 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',

⁷⁰ PR (BNE) – 091: Taking Care of Caribou – The Cape Bathurst, Bluenose-West and Bluenose-East Barren Ground Caribou Herds Management Plan. 2014.

While TG and ENR acknowledged the need to meet annually to discuss monitoring results,⁷¹ the WRRB would like to be assured of a strong approach to adaptive management to ensure timely and efficient responses to changes in the Bluenose-East ʔekwò herd. One such approach that may be useful for Bluenose-East ʔekwò herd monitoring and adaptive management is the Conservation Measures Partnership's Open Standards for the Practice of Conservation.⁷² The Open Standards approach was developed in 2002 and is an internationally and well-practiced tool for collaborative adaptive management.

7.2.3 Conclusion

The strength of the Open Standards approach lies on the emphasis of collaboration, transparency and sharing data to determine appropriate management. Given the severe decline of the Bluenose-East 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 TG and ENR work with the BGCTWG to prioritize biological monitoring indicators in order of need for effective management and develop thresholds under which management actions can be taken and evaluated. Additionally, TG and ENR should work with the BGCTWG to 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. Implementation of this recommendation should be completed by no later than the end of March 2017.

⁷¹ PR (BNE) – 018: TG & ENR Information Request No.2 Responses – Bluenose-East Caribou Herd. Question #2.

⁷² PR (BNE) – 130: Open Standards for the Practice of Conservation, Version 3.0/April 2003.

8. WRRB RECOMMENDATIONS ON ENVIRONMENTAL MONITORING ON THE BLUENOSE-EAST ʔEKWÒ (BARREN-GROUND CARIBOU) RANGE

8.1 Cumulative Effects

Despite the very low level of industrial exploration and development on the range of the Bluenose-East ʔekwò herd, the WRRB heard concerns about cumulative effects during the 2016 Bluenose-East Caribou herd Public Hearing. 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.”⁷³

Currently, approaches to monitoring and managing cumulative effects have provided examples of how components are interrelated, and how initiatives may be arranged and coordinated. An example is the draft framework for Cumulative Effects Assessment. Monitoring and Management (CEAMM), which is applicable to the Bluenose-East ʔekwò herd.⁷⁴

The WRRB’s 2010 Recommendations #47 to 51, and 55 focused on calving ground protection in Nunavut (47), industry best practices for ʔekwò 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 ʔekwò habitat (51), and long-term management planning for ʔekwò herds (55).⁷⁵ As of submission of this 2016 report, calving ground protection (47, 48) is under discussion as part of the draft Nunavut Land Use Plan.⁷⁶ The Board notes that a mining company has planned exploration on the Bluenose-East ʔekwò calving ground in 2015, although not during calving.⁷⁷

In the 2011 Revised Joint Proposal on Caribou Management Actions in Wek’èezhìi – Implementation Plan, TG and ENR recognized comments from community members emphasizing the need to consider all factors that affect ʔekwò, including cumulative effects, fire on the winter range, and climate change.⁷⁸ Consequently, the WRRB is concerned about ʔekwò habitat and how to ensure its conservation is based on an

⁷³ PR (BNE) – 120: Tłchq Wenek’e – Tłchq Land Use Plan.

⁷⁴ PR (BNE) - 104: Discussion Paper: Guidance for developing a multi-scale cumulative effects monitoring program for wildlife in the Slave Geological Province.

⁷⁵ PR (BNE) – 124: 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.

⁷⁶ PR (BNE) – 166: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 37 & 117; and, <http://www.nunavut.ca/en/draft-plan>.

⁷⁷ PR (BNE) – 136: ENR to WRRB – Bluenose-East Caribou Herd Public Hearing Presentation.

⁷⁸ PR (BNE) – 153: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek’èezhìi – Implementation Plan, 17 Jun 2011.

integrated response to changes in habitats from both natural and man-made changes. While the Board found TG and ENR's response to information requests helpful, the WRRB agrees with TG and ENR that a more comprehensive approach to research and monitoring is needed, particularly for habitat.⁷⁹

8.1.1 Land Use Plans

Land use planning is part of conserving ʔekwò habitat. TG called for assistance from the WRRB to focus on long-term management and planning, such as considering the impacts of development and habitat loss on herd decline, rather than just on short-term actions related to harvest restrictions.⁸⁰ The Board notes that although the Tł̨chq Land Use Plan (TLUP) was completed in 2013,⁸¹ implementation of different components of the TLUP, including the ʔekwò strategy, has not occurred. The Board believes that implementation of certain aspects of the TLUP should occur soon to protect ʔekwò habitat.⁸²

The WRRB's 2010 Recommendation #49 was specific to the development of a land use plan for Wek'èezhì.⁸³ However, TG stated that the parties will determine how to move forward in the development of a land use plan for Wek'èezhì once the TLUP is complete.⁸⁴ Since the TLUP was completed in 2013, the Board is aware that, in coordination with TG, the GNWT's Department of Lands is now exploring the possibility of moving forward with a land use plan for Wek'èezhì.⁸⁵

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

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

8.1.2 Conservation Areas

During the Information Requests, ENR outlined the conservation and interim dè withdrawals on the Bluenose-East ʔekwò range as conservation zones in the Sahtú Land Use Plan, i.e. *Edajjila* (Caribou Point), which is a candidate Protected Area; *Tehkaicho Dé* (Jonny Hoe River); and *Luchaniline* (Whitefish River).⁸⁶

⁷⁹ PR (BNE) – 018: TG & ENR Information Request No.2 Responses – Bluenose-East Caribou Herd. Question #6.

⁸⁰ PR (BNE) – 018: TG & ENR Information Request No.2 Responses – Bluenose-East Caribou Herd. Question #6.

⁸¹ PR (BNE) – 120: Tł̨chq Wenek'e – Tł̨chq Land Use Plan.

⁸² PR (BNE) – 044: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 91-95.

⁸³ PR (BNE) – 124: 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.

⁸⁴ PR (BNE) – 153: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhì – Implementation Plan, 17 Jun 2011.

⁸⁵ <http://www.lands.gov.nt.ca/en/wek%E2%80%99C3%A8ezh%C3%ACi-management-area>.

⁸⁶ PR (BNE) – 018: TG & ENR Information Request No.2 Responses – Bluenose-East Caribou Herd. Question #6.

The *Wildlife Act*,⁸⁷ under Part 6 – Conservation and Management Measures, has provisions for the establishment of conservation areas.⁸⁸ The Board understands that the use of conservation areas is not included in land use planning, as the provisions for establishing conservation areas falls under the *Wildlife Act*, and decisions on establishment of conservation areas require a decision by Cabinet.⁸⁹

The conservation areas approach based in the *Wildlife Act* 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. An approach to protecting ʔekwò habitat should include those sites traditionally used by ʔekwò, such as water crossings.⁹⁰ A conservation areas approach offers a possibility for protection of water crossings, though the WRRB understands that specifics regarding the circumstances and the regulations required to establish conservation areas have not been finalized. However, ENR clarified that though crossings are identified as important areas that need protection, ENR is not prepared to support a conservation areas designation around crossings.⁹¹

In the mid-1990s, the Tł̓chq Regional Elders' Committee directed their community researchers to document ʔekwò water crossing within Mqwhì Gogha Dè Nı̄tl̓èè as well as where ʔekwò fences were placed⁹² as they were known to be significant locales along migration routes where the harvesters expected the ʔekwò to travel.⁹³ Since the documentation of these water crossings, there have been many statements made concerning development in important areas and along routes that ʔekwò use.

Participants at the Bluenose-East Caribou Herd Traditional Knowledge Technical Session in March 2016 expressed their concern that ʔekwò water crossings have been destroyed by industry,

*“A Tł̓chq participant explained that an important water crossing at Hottah Lake, where the two herds [Bluenose and Bathurst] merge, has been disturbed and the site has yet to be cleaned up.”*⁹⁴

Recommendation #11B-2016: The WRRB recommends TG and ENR develop criteria under which Conservation Areas in the NWT's *Wildlife Act* will be used to protect key ʔekwò habitat by March 2018.

⁸⁷ S.N.W.T 2014, c.31.

⁸⁸ <http://www.enr.gov.nt.ca/programs/wildlife/new-wildlife-act>.

⁸⁹ PR (BNE) – 167: Transcript – April 7, 2016 (Day 2) – Bluenose East Caribou Herd Public Hearing. pp. 175-176.

⁹⁰ PR (BNE) – 128: *Ekwò zò gha dzò nats'édè - “We Live Here For Caribou”: Cumulative Impacts Study on Bathurst Caribou*.

⁹¹ PR (BNE) – 044: Transcript – February 24, 2016 (DAY 2) – Bathurst Caribou Herd Public Hearing. pp. 41-42.

⁹² PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tł̓chq Laws and Indicators of Change. 2008.

⁹³ Ibid.

⁹⁴ PR (BNE) - 092: Summary of Traditional Knowledge Session, March 22, 2016 - Bluenose-East Caribou Herd.

Recommendation #12B-2016: The WRRB recommends that TG and ENR develop criteria to protect ʔekwò water crossings from exploration and development activities in the NWT. The criteria should be developed by March 2018 and included in the Tł̨cho and Wek'èezhìi Land Use Plans.

8.1.3 Offsets

At the March 2016 Bluenose-East Caribou Herd Traditional Knowledge Technical Session both participants from the Sahtú and Tł̨cho agreed

*“industrial development creates ‘a wall’ against caribou migration to flow particular ways. Airports, highways and winter roads are also barriers and much bigger than the cat-trails that once ran through the boreal forest”*⁹⁵

The resource extraction industry has significantly developed since the 1990s with elders emphasizing the “sites and the associated activities form a “wall” surrounding the Ek’atì area that block”⁹⁶ ʔekwò from their main migration routes and tataa.⁹⁷ Tataa are corridors between bodies of water where ʔekwò herds migrate and where they can spend time foraging the lush vegetation.⁹⁸

*The “wall” created by mining activities separates the caribou from their tataa. The consequences of this “wall” is that it divides the caribou herd, resulting in less caribou migrating towards Tł̨cho communities.”*⁹⁹

It should be noted that, at the 2016 Traditional Knowledge Technical Session, there was considerable discussion on the importance of restricting Dene harvest for the ʔekwò. In conjunction with this questioned, a Tł̨cho participant summarized the discussion with a question:

*“So what are you doing on the Western side to support this? It should not be just harvesting so more development can take place. We have chosen not to hunt so we can help caribou recover. This is a challenge for others to step up. This is an opportunity to do business in a different way.”*¹⁰⁰

During this discussion, both participants from the Sahtú and Tł̨cho regions agreed the calving grounds, water crossing, eskers, and tataa are important. They concluded “all

⁹⁵ PR (BNE) - 092: Summary of Traditional Knowledge Session, March 22, 2016 - Bluenose-East Caribou Herd.

⁹⁶ PR (BNE) - 128: Ekwò zò gha dzò nats'édè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

⁹⁷ Ibid.

⁹⁸ PR (BNE) - 128: Ekwò zò gha dzò nats'édè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou; and PR (BNE) - 125: Caribou Migration and the State of their Habitat - Final Report, March 2001.

⁹⁹ PR (BNE) - 128: Ekwò zò gha dzò nats'édè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

¹⁰⁰ PR (BNE) - 092: Summary of Traditional Knowledge Session, March 22, 2016 - Bluenose-East Caribou Herd.

range – in tundra and boreal forest – is important,”¹⁰¹ suggesting that ʔekwò habitat needs to be protected.¹⁰² The Délı̨nę Got’ı̨ne participant explained that other co-management boards in the Sahtú have made all kinds of recommendations and government needs to listen.¹⁰³

Landscape-scale mitigation can include controlling the number and distribution of development activities, or protecting important habitats. Project-specific mitigation is specific to activities at project sites, with examples found under individual project assessments, including aspects of Wildlife Effects Monitoring Plans and Wildlife and Wildlife Habitat Monitoring Plans as required under the *Wildlife Act*.

In terms of mitigating industrial activities and managing cumulative effects, a potential tool includes tradeoffs, also known as off-setting,¹⁰⁴ which can be defined as

“measurable 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”.¹⁰⁵

The Board has noted that offsets are already in place on the Bathurst ʔekwò range 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 are a relatively new concept in the NWT, the WRRB believes that offsets can address impacts of exploration and development activities on ʔekwò ranges.

The Board believes that the concept of offsets is applicable to the Bluenose-East ʔekwò herd as a conservative and precautionary approach is warranted. While there are no active mines on the Bluenose-East range and there is little development, ENR stated that the rate of decline in the Bluenose East ʔekwò herd between 2013 and 2015 is very similar to the Bathurst decline when it was most rapid.¹⁰⁶ ENR also mentioned that the range planning process for the Bathurst ʔekwò herd, and the cumulative effects modeling associated with it, could have applications to other herds in the future.¹⁰⁷ The Board understands that such planning is time-consuming but, due to the direct application to the Bluenose-East ʔekwò herd, considers it to be useful.

¹⁰¹ PR (BNE) - 092: Summary of Traditional Knowledge Session, March 22, 2016 - Bluenose-East Caribou Herd.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ PR (BNE) – 070: Insights into integrating cumulative effects and collaborative comanagement for migratory tundra caribou herds in the Northwest Territories, Canada.

¹⁰⁵ 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.

¹⁰⁶ PR (BNE) – 136: ENR to WRRB – Bluenose-East Caribou Herd Public Hearing Presentation.

¹⁰⁷ PR (BNE) – 167: Transcript – April 7, 2016 (Day 2) – Bluenose East Caribou Herd Public Hearing. p.52.

Recommendation #13B-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.

8.2 Fire

8.2.1 Aboriginal Evidence

Since the mid-1990s, Tłıchǫ have been concerned about the even increasing intensity and size of the forest fires.¹⁰⁸ Participants attending the 2016 Bluenose-East Caribou Herd Traditional Knowledge Technical Session agreed that *“caribou trails and water crossings need to be considered when discussing fire management. Caribou habitat needs to be protected; we need more protected areas.”*¹⁰⁹

Walter Bayha discussed how the Délı̨nę Got’ı̨ne are

“trying to understand how our grandfathers understood what the impact of fires to the habitat is, and why they talk about land protection as if it’s people. They say,... ‘you’re crucifying your land.’ ... Once you understand those concepts ... [it] help[s] you with your decision making.”

Forest fires and the destruction of ʔekwò habitat causing migration routes to change as well as death of wildlife¹¹⁰ was a constant theme during the 2016 Bluenose-East Caribou Herd Public Hearing. It was, however, Sam Simpson who best summarized the public comments in Behchokò,

*“If you see the land has been burned all over the area I guess, you know, that, too, speaks for itself. And then the land itself is all burned out. I guess it’s -- it’s good -- caribou grazing area has been burnt. Yes, that I used to remember a day when the caribou that used to migrate through this area, and then they graze all winter over here where there’s a lot of unburned area, but the forest fire had to take its toll for some time back. ... and all the good plants that the animal eat I guess they’re all burned up. And how long it takes to, you know, have a re-growth of new plants after the major fires? Yes, if you happen to go over the area where it has been burnt, you know, I don’t think you’ll be able to see any animal tracks.”*¹¹¹

¹⁰⁸ PR (BNE) – 125: Caribou Migration and the State of their Habitat – Final Report, March 2001.

¹⁰⁹ PR (BNE) – 092: Summary of Traditional Knowledge Session, March 22, 2016 – Bluenose-East Caribou Herd. P.5

¹¹⁰ PR (BNE) – 106: Traditional Ecological Knowledge in the Kaché Tuè Study Region, Phase 1 and 2. p 40.

¹¹¹ PR (BNE) – 168: Transcript – April 8, 2016 (Day3) – Bluenose East Caribou Herd Public Hearing. P. 77-80

8.2.2 Scientific Evidence

Fires are a major driver of landscape change in the NWT, and along with anthropogenic activities, fires are a part of cumulative effects. ʔekwò have co-existed with fires for thousands of years, with fires creating and sustaining a habitat mosaic that ʔekwò and other species utilize. Though habitat is not currently considered to be limiting,¹¹² ENR described, that since 1966, fires have burnt 13% of the herd's range, though the large fires of 2014 were mainly in the southern NWT.¹¹³ Comments provided during the proceedings, indicates there are concerns about the impacts that climate change and future fires may continue to bring.¹¹⁴

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.¹¹⁵ 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.¹¹⁶ 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.¹¹⁷ While the Recommendation was for the Bathurst ʔekwò herd, the Board notes that it should also be applied to the Bluenose-East ʔekwò herd, especially in the light of climate change.

The Board appreciates the limitations and constraints that ENR faces and understands that fiscal considerations have an impact on managing fire. Further, the WRRB realizes that managing risk, with regards to life and property, is also a difficult undertaking. However, the Board suggests that if, for example, fire suppression is found to be impractical in important ʔekwò habitat, then that can assist with prioritizing and implementing other 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 ʔekwò winter range, such as tǫdzi (boreal woodland caribou).

8.2.3 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:

¹¹² PR (BNE) – 136: ENR to WRRB – Bluenose-East Caribou Herd Public Hearing Presentation.

¹¹³ PR (BNE) – 018: TG & ENR Information Request No.2 Responses – Bluenose-East Caribou Herd. Question #5.

¹¹⁴ PR (BNE) – 136: ENR to WRRB – Bluenose-East Caribou Herd Public Hearing Presentation.

¹¹⁵ PR (BNE) – 124: Report on a Public Hearing Held by the Wek'èezhì Renewable Resources Board 22-26 March 2010 & 5-6 August 2010, Behchokǫ, NT and Reasons for Decisions Related to a Joint Proposal for the Management of the Bathurst Caribou Herd. 2010.

¹¹⁶ PR (BNE) – 153: ENR & TG to WRRB – Revised Joint Proposal on Caribou Management Actions in Wek'èezhì – Implementation Plan, 17 Jun 2011.

¹¹⁷ Ibid.

Recommendation #14B-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.

8.3 Habitat/Climate

8.3.1 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'édénéşłíné 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.”*¹¹⁸

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”.*¹¹⁹

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.”*¹²⁰ 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”*¹²¹ indicating that both summer and winter habitats are at risk.

The WRRB 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 Tłıchq and the Denéşłíné relating to ʔekwò and their habitat,¹²² there has been no

¹¹⁸ PR (BNE) – 126: Ni hat'ni – Watching the land: Results of 2003-2005 Monitoring Activities in the Traditional Territory of Łutsel K'édénéşłíné. p. 56

¹¹⁹ PR (BNE) – 043: Transcript – February 23, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p 118-119.

¹²⁰ PR (BNE) – 128: Ekwò zò gha dzò nats'édè “We Live Here For Caribou” Cumulative Impacts Study on the Bathurst Caribou.

¹²¹ PR (BNE) – 044: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p 38.

¹²² PR (BNE) – 105: Monitoring the Relationship between People and Caribou Modified Version of the Report Monitoring Caribou: Tłıchq Laws and Indicators of Change. 2008; PR (BNE) – 125: Caribou Migration and the State

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 #15B-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 #16B-2016: The WRRB recommends that TG conduct TK monitoring to assess the quality and quantity of winter forage by September 2018.

8.3.2 Scientific Evidence

TG and ENR identified the likely role of climate, i.e. drought and high indices for warble fly harassment, in reducing productivity for Bluenose-East ʔekwò in 2012 and 2014.¹²³ In July, evidence suggests that the Bluenose-East ʔekwò herd's summer range is drier than the Bathurst ʔekwò herd's which might be why the drought index has significantly increased.¹²⁴ Climate trends also show more rapid snow loss in May and more plant growth in June which are likely beneficial to ʔekwò.¹²⁵

However, while ENR includes climate as a monitoring indicator, they do not include climate indicators as a part of adaptive management,¹²⁶ and do not have any suggestions about how climate such as drought could be accommodated through management actions.¹²⁷ 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. Therefore, the Board suggests that, given the rapid decline of the Bluenose-East ʔekwò during increased drought events, management actions should be used to offset extreme climate events.

Recommendation #17B-2016: The WRRB recommends that TG and ENR work with the BGCTWG to develop monitoring thresholds for climate indicators by March 2017.

9. CONCLUDING COMMENTS

With the Bluenose-East ʔekwò herd in a critical state, all users and managers must act now, in whatever ways possible, to protect the herd so future recovery may be possible.

of their Habitat – Final Report, March 2001; PR (BNE) – 127: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase 3; and, PR (BNE) – 106: Traditional Ecological Knowledge in the Kaché Tué Study Region, Phase 1 and 2.

¹²³ PR (BNE) – 006: TG & ENR Information Request No.1 Responses – Bathurst Caribou Herd. Question #14.

¹²⁴ PR (BNE) – 137: Climate trends on NWT migratory tundra caribou seasonal ranges (Excerpt April 1, 2016) - ENR Response to Document Request - Bluenose-East Caribou Herd.

¹²⁵ Ibid.

¹²⁶ PR (BNE) – 001: Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019.

¹²⁷ PR (BNE) – 044: Transcript – February 24, 2016 (Day 2) – Bathurst Caribou Herd Public Hearing. p 32.

In addition, research into the drivers of the decline and the relationships between ʔekwò, other wildlife and people are imperative for understanding the Bluenose-East herd.

“But we also know that there was natural declines. But after taking its course, being in that natural environment, they --it kind of recovered itself. But the challenges today is not natural. It's global. It's got a lot to do with a lot of different factors that didn't exist at the time. So the challenges are great.”¹²⁸

Dr. John B. Zoe

¹²⁸ PR (BNE) – 044: Transcript – February 24, 2016 (Day 1) – Bathurst Caribou Herd Public Hearing. p. 138.

APPENDIX A

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

Wek'èezhìi Renewable Resource Board Management Proposal

1. Applicant Information	
Project Title: Government of the Northwest Territories and Tłıchǫ Government Joint Proposal on Management Actions for Bluenose-East (BNE) Caribou 2016-2019	
Contact Persons: Organization Names: Addresses: Phone/Fax Numbers: Email addresses: Sjoerd van der Wielen Manager, Lands Section Department of Culture and Lands Protection Tłıchǫ Government Behchokǝ, NT X0E 0Y0 Phone: 867-392-6381 Fax: 867-392-6406 sjoerdvanderwielen@tlicho.com 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	
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
A June 2015 calving ground photographic survey of the Bluenose-East (BNE) herd caribou resulted in an estimate of 17,396 ± 4,616 breeding cows, which indicated that abundance of breeding females had decreased by ~29% per year since the June 2013 estimate of 34,472 ± 4,363 (95% CI; Figure 1; Boulanger 2015). Relative to the June 2010 and 2013 surveys, which suggested an annual rate of decrease of ~14%, the recent survey suggests that the rate of decrease in breeding females has more than doubled over the past two years. In view of this rapid decline, the Tłıchǫ Government (TG) and GNWT ENR are proposing management actions to stop the herd's decline and promote recovery for a 3-year period from November 2016 to November 2019. TG and ENR propose that resident and commercial harvest from this herd remain at 0 and that Aboriginal harvest be limited on a herd-wide basis to 950/year in total and 100% bulls.	

This harvest would be reviewed on an annual basis and as new information becomes available. Until an allocation accepted by all user groups becomes available, the allocation in NWT is proposed as 611 caribou (Tłıchq 373, Sahtú 163, Dehcho 15, Inuvialuit 8, NWT Métis Nation [NWTMN] 14, Akaitcho 20, and North Slave Métis Alliance [NSMA] 17). This would leave an allocation of 339 BNE caribou for Nunavut (NU). Although TG and ENR have no authority over wildlife management in NU, they will work collaboratively with responsible authorities in Nunavut towards implementing a consistent overall approach to Aboriginal harvest of this inter-jurisdictional herd that ranges through NT and NU.

TG and ENR will consider potential actions to address other factors that may affect the herd's trend and ability to recover, including predators and human disturbance on the landscape.

Key points include:

- ENR will lead a technical review of wolf monitoring methods in the NWT, which will be completed in 2016. With input from TG and other parties, ENR will also carry out a feasibility assessment of a full range of predator management options that could support recovery of barren-ground caribou herds.
- Concurrent with the technical review, TG and ENR will explore specific and measurable predator management actions for BNE caribou that are community-based, culturally appropriate, and undertaken with territorial governments and wildlife management authorities. A community-based wolf hunting pilot project is being developed for the Bathurst range for winter 2015-2016 and if successful, methods may be extended to the BNE range in 2016-2017.
- There are currently no mines in Bluenose-East caribou range in the NWT, but Tundra Copper has carried out exploration activity on the BNE calving grounds; TG and ENR will participate in environmental assessment processes for development activities that may affect the BNE herd. TG and ENR expressed opposition to the Tundra Copper activities to the Nunavut Impact Review Board in 2015.

ENR and TG also recognize the importance of increased communication and engagement with communities and harvesters about the status of the caribou herds and about management actions underway, and the importance of accurate harvest reporting by all harvesters.

ENR will continue to monitor the BNE herd's status using calving ground photographic surveys every 3 years, annual spring recruitment surveys, regular fall composition surveys to monitor sex ratio, and annual reconnaissance surveys over the calving grounds. Satellite collars will be maintained on the herd (30 cows, 20 bulls) with annual additions to replace collars that are on caribou that die and collars that reach the end of their battery life. ENR and TG will work on an approach to sharing collar data.

Accurate monitoring of harvest will be essential to overall monitoring and management of this herd. TG is developing proposals for enhanced community-based visual monitoring of caribou and caribou habitat. Additional monitoring (e.g. more frequent fall composition surveys and annual assessments of pregnancy rate from fecal sampling in winter) may be carried out if resources are available.

A proposal with the same primary content as the current one will be submitted by ENR to the Sahtú Renewable Resources Board (SRRB) and the NWT Wildlife Management Advisory

Council (WMAC-NWT).

Please list all permits required to conduct proposal.

Renewable Resource Boards (WRRB, SRRB and WMAC-NWT) may hold public hearings to review proposals involving a Total Allowable Harvest (TAH) for the BNE herd, as included in this proposal.

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

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

A. Bluenose-East Caribou Status in 2015

The June 2015 calving ground photographic survey of the Bluenose-East caribou herd estimated $17,396 \pm 4,616$ (95% Confidence Interval) breeding females which, compared to the June 2013 estimate of $34,472 \pm 4,363$, indicates that the abundance of breeding females has declined by ~29% per year since 2013 (Fig. 1; Boulanger 2015). This result is alarming for two reasons: 1) the rate of decrease has accelerated in recent years. It is now twice the -14% annual rate of change observed between calving ground surveys in 2013 and 2010; and 2) if the observed annual rate of -29% continues, in two years, the number of breeding females would be less than half of what it is before the next calving ground survey scheduled for June 2018. The accelerated decrease in abundance of the BNE herd is similar to the rapid rate of decline observed in the Bathurst herd between 2006 and 2009, when the annual rate of decline based on breeding cow estimates exceeded ~30%. The 2015 photo survey results confirmed the steep downward trend in the Bluenose-East herd suggested by the June 2014 reconnaissance survey of this herd's calving grounds. The herd estimate derived from the calving ground survey is $38,592 \pm 4,733$ (CI) for 2015, which compares to $68,295 \pm 18,041$ in 2013 (Boulanger et al. 2014).

An overview of population monitoring of the BNE and Bathurst caribou herds was provided by ENR (2014a) in late 2014 to Aboriginal governments and co-management boards participating in meetings on management of the two herds. An update with estimates from the BNE June 2015 calving ground survey was provided by letter to Aboriginal governments and co-management boards on September 24, 2015 and a further update was provided on December 2, 2015. Complete survey reports will be provided as they become available.

Other demographic indicators for the Bluenose-East herd in recent years are consistent with a rapidly declining trend between 2010 and 2015: late-winter calf:cow ratios in recent years have averaged below 30 calves:100 cows (ratios of 30-40 calves: 100 cows or greater are associated with stable herds), estimated cow survival has been well below the 80% needed for a stable herd (Boulanger et al. 2014, ENR 2014A), and there is evidence of low pregnancy rate in at least some years, including 2010, 2012 and 2015 (ENR 2014a). Although sample sizes were small, evidence gathered by Tłıchq hunters during winter harvesting suggested that cows were in relatively poor condition between 2010 and 2014 (Garner 2014), and particularly between 2010 and 2012 (ENR 2014a).

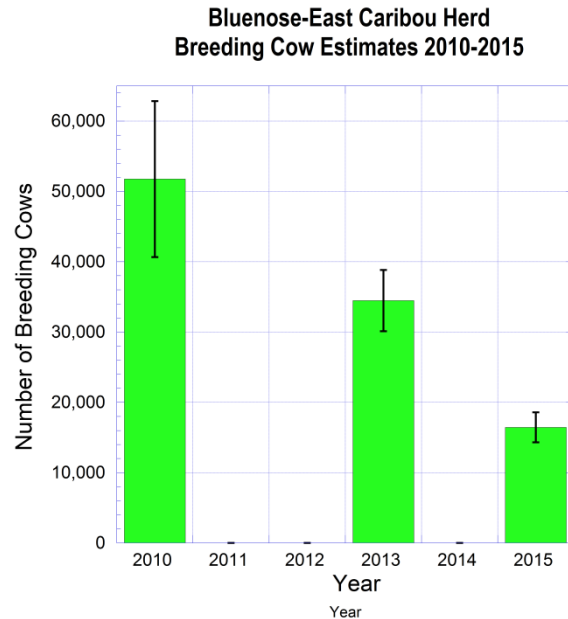


Fig. 1. Estimated numbers of breeding cows ($\pm$ 95% CI) in the Bluenose-East herd 2010-2015.

ENR notes that the declining trend in the Bathurst and Bluenose-East caribou herds is consistent with generally declining trends, with very few exceptions, in migratory tundra caribou herds in North America: George River and Leaf River herds in Quebec/Labrador; Qaminirjuaq herd in Nunavut; Bathurst, Bluenose-West and Tuktoyaktuk Peninsula herds in NWT, with the Cape Bathurst herd stable-declining slightly (based on preliminary estimates from 2015 surveys); Central Arctic, Western Arctic and Teshekpuk herds in Alaska. The Porcupine herd is the lone exception in Alaska with an increasing trend.

The average estimated/reported Bluenose-East harvest in winters 2009-2010 to 2012-2013 was about 2700 caribou/year, and likely at least 65% cows (ENR 2014a; BGTWG 2014). These estimates are considered minimums; wounding losses were not included, some harvest was un-reported and the true harvest may have been at least 4000/year (ENR 2014A). The increased Bluenose-East harvest since the winter of 2009-2010 may reflect a shift in hunting effort from the Bathurst herd to the Bluenose-East herd. The Bathurst harvest before 2010 was not fully documented but estimated at 4000-7000/year, mostly cows (Adamczewski et al. 2009). After 2010 Bathurst harvest was limited to 300 caribou (80% bulls; ENR 2014a) in 2 large management zones, while the BNE harvest was unrestricted.

B. Management Context for the Bluenose-East Caribou Herd

Guidance for the management and monitoring of the Bluenose-East herd is primarily found within the Advisory Committee for the Cooperation on Wildlife Management's management plan for the Cape Bathurst, Bluenose-West and Bluenose-East herds, finalized in November 2014 (ACCWM 2014). In 2015 the ACCWM requested and received support from ENR for development of an Action Plan for the Bluenose-East herd; when completed, this will guide management actions proposed for this herd.

In October 2010, the WRRB issued a report with a series of recommendations focused primarily on the Bathurst herd; recommendations for the BNE herd included closing resident and commercial harvest and a Harvest Target of 2800 caribou (4% of an estimated 70,000)

with a target of 85% bulls and 15% cows. This harvest target was not implemented when the population surveys in 2010 demonstrated that the herd was over 100,000 and had an increasing trend (Adamczewski et al. 2014).

In fall and winter 2014-2015, 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 Bluenose-East herds and to consider management actions to address these declines. Meeting summaries were sent to participants and are available from ENR on request. In early 2015 the ACCWM recommended, and ENR accepted, a harvest limit for NWT Aboriginal hunters of 1800 BNE caribou, with at least 80% of those being bulls, for the remainder of winter 2014-2015. Although the Nunavut harvest of this herd was not well documented, it was assumed to be ~1000/year. After an unsuccessful attempt on a short time-frame to reach agreement among NWT Aboriginal user groups of this herd and co-management boards on an allocation or sharing formula, ENR determined an allocation for the herd in NWT. This was based in large part on recent documented harvest from this herd but also on several other criteria including access to other caribou. The allocation on February 6, 2015 was to include caribou already taken to that point, and the 1800 tags were to be shared as follows: Tłıchq 1100 (61.11%), Sahtú 480 (2.67%), Dehcho 45 (2.50%), Inuvialuit 25 (1.39%), NWT Métis Nation 40 (2.22%), Akaitcho 60 (3.33%), and North Slave Métis Alliance 50 (2.78%).

4. Description of Proposed Management Action

Goal of Management Actions

The short-term goal of the management actions proposed is to stop the herd's decline and promote 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 allows the exercise of Tłıchq right to harvest throughout Mqwhì Gogha Dè Nı̀tłèè is again possible.

Harvest management for the Bluenose-East herd

In view of the recent rapid decline in the BNE herd, TG and ENR suggest that the herd is in the orange phase (intermediate and declining) of the ACCWM management plan, where a Total Allowable Harvest (TAH) acceptable to the ACCWM could be set. The rate of decline is such that the herd could reach the red zone (i.e., 20,000 caribou or less) in 2 years, and the rapid decline must be considered along with herd size when proposing management actions. Accordingly, TG and ENR recommend that resident and commercial harvest from this herd should remain at 0 and Aboriginal harvest should be limited on a herd-wide basis to 950 caribou/year with the harvest being 100% bulls. Based on an extrapolated herd size estimate of 38,592, a harvest of 950 represents ~2.5 % of the herd. TG and ENR consider that the ACCWM's recommended harvest limit of 1800 (2800 in total for the herd, including Nunavut) from 2014-2015 is too high to continue, given the herd's rapid decline and poor demographic indicators. The 50% decline in the herd's breeding cows from 2013 to 2015 indicates that the herd's breeding cows need to be conserved if the herd is to stabilize and recover. As noted in the ACCWM plan, harvest of bulls should focus on young or small bulls so that many of the large bulls are left for breeding. Harvest recommendations would be reviewed annually or as new information becomes available.

ENR and TG support meetings of all user groups and boards to consider the proposed

allocation or sharing formula for Aboriginal harvest of BNE caribou. Until an allocation formula accepted by all user groups becomes available, the allocation in NWT is proposed as 611 caribou (Tłıchq 373, Sahtú 163, Dehcho 15, Inuvialuit 8, NWT Métis Nation [NWTMN] 14, Akaitcho 20, and North Slave Métis Alliance [NSMA] 17). This proposed allocation is based on the allocation determined by ENR for the winter 2014-2015 harvest season. Management of harvest using tags, authorizations or other methods will be developed in collaboration with Aboriginal communities.

This would leave an allocation of 339 BNE caribou for Nunavut. TG and ENR have no authority for wildlife management or caribou harvest in NU and will collaborate with responsible authorities in NU towards implementing a consistent overall approach to Aboriginal harvest of this herd in NT and NU. Collaboration between GNWT and Government of Nunavut (GN) on trans-boundary caribou herds at a technical level is ongoing; the most recent example was GN participation in 2015 BNE and Bathurst calving ground photo surveys. Updates on survey results have been provided to GN as they have become available, along with the herd-wide harvest recommendations proposed by TG and ENR. GNWT has also been in contact with GN at the Minister's level on caribou management issues. An update provided by GN in late November 2015 indicates that a hearing under the Nunavut Wildlife Management Board is likely to occur in February or March 2016; Total Allowable Harvest (TAH) for the BNE herd will be assessed at that time. 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 GN on these issues and participate where possible in the NWMB process.

Wolf monitoring and management

Wolves are difficult to count on the large remote ranges used by barren-ground caribou herds in NWT and NU. ENR will conduct a technical review of wolf monitoring methods in the NWT in 2015 and 2016. In view of the further decline in the BNE, Bathurst and other NWT herds, ENR will also lead a technical feasibility assessment of a full range of wolf management options in 2015 and 2016, to consider the practicality, costs, and likely effectiveness of different management actions. The goal of the assessment is to assess the technical feasibility of wolf management options for implementation within an adaptive management framework that would support recovery of barren-ground caribou herds. This assessment will be developed collaboratively with TG and the input of other interested parties. ENR has initiated a number of discussions with biologists and managers with the Alaska Department of Fish and Game on approaches that they have used in feasibility assessments for predator management; 3 of Alaska's 4 tundra migratory herds have declined in recent years and management actions, including predator management, to address these declines is under discussion.

At this point, grizzly bear management to benefit BNE caribou is not being considered, although anecdotal observations on calving ground surveys, including surveys on the BNE calving grounds in 2013 and 2015, suggest that there may be more bears than wolves on the calving grounds. ENR will provide a summary of wolf and bear observations on recent calving ground surveys in early 2016. Bears are known to contribute significantly to caribou calf mortality in the first few weeks after calving in Alaska, but substantial caribou killing by bears is usually limited to this time period. (B. Dale, Alaska Department of Fish and Game, pers. comm. 2015). Also, Tłıchq traditional knowledge exists about the effects of bear predation on caribou outside calving grounds and the issue may be revisited by ENR or TG. Wolves are

effective predators of caribou year-round. The BNE calving grounds are within Nunavut, thus any consideration of predator management on the calving grounds would need to be led by GN and discussed under NU processes for wildlife management.

TG and ENR support the development, implementation and evaluation of specific and measurable predator management actions for caribou that are community based and/or undertaken with territorial governments and wildlife management authorities for 3 – 5 years for BNE. To start, GNWT and TG are proposing a community-based wolf hunting program for the 2015-2016 harvesting season focused on the Bathurst herd and the Bathurst mobile conservation zone. If successful, the approach could be extended in 2016-2017 to the BNE herd and incorporated into an adaptive wolf management approach as outlined above. A summary of the proposed approach is provided below.

- 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. GNWT-ENR would develop, coordinate, and provide the training workshops with input from TG. 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 initially be selected from Wekweètì and Gamètì. Teams will establish field camps in focal areas during winter months and harvest wolves in a manner consistent with Tłıchq practices. ENR, with support from TG, will provide funding, training and field support, and monitor overall program effort and effectiveness. Tłıchq hunters would have the following options: 1) deliver the wolf carcass (entire unskinned wolf) to ENR and receive straight pay-out (proposed as \$200); or 2) 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 according 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 objective for the first year of the community-based wolf hunting pilot program will be for TG and ENR to train up to four teams in 2015-2016 focused on the Bathurst range. Implementation and potential expansion of the program in subsequent years to the BNE range will be tied to program objectives established through the feasibility assessment outlined above, and as experience is gained from the pilot program.
- Depending on available resources, an additional workshop could 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 of the Tłıchq communities who would be active in the

field and capable of training other interested hunters and trappers in the community.

In addition to training Tłıchǫ hunters as part of a community-based wolf hunting pilot program, recommendations from a number of communities and governments were made in 2014-2015 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. GNWT-ENR will work with other Aboriginal organizations to increase wolf harvest over the winter range of the Bathurst herd in culturally appropriate ways, that are respectful of Tłıchǫ lands and customs. These approaches may be extended to the range of the BNE herd.

Land use in the Bluenose-East caribou range

There are currently no mines in Bluenose-East caribou range in the NWT or NU, but Tundra Copper carried out exploration activity on the BNE calving grounds in summer 2015. TG and ENR will participate in environmental assessment processes for developments that may affect the BNE herd. ENR and TG expressed opposition to the Tundra Copper activities to the Nunavut Impact Review Board, as did the Government of Nunavut (GN). ENR participated in a workshop June 2015 in Iqaluit on the draft Nunavut Land Use Plan and supported 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. Any other industrial development proposed for the BNE herd's range will need to be considered carefully in view of the herd's reduced numbers and declining trend.

Public education and hunter education

As part of caribou harvest management for the BNE herd, GNWT-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 Section 57 of 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:

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

Posters, pamphlets, media and road signs will be used to better inform the public about respecting wildlife, traditional hunting practices, wastage, poaching and promoting bull harvest. Table 1 below summarizes the TG and ENR objectives for increased public engagement and hunter education.

ENR has promoted sound hunter harvest practices, preventing meat wastage, harvesting bulls instead of cows, and implementing related conservation education in NWT communities for a number of years. In response to community requests, ENR is currently developing a Hunter Education program. A working group developed the materials which are currently out for review with individuals, boards, agencies and organizations involved in the Wildlife Act creation.

Monitoring of the Bluenose-East herd

Table 1. Summary of approaches and objectives for increased public engagement and hunter education for caribou in Wek' èezhii.

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-your-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

Table 1 lists biological monitoring of the Bluenose-East herd, mostly led by ENR, proposed for 2016-2019. This monitoring is generally consistent with the monitoring listed in the ACCWM 2014 management plan (e.g. page 38).

Caribou Surveys:

Calving ground photographic surveys to estimate abundance of breeding cows and herd size will be continued at 3-year intervals – the next survey for the BNE herd is scheduled for June 2018. Recruitment surveys (conducted in March/April to estimate survival of calves) will be conducted annually, and fall composition surveys (conducted during the breeding season in October to estimate sex ratio) will be completed every 2-3 years. Although not listed in the ACCWM plan, ENR proposes to fly annual reconnaissance surveys of the calving grounds in June to monitor abundance of cows in the herd. Recent experience with monitoring the Bathurst and BNE herds has shown that the June reconnaissance surveys - although less precise than calving ground photographic surveys - are able to track trend in relative abundance of breeding cows in years between population surveys (ENR 2014a). In years when calving ground photographic surveys are conducted, ENR updates a demographic assessment of the herd using an OLS (ordinary least squares) model (see Boulanger et al. 2011). The goal of the demographic assessment is to evaluate all available population data from satellite collared cows and surveys, and estimate the vital rates of the herd (i.e., productivity and survival) that best explain its current size and trend. The demographic analysis that includes data up to the June 2015 calving ground survey will be completed in early 2016 and then updated after the 2018 calving photo survey.

Condition Assessment and Visual Monitoring:

Traditional knowledge on BNE caribou condition has been gathered in recent winters by Tłıchq community monitors from hunter-killed animals and was summarized by Garner (2014) and ENR (2014a). Limited sample numbers have somewhat constrained the reliability of the assessments of trend in condition and pregnancy rate. Reliable reporting of caribou condition with adequate sample numbers could improve understanding of the herd's nutritional status and the influence of environmental conditions that are tracked through the drought index, oestrid (warble and bot fly) index and indices of snow conditions on herd condition. Condition

sampling in winter from hunter-killed caribou will continue (led by TG) with a focus on increasing sample sizes and completeness of monitoring, when and if funding allows.

Collars:

The number of GPS collars on the BNE herd will be increased annually to 50 (30 on cows and 20 on bulls) with late-winter collar deployments, to replace collars with expired batteries and collars on caribou that died. This number of collars on the Bathurst and BNE herds has the support of the TG as of 2014, recognizing that the caribou collars are key elements in monitoring and management. In the past, there have been up to 60 collars on BNE caribou in years of post-calving surveys, as these surveys depend on having enough collars to find a large percentage of post-calving aggregations. The calving ground photo survey recently used to estimate population size for the BNE herd (2010, 2013, 2015) is less dependent on large numbers of collars, thus 50 collars should be sufficient for most applications of collar data, including population surveys. 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. 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 available. The use of collars has in the past been a contentious issue, as recognized in the ACCWM plan. However, at this particular and critical time with low and declining BNE 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 in monitoring whether predator management actions may be having an effect on the herd. The collared caribou should also help in developing better monitoring studies that determine if changing environmental and climactic 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 is considering the use of these options on collars that will be placed in future on BNE caribou to assess their responses to disturbed areas like mines, camps and roads.

Harvest:

Accurate harvest reporting by all harvesters will be a priority for the BNE herd. In recent years ENR and TG have collaborated on caribou harvest monitoring via monitors in the four Tłı̨chǫ communities in combination with check-stations and patrols by wildlife officers. Harvest reporting has been viewed field workers as lower than actual with room for improving accuracy. Sahtú communities and the SRRB have indicated through letters and proposals that Sahtú harvesters want to monitor and manage caribou harvest through community-based programs. ENR is open to proposals on caribou harvest monitoring that is culturally appropriate, provided there is a) sufficient information on how a community-based plan would work operationally, b) there are clearly identified accountability mechanisms for reporting and

monitoring the harvest, and c) consequences of a failure to comply are specified. Estimates of BNE harvest in Nunavut are based on best estimates of experienced GN wildlife staff in Kugluktuk. Accurate harvest reporting needs to be a priority for all communities and harvesters that hunt the BNE herd.

Further monitoring:

Additional monitoring of BNE caribou that may be considered is outlined below, but implementation is dependent on whether resources (funds and staff time) are available.

- (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;
- (3) Assessments of wolf abundance (or density) and condition on the BNE winter range;
- (4) Annual winter assessments of caribou pregnancy rate from fecal samples collected during late-winter composition surveys; and
- (5) Annual monitoring of environmental factors (drought index, insect index) that may affect caribou feeding, pregnancy rate and condition.

Wolf monitoring:

In the joint management proposal for the Bathurst herd, TG and ENR have described additional monitoring that is associated with a pilot program to increase community-based wolf hunting on the Bathurst winter range. Those approaches may be extended to the BNE range if successful and if resources are available. As an initial step, ENR would monitor the numbers of wolves taken annually in the BNE range. 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

Wolves are difficult to count reliably due to their generally low numbers and clumped distribution. ENR has initiated a technical review of wolf monitoring methods in the NWT, recognizing that several caribou herds are at low numbers or declining (or both) and that there is strong interest from Aboriginal governments and communities in increasing wolf harvest. ENR has also committed to leading a technical feasibility assessment, that will be developed collaboratively with TG and the input of other parties, to consider a full range of wolf management options. The initial focus would be the Bathurst herd. The assessment may be extended to the BNE herd in 2016-2017.

Research on drivers of change in caribou abundance:

TG and ENR recognize that there are likely multiple factors that contributed to the BNE herd's recent decline, including adverse environmental conditions (e.g. a drought year in 2014 potentially leading to poor feeding conditions, poor cow condition and a low pregnancy rate in winter 2014-2015). 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, etc.) that may assist in explaining how key environmental trends have contributed to declines in caribou herds. This review will contribute to development of a long term environmental dataset for the BNE herd.

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 on the effects of climate change on these relationships.

Table 1: Biological monitoring of Bluenose-East herd (ENR and/or TG lead)

Indicator(s)	Rationale	Desired Trend	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 of survey is low but these surveys have reliably tracked trend from population surveys at 3-year intervals.
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 2013, 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): proportion of breeding cows at least 80%.	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.	Bull:cow ratio above 30:100.	If bull:cow ratio below target, reduce bull harvest. Fall calf:cow ratios indicate spring & summer calf mortality relative to June ratios.	Every 3 years	Needed for June calving ground photo 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.	At least 30-40 calves:100 cows on average.	Sustained ratios $\leq$ 30:100, herd likely declining; may re-assess management.	Annual	Calf productivity & survival vary widely year-to-year, affected by several variables, including weather.
6. Caribou condition assessment	Condition assessment provides overall index of nutrition/environmental conditions, estimate of pregnancy rate	High hunter condition scores (average 2.5-3.5 out of 4)	Sustained poor condition suggests unfavourable environmental conditions and likely further decline.	Annual	Sample numbers to date limited (2010-2013). TG working to improve program, sampling.
7. Cow survival rate estimated from OLS model and annual survival estimates from collared cows	Cow survival estimated 75-78% in 2013 (from model). Need survival of 83-86% for stable herd.	At least 83-86% by 2018	If cow survival continues $<$ 80%, herd likely to continue declining.	Every 3 years (new population estimate)	Population trend highly sensitive to cow survival rate; recovery will depend on increased cow survival.
8. Total harvest from this herd by all users groups (numbers & sex ratio)	Accurate tracking of all harvest is essential to management and to knowing whether management actions are effective.	All harvest reported accurately and within agreed-on limits.	Re-assess recommended harvest annually; if herd continues to decline as found 2013-2015, re-assess harvest limit.	Annual	Multiple factors other than harvest may contribute to decline but harvest is one of the few factors humans control.
9. Maintain up to 50 satellite/GPS collars on herd (30 on cows, 20 on bulls)	Collar information is key to reliable surveys, tracking seasonal movements and ranges, monitoring survival and herd fidelity.	Additional collars added every March/April to maintain up to 50 collars on herd.		Annual additions to keep total of 50.	Information from collared caribou is essential to monitoring and management of all N. America caribou herds.
10. Wolf Harvest on BNE range	Several Aboriginal governments and communities have expressed interest in increasing wolf harvest by hunters and trappers to increase caribou survival.	Increased harvest of wolves	If herd continues to decline, consider increased focus on wolf harvest to slow herd decline and increase likelihood of recovery.	Annual	Control of predators, depending on methods, may be controversial.

5. Consultation

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

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 950 caribou in total from the BNE herd (including Nunavut) and 80% bulls, and an allocation among NWT user groups based on the ENR allocation of early 2015. ENR sent a letter to WRRB on September 22, 2015 on management actions for the Bathurst and BNE herds, which included agreement with TG on the harvest limit of 950 and the allocation as proposed by TG, but with a 100% bull sex ratio. WRRB recommended to TG and ENR on September 25, 2015 that the governments come to agreement on the BNE harvest (and other actions); TG and ENR then met in Oct. 2015 and came to agreement on a BNE harvest of 950 and 100% bulls. The allocation among user groups had been previously agreed on by TG and ENR, although this could change if an allocation accepted by all users becomes available.

TG held a workshop on wolf management with Tłı̨chq̓ elders and hunters on Oct. 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 Tłı̨chq̓ hunters to harvest wolves as long as traditional laws are followed.

ENR and TG support a meeting of all BNE user groups and relevant boards, requested by co-management boards in fall 2015, to determine an allocation or sharing formula for harvest of this herd. This meeting is expected early in 2016.

ENR sent a letter to Aboriginal governments and co-management boards with an interest in the BNE herd, including government and Aboriginal organizations in Nunavut, on Sept 24, 2015 outlining the herd's status with preliminary results of the June 2015 survey, noting the urgency of taking action in time for the winter harvest season, and requesting parties to respond to ENR with their recommendations on management actions by October 15, 2015. A further update letter was sent on November 2, 2015 describing proposed management for the BNE herd for winter 2015-2016.

ENR received a letter from the SRRB on management of BNE caribou on November 3, 2015, and has had an on-going series of meetings with SRRB, SSI (Sahtu Secretariat Incorporated) and Sahtú communities in fall 2015. A community-based caribou management plan for Deline dated November 23, 2015 was made available to ENR at the end of November 2015. ENR will work with Sahtú organizations and communities on caribou harvest management that is culturally appropriate and consistent with overall management objectives for the herd.

WMAC(NWT) sent a letter on BNE management to ENR November 20, 2015 with general support for conservation of the herd and noting the importance of addressing the Nunavut harvest of the herd, requesting clarification about a proposed bull-only harvest from the herd, requesting support for a users' meeting on BNE harvest allocation, and noting the importance of a consistent approach to harvest management from the BNE herd.

ENR is preparing a management proposal for the BNE herd, similar in content to the current proposal, to submit to SRRB and WMAC-NWT in December 2015.

6. Communications Plan

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

TG and GNWT leadership will, together, hold an information session in each of the 4 Tłıchq communities. The initial round of these meetings, led by staff representatives, was held in early December 2015 and a further round of meetings is planned for January 2016.

There will be technical workshops in each of the four Tłıchq communities to inform on the implementation of any harvesting season restrictions.

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

7. 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.

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

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.

Barren-ground Technical Working Group (BGTWG). 2014. Barren-Ground Caribou 2013/14 Harvest & Monitoring Summary. Unpublished Report. Wek'èezhii Renewable Resource Board, Tłıchq Government, and Government of the Northwest Territories. Yellowknife, NT. Online [URL]: http://wrrb.ca/sites/default/files/2013-2014%20BGC%20Harvest%20Summary%20Report%20%20FINAL_Oct15_2015.pdf

Boulanger, J. 2015. Estimates of breeding females from the 2015 Bluenose East calving ground survey, Draft November 4, 2015. Department of Environment and Natural Resources, Yellowknife, Northwest Territories, unpublished report.

Boulanger, J., A. Gunn, J. Adamczewski, and B. Croft. 2011. A data-driven demographic model to explore the decline of the Bathurst caribou herd. *Journal of Wildlife Management* 75:883-896.

Boulanger, J., B. Croft, and J. Adamczewski. 2014c. An estimate of breeding females and analyses of demographics for the Bluenose East herd of barren ground caribou: 2013 calving ground photographic survey. Department of Environment and Natural Resources, Government of Northwest Territories. File Report 143.

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

ENR (Government of the Northwest Territories, Environment and Natural Resources). 2014a. Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, September 2014. Environment and Renewable Resources, Government of Northwest Territories, Yellowknife, NWT, Canada.

ENR (Government of the Northwest Territories, Environment and Natural Resources). 2014b. Technical rationale to increase the number of satellite collars on the Bathurst caribou herd. Environment and Renewable Resources, Government of Northwest Territories, Yellowknife, NWT, Canada.

Garner, K. 2014. Tłıchq Caribou Health and Condition Monitoring Program. Final Report, Department of Culture and Lands Protection, Tłıchq Government, Behchokǝ, NT. 34 pp.

8. Time Period Requested

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

Management actions proposed here would apply from November 2016 until November 2019 with the results of the next calving ground photo survey of the BNE herd expected in 2018. TG and ENR suggest that management actions, including the harvest of 950 caribou (100% bulls) and allocation among NWT user groups, be reviewed annually or whenever key additional information is available (e.g. additional survey information or recommendations from ACCWM or boards).

9. Other Relevant Information

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

TG and ENR support efforts by the WRRB and other boards, through recommendations and public hearings, to address the possible multiple causes of the BNE decline and the implementation of the ACCWM management plan.

10. Contact Information

Contact the WRRB office today to discuss your management proposal, to answer your questions, to receive general guidance or to submit your completed management proposal.

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