

# **SAHTU RENEWABLE RESOURCES BOARD**

*Public Hearing on Management of Bluenose East ʔekwé (Barren-Ground Caribou).*

## **FINAL SUBMISSION**

Colville Lake Renewable Resources Council

and

Ayoni Keh Land Corporation

and

Behdzi Ahdaʔ First Nation

Collectively referred to as “Colville”.

## **PART 1 - INTRODUCTION**

1. Based on information provided by the Government of the Northwest Territories, Department of Environment and Nature Resources (“ENR”) indicating that there is a rapid decline in Bluenose East (“BNE”) ʔekwé (caribou) populations, two management proposals have been filed with the Sahtu Renewable Resources Board (“SRRB”):

1. The Délı̨ne ʔehdzo Got’ı̨ne, Délı̨ne First Nation and Délı̨ne Land Corporation filed a caribou conservation plan, Belarewılé Gots’é ʔekwé (“Deline Plan”); and
2. ENR filed a Proposal on Management Actions for Bluenose east Caribou 2016-2019 (“ENR Plan”).

2. Both of these plans recommend limiting the caribou harvest for Sahtú beneficiaries. The SRRB is considering these plans, under section 13.8.21(b) of the Sahtú Dene and Métis Comprehensive Land Claim Agreement (“SDMCLCA”), which requires that a hearing must be held.

## **PART 2 - COLVILLE SUBMISSIONS**

### **A. COLVILLE'S INTEREST**

3. The traditional name for the Colville people is Dela Got'ine which means the most northerly people of the Dene.

4. Dela Got'ine oral history teaches that the caribou were placed on Dela Got'ine traditional territory by the Creator. The Creator gave the Dela Got'ine the gift of the caribou for the Dela Got'ine to take, and as such the Dela Got'ine have harvested caribou since time immemorial.

5. Dela Got'ine principles teach that it is the Dela Got'ine responsibility to take care of the caribou and it is the responsibility of the caribou to take care of Dela Got'ine.

6. One of the Dela Got'ine understandings with caribou is that if the Dela Got'ine abandon their responsibilities with the caribou and stop harvesting caribou, then the Dela Got'ine will lose the gift of the caribou, as the caribou will disappear.

7. There are laws regarding caribou that the Dela Got'ine are required to follow. Due to the importance of caribou to Dela Got'ine, and the threat to the very survival of Dela Got'ine and caribou if the Dela Got'ine do not speak up on the management of caribou, the Dela Got'ine are participating in the SRRB BNE caribou hearing.

8. Colville Lake is the most isolated community in the Sahtu and the cost of living is high. Store bought groceries are expensive and store bough meat is not affordable on a weekly basis. Even when they are, the preference for people in Colville is traditional food such as caribou and fish.

9. Dela Got'ine have a constitutionally-protected right to right to hunt caribou, but hunting is integral to the cultural and survival of Dela Gotine. It is more than a right – it is a sacred responsibility that must be fulfilled for the Dela Gotine and the caribou to maintain their relationship.

10. The Dela Got'ine hunt caribou throughout their traditional territory and do not distinguish between Bluenose East and Bluenose West caribou, however for the purposes of interacting with

western scientists and managers in this Hearing, the Dela Got'ine are using the terms Bluenose East and Bluenose West.

11. One of the primary harvesting areas for Dela Got'ine is *Arake Tue* (also known as Horton Lake) which is located in the Deline District. A small number of Bluenose East caribou have been identified as occasionally passing through the *Arake Tue* area. Any limitation of the harvest of Bluenose East caribou will affect the Dela Got'ine right to hunt caribou in one of their primary harvest areas.

12. For these reasons, the Colville parties have intervened in the SRRB public hearing.

**B. THE REQUIREMENTS OF SDMCLCA HAVE NOT BEEN MET**

13. Both management proposals under consideration in this process propose the imposition of total allowable harvests (“TAH”) on BNE Caribou. The imposition of any TAHs on Sahtu beneficiaries, including the Dela Got'ine, is constrained by the SDMCLCA section 13.5.2 which states:

...the Board may, in accordance with this chapter, establish, modify or remove total allowable harvest levels from time to time in the settlement area but shall establish or modify **only if required for conservation and to the extent necessary to achieve conservation.** (emphasis added)

14. Thus, in order for the Board to set a TAH as proposed by the ENR and Deline Plans, it must be established that:

1. There is a conservation issue that must be addressed;
2. The proposed TAH is required for conservation; and
3. That the TAH is applied only to the extent that is necessary to achieve conservation.

15. The Colville Parties submit that these requirements have not been met.

**1. Conservation Issue Not Established (1<sup>st</sup> Requirement of s. 13.5.2)**

16. ENR has provided future population estimates and trends that are derived from point-in-time photographic census data and a model in which predicted caribou survival does not correlate with observations of caribou on the ground.

17. While the census data and models relied on by ENR indicate a declining population, Colville contests the accuracy of these models, and rejects the conclusion that present status of the BNE caribou population justifies a limitation of the harvest. Population numbers, whether derived from photo census data or extrapolated from mathematical models, offer few clues as to what factors are influencing population change. Management actions can be greatly misdirected if the underlying problems are misunderstood. There is not enough evidence to indicate that there is in fact a conservation issue that would be responsive to management interventions, rather than natural cycle in the caribou herd.

18. The Board's independent science advisor, Colin MacDonald, notes that "The decline in the BNE since 2010 is similar to the declines observed in the Bluenose-West and Bathurst herds, as well as *Rangifer tarandus groenlandicus* herds elsewhere in the Arctic. The declines are probably natural in origin, and may be related to global weather patterns." (MacDonald 12 May 2016, p.2). Colville's biologist advisor, Mr. Norm Barichello notes that "despite consensus that caribou populations cycle in abundance, triggered by climate variation, ENR has described the recent population change as a caribou crisis and proposed drastic conservation measures. The reactive response is contrary to one of the goals of the proposed caribou management plan – *Taking Care of Caribou* - to maintain herds within known natural range of variation." (Barichello, *Key Concerns*, 13 May 2016, p. 3)

19. Before a conservation crisis is declared and drastic management interventions are imposed on the basis of census and modeling data, the Board must review and critically consider additional information about the condition of the herd, including cow survival, calf recruitment, and pregnancy rates. This additional information must be obtained to provide "vital statistics" about herd health. The implications of lower pregnancy rates on the census method must also be considered, as lower rates may exaggerate the extent of a decline if population estimates are solely derived from calving ground surveys. Other information to validate demographic trends must also be established, including composition surveys (aerial and ground), local assessment of

group size, composition and pregnancy rates, fecal analysis, and body condition studies (field assessment, carcass assessment, pellet samples and blood testing) should be obtained through the participation of harvesters and the Renewable Resource Councils.

20. The Board must consider whether any proposed management interventions to limit the harvest will in fact achieve a conservation benefit. If the declines are natural, resulting from global climatic changes, the imposition of harvest limits may be immaterial to the outcomes. Although ENR and others *believe* a reduced harvest will be effective, the Board's expert MacDonald notes that "...questions remain regarding the impacts of selective harvesting of a large proportion (roughly 10%) of bulls in the herd, the potential impact of other factors that might reduce the effectiveness of harvest limits, and whether the reduced harvest rate is sufficient to allow the BNE herd to recover." (MacDonald 12 May 2016, p. 3)

21. Further details concerning our critique of ENR's population estimation methods and reliance on harvesting restrictions is provided in the attached *Colville Technical Summary of Key Concerns*.

**2. Not Established that TAH is Required for Conservation (2<sup>nd</sup> Requirement of s. 13.5.2)**

***(a) TAH must be a matter of last resort***

22. Even if there is merit to the asserted conservation concern, neither the Délı̄ne Plan nor the ENR Plan has met the very high standard of demonstrating that the proposed TAH is required for conservation purposes. It has not been established that a TAH is the only method by which the asserted conservation concern can be addressed, or even that a TAH would be an effective way of achieving a conservation result.

23. The requirement for necessity under the SDMCLCA (ie. that the TAH must be "necessary" for conservation) imposes an obligation on those advocating for a TAC to satisfy the Board that all other less intrusive measures on the rights of Sahtu beneficiaries that might otherwise address the conservation issue will be ineffective.

24. The Board has heard evidence on a wide range of other measures that could address conservation, such as predator management or calving ground habitat management, that could address the issue without the imposition of harvest limits.

25. For example, ENR admits the management of wildlife populations through wolf predator management and habitat management through calving ground protection are factors which can “increase caribou survival rates.” ENR also admits these actions have not yet been taken. There is no modeling or information on predator abundance or distribution.

ENR Response, Colville BNE IR, February 26, 2016, page 8; ENR Response, Colville BNE IR, February 26, 2016, page 31, para. 4

26. It is significant that the SDMCLCA singles out a TAH as a conservation measure that must meet the high standard of necessity. In this regard, the Land Claim agreement recognizes the very serious impact that a TAH can have on the constitutionally-protected hunting rights of the beneficiaries. To restrict access to such a crucial resource of overwhelming significance to the cultural and economic well-being for the beneficiaries is the most severe form of regulation demanding the very high standard of necessity to be supported under the SDMCLCA.

27. The necessity requirement is grounded in the case law regarding the justification of infringements of Aboriginal rights. For example, in *R. v. Sparrow*, [1990] 1 S.C.R. 1075 the Supreme Court of Canada held that the Crown must demonstrate that a net length restriction on the Musqueam’s aboriginal right to fish for food, social and ceremonial purposes was a reasonable and necessary restriction to achieve the conservation objective. Yet the SDMCLCA goes further by codifying the requirement specifically in relation to a TAH.

28. Given the severity of the measure, the Colville Parties submit that a total allowable harvest can only be imposed on beneficiaries after all other means of conservation have been attempted, or it has been clearly established that they will be ineffective.

29. Traditional subsistence hunting, regulated by the ancient traditional knowledge and practices of the Dene people, has occurred in the past even during caribou declines. The caribou and the Dene have both persisted. It has not been shown that further regulation through a TAH is necessary or required at this time. Such a severe limitation on the exercise of a

constitutionally-protected right to harvest must only be a measure of last resort, and not imposed as a matter of course .

*United Nations Declaration on the Rights of Indigenous Peoples*

30. Significantly, the Government of Canada has just withdrawn its status as a permanent objector to the United Nations Declaration on the Rights of Indigenous Peoples. That Declaration affirms the central importance of protecting Indigenous peoples' access to their land and resources. Article 20, for example, speaks to the right of Indigenous peoples to be secure in the enjoyment of their own means of subsistence. Article 25 recognizes the right to maintain and strengthen their distinctive spiritual relationship with rationally-used lands and resources.

31. Canada's recent decision to fully embrace the UN Declaration serves as a reminder of the importance of exercising great caution and care in imposing regulations that severely restrict the rights of indigenous peoples to access the resources that they so heavily depend upon for their cultural and economic well-being.

***(b) Conservation under the SDMCLCA Requires Management of Habitat***

32. As noted above, it has not been established that other conservation measures, other than imposing a TAH on those who depend on the resources as an essential part of their way of life, would not be effective to achieve the conservation objective.

33. If there is a conservation trigger, and a conservation plan required, under section 2.1.1 of the SDMCLCA, "conservation" means **the management of wildlife populations and habitat** to ensure the maintenance of the quality and diversity including the long-term optimum productivity of those resources, and to ensure a sustainable harvest and its efficient utilization (emphasis added).

34. As stated in *R. v. Douglas*, 2008 BCSC 1098 at para. 29, "the jurisprudence establishes, however, that conservation is more than preservation of a stock and includes enhancement of that stock for the future benefit of all user groups as an essential component in the management of the resource." (emphasis added)

Management of Habitat: Calving Ground Protection, Climate Change

35. A conservation plan with means of conservation other than a TAH aimed at enhancing the caribou population must start with protecting the calving grounds of the BNE caribou from industrial and natural disturbances, include research into the management of wolves, and the impact of climate change.

36. A conservation plan which protects the BNE calving grounds in the western arctic and Nunavut will greatly assist in achieving conservation. The Government of the Northwest Territories and the Board have jurisdiction to implement BNE calving ground protection for at least the small area located in the NWT, and can pressure the Government of Nunavut to adopt similar protective measures in Nunavut.

Tundra Copper Exploration & Development on the Calving Grounds

37. Considerable effort has gone into modeling the effect of harvesting on the caribou population and yet there has been no research or modeling the effect of industrial developments, such as the Tundra Copper program, on the caribou population.

38. The BNE calving grounds in Nunavut are not protected from development and so the BNE caribou are vulnerable to population decline as a direct result of the development on the BNE calving grounds. Protection of the calving grounds is a key to ensuring the stability of the BNE caribou herd. If the calving grounds are significantly impaired, no other measure could ensure the stability of the BNE caribou herd. To attempt to stabilize the BNE caribou herd through a limitation of the harvest before halting activities such as mineral exploration and or other anthropogenic disturbances on the BNE caribou calving grounds is like trying to build a house while it is on fire. Such steps must be taken before any limitation on the harvest is imposed.

39. The success of the Porcupine caribou herd is largely attributed to the protection of their calving grounds. The same level of protection afforded to the Porcupine caribou calving grounds must be applied to the BNE caribou calving grounds.

40. A TAH cannot be implemented until the calving grounds are protected from industrial development. There are measures the SRRB and ENR can take to protect the calving grounds from industrial development and those must be taken before Aboriginal rights are infringed.

### Climate Change

41. The impact of climate change on the range of caribou are unknown. “ENR has issued a contract to summarize the environmental trends 1979-2014 for NWT barren-ground caribou herds based on these indicators with an interpretation of herd-specific trends and their implications to each herd. ENR expects those results in the early part of 2016 and will make them available to all interested parties as soon as a report is available” (ENR Response, Colville BNE IR, February 26, 2016, page 31 , para. 3).

### *(c) Stabilization of Caribou Herds does not Require the Proposed Harvest Limits*

42. The evidence indicates that limiting harvest is not a contributing factor to the stabilization of caribou herds. This is demonstrated by the example of the stabilization of the Bluenose West herd.

43. In its responses to Colville’s information requests, ENR stated:

Surveys of the BNW herd in 2000, 2005 and 2006 showed that the number of adults in the herd declined by 75% in total from 2000 to 2006, with a 21% annual rate of decline over this period. There was no survey in 2007, and the herd continued to decline from the 2005 survey to the 2006 survey. **Harvest was not restricted until after the 2006 survey, and approximate stabilization from 2006 to 2009 followed, in part due to harvest restrictions and in part due to an increase in calf recruitment.** We would consider that the BNW herd was in rapid decline 2000-2006. The BNE decline 2013-2015, based on the estimates of breeding females, was 50% in total and the annual rate of decline over that period was 30%, thus the BNE herd’s rate of decline over the last 2 years was greater than in the BNW herd 2000-2006. (emphasis added)

ENR Response, Colville BNE IR, February 26, 2016, page 22, para. 2.

44. Users of Bluenose West were not aware of harvest restrictions in place from 2006-2009 and therefore those restrictions were not followed by the traditional users of the BNW.

Traditional subsistence hunting of BNW was being carried as normal from 2006 to 2009 and is

taking place today. This means that the “stabilization” of the BNW herd cannot be attributed to harvest restrictions.

April 30, 2015 letter from Colville to ENR, attached as Exhibit “A”.

45. ENR recognizes that limiting the harvest will not increase the number of caribou. In the case of BNW where the harvest was not limited by First Nation users, the only factor then to contribute to the stabilization in BNW population is the increase in calf recruitment, natural cow survival rate and pregnancy rates. “To clarify, the increase in calf recruitment and possible increase in natural cow survival and pregnancy rates occurred at the same time that the harvest was reduced, however the two are not related. **Harvesting does not affect the ratio of calves to cows or natural cow survival rates. Harvest will not affect pregnancy rates** unless all the large bulls are removed and there is no evidence of this occurring for the BNE herd”

ENR Response, Colville BNE IR, February 26, 2016, page 24, para. 3.

46. ENR admits that indeed, even with eliminating the harvest of BNE cows, the BNE caribou may still decline due to natural factors.

Eliminating the cow harvest is not a guarantee of the herd stabilizing or recovering, however, as natural factors (predators, weather effects) will still affect cow, calf and bull survival rates. **If the natural survival rate of cows is low, or if pregnancy rates and calf recruitment are low, then the herd may still decline with no harvest”**

ENR Response, Colville BNE IR, February 26, 2016, page 21, para. 2.

47. Further research and other means of conservation are reasonable recommendations for the SRRB to make as stated by ENR:

“ENR recognizes that a full understanding of the multiple factors that drive the long-term changes in numbers of migratory caribou herds is incomplete. ENR generally supports further research using scientific methods and Traditional Knowledge studies that increase understanding of factors that affect caribou abundance and herd condition. At this point, **models that incorporate the various influences on pregnancy rates**, such as the Circum Arctic Rangifer Monitoring and Assessment (CARMA) network Caribou Cumulative Effects Integrative model (see White et al 2014) are not available for the BNE herd.” (ENR Response, Colville BNE IR, February 26, 2016, page 18, para. 3).

### **3. The Proposed TAH Goes Further than Required (3<sup>rd</sup> Requirement of s. 13.5.2)**

#### **(a) Overview**

48. The third requirement of section 13.5.2 of the SDMCLCA requires that it be established that the TAH as proposed is applied only to the extent necessary to achieve the conservation objective. The Colville parties submit that the management plans under consideration overreach in this respect and it has not been established that the full extent of them is required to achieve the conservation objective.

49. Of particular concern to the Colville parties is the incidental impact of the proposed TAH on the Bluenose West herds that Colville harvests in an area known as *Arake Tue* (Horton Lake). *Arake Tue* is an important preferred hunting ground of the Colville Lake people, but it falls within the Deline District and would be affected by the approval of the TAH contemplated by the ENR and Deline Plans.

50. Deline in their response to undertakings provided to the Sahtu Youth Connection following the Hearing, revised the Deline ekwe Code to read as follows:

#### 4. This Code applies

- a) in respect of Deline Got'ine and Sahtu participants from outside Deline harvesting ekwe in
  - i. the Bluenose East Area of the Deline District.
  - ii. the Bluenose West Area of the Deline District.

51. Colville submits that the Deline Plan is overreaching, and that the Board cannot accept or approve the provisions of the Deline Plan which would limit hunting by all “Sahtu participants ...in the Bluenose West Area of the Deline District.”

#### **(b) Impact on *Arake Tue***

52. Dela Got'ine are the main user of the BNW caribou which range in Colville's traditional territory at *Arake Tue*. Colville RRC has jurisdiction over caribou in the *Arake Tue* area.

53. There is on occasion the rare intermingling of the BNE and BNW herd in the Colville traditional territory of Arake Tue which is located in the Deline District and is an area which Colville RRC has jurisdiction. There is no way to determine if a caribou in the Arake Tue area is BNE or BNW.

54. Colville RRC is actively working with SRRB and ENR to develop a caribou plan for the BNW which will include the BNE which on rare occasion pass through the Arake Tue area.

*(c) Deline Plan Exceeds its Jurisdiction*

55. The proposal in the Deline Plan to regulate hunting by all “Sahtu participants ...in the Bluenose West Area of the Deline District” exceeds the purpose of the SRRB Hearing which is only to examine BNE, and exceeds the jurisdiction of the Deline RRC under the SDMCLCA which is limited to Deline participants and Deline local area.

56. The Deline Plan can only be considered in respect of BNE caribou harvested by Deline participants. Neither the activities of Dela Got’ine harvesters nor the status of the BNW were considered at the Hearing. There has been no serious consideration of the impacts on Dela Got’ine if BNW were to be included in a TAH or in Deline’s self regulation.

57. If the Board accepts the Deline Plan, it would unduly restrict the Dela Got’ine right to hunt caribou at Arake Tue.

58. The management plans do not establish that the territorial reach of any conservation plan into the primary area of BNW at Arake Tue is necessary to achieve conservation. Therefore any attempt to limit the hunting of BNW at Arake Tue is not allowed.

59. Section 13.9.4(b) of the SDMCLCA establishes that the Deline Renewable Resources Council has the power “to manage, in a manner consistent with legislation and the policies of the Board, the **local exercise** of participants’ harvesting rights including the methods, seasons and location of harvest.” [emphasis added]

60. Section 13.9.4(b) of the SDMCLCA supports the contention that the jurisdiction of the Deline Renewable Resources Council extends only to Deline members.

61. However, the Deline Plan asserts local authority over the entirety of the Deline District, rather than to the local exercise of harvesting by their members.

62. The Deline Plan should apply only to Deline participants harvesting locally in the Deline area. Deline RRC does not have the authority to regulate Colville beneficiaries at Arake Tue simply by virtue of Arake Tue being within the Deline District. There is an active discussion between Colville and Deline with respect to the determination of what portions of their respective districts should be subject to their respective jurisdictions, but there is no agreement between Deline and Colville on this important issue.

63. The Board must reject the portion of the Deline Plan which advises limiting the hunting rights of “Sahtu participants from outside Deline” who are hunting caribou in the Bluenose West area of the Deline District.

64. A TAH or Deline self-regulation can only apply to Deline members in the Deline district with respect to Bluenose East. Deline RRC is the only RRC which has consented to a TAH, and as such a TAH can only be applied to Deline harvesters in the BNE exclusive areas.

***(d) No Justification of Infringement of Colville Lake’s Rights***

65. As noted, the proposed incidental regulation of BNW herd, particularly in Arake Tue, constitutes an infringement of Colville Lake’s constitutionally-protected hunting rights in that area. No attempt has been made to justify this infringement and there is no evidence before this Board that would satisfy this very onerous test.

66. The case law regarding the justification of an infringement of an Aboriginal right requires, at its most basic, that the government give serious consideration to the right at hand. In this case, no one has given any serious consideration to the Colville Lake’s rights regarding Arake Tue.

*R. v. Gladstone*, [1996] 2 S.C.R. 723 at para. 81

67. Numerous sections of the SDMCLCA, including sections 1.1.1(f) and 13.1.1(d) and (e) establish the right of each beneficiary to participate in decision making regarding the harvest and management of wildlife. None of these obligations has been fulfilled with respect to Colville

Lake's rights regarding the impact of the regulation on BNW or their traditional hunting at Arake Tue. Thus, there has not only been a failure to justify the infringement of Colville Lake's rights respecting Arake Tue, there has also been a failure to abide by the SDMCLCA in the development of the proposed management plans.

*(e) Conclusion on the Overreach of the TAH*

68. The Colville parties therefore submit that it has not been established that the proposed extent of the conservation measure (the TAH) is necessary. Specifically, it has not been established that it is necessary to restrict Colville Lake's rights-based access to BNW herds in Arake Tue in order to achieve the conservation objective regarding BNE herds.

69. Nor has it been established that Deline's jurisdiction extends so far as to allow its management plan to regulate this activity.

70. It is therefore submitted that, at least insofar as the management plans regulate Colville Lake's hunting rights in Arake Tue, the third requirement of section 13.5.2 of the SDMCLCA has not been satisfied.

71. In these circumstances, it is submitted that the Board must, at the very least, exclude in the BNE conservation plan, the limitation of harvesting in the Arake Tue area by Colville beneficiaries and those authorized by the Colville RRC, to ensure the intent of the Deline Plan is achieved which is that "Actions described in the Plan do not intend to impact Aboriginal rights" (Deline Undertakings to Colville, page 2).

### **PART 3 CONCLUSION - COLVILLE RECOMMENDATIONS**

72. Caribou management is a complex area and the answer to limit the hunt which may appear to be the easiest is not the answer. It is an answer which will negatively impact the BNE caribou by separating them from their natural caretakers. It suggests to the public and the harvesting by Aboriginal people is the cause of a decline in caribou population which is not the case. It also implies that a reduction in the harvest will result in an increased BNE caribou population, which again, is not a clear expected result.

73. Colville appreciates the Board has taken the time to hold this hearing and explore the BNE caribou matter in a detailed manner. Now that the facts are on the table, it is up to the Board to continue to make decisions in the best interest of the caribou and the public with the section 35 and SDMCLCA rights of all beneficiaries being the foundation upon which to make a decision. This involves creating a BNE caribou conservation plan which truly conserves caribou while respecting section 35 rights of all the beneficiaries of the SDMCLCA who will be impacted by the decision.

74. In providing their recommendations, Colville's primary decision making factor in this case is that the leadership in the community of Deline who are responsible for the conservation of BNE caribou has consented to a reduction in the harvest of BNE is a tool they have decided to use for the conservation of BNE caribou.

75. Therefore, despite the fact that Colville respectfully disagrees with the need for a TAH or the decision of Deline to associate a number with their self-regulation, in the spirit of respect for the authority of another government to make decisions which will not impact Colville's rights, Colville makes the following recommendations:

1. TAH or self regulation only applicable to a clearly defined BNE area which excludes the Arake Tue primary area for BNW, this would have the practical effect of exclude regulating harvesting in the Arake Tue area by Colville beneficiaries and those authorized by the Colville RRC;
2. Further consultation and a public hearing by the Board with all Sahtu RRCs regarding establishing a Sahtu Needs Level for a TAH or Deline's self regulation as required by s. 13.5.5 and s.13.8.21 and as described in s. 13.5.5(a),(b),(c)(d), to s.13.5.9 of the SDMCLCA;
3. Working with RRCs to ensure compensation to all SDMCLCA beneficiaries who are deprived of their means of subsistence by a TAH or as a result of Deline's self regulation;
4. Further research and consultation with RRCs on other means of conservation of BNE;

5. Annual review of the TAH and work to protect the BNE with RRCs;
6. Working with RRCs for the protection of the BNE calving grounds in the NWT;
7. Working with RRCs for protection of the BNE calving grounds in Nunavut;
8. Ongoing effort to increase funding for RRC's to participate in the work required including establishing monitoring plans in place at the local level, to ensure more collaboration rather than confrontation.

Dated May 13, 2016

**COLVILLE LAKE RENEWABLE RESOURCES COUNCIL  
AYONI KEH LAND CORPORATION  
BEHDZI AHDA" FIRST NATION**

By its counsel



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Jennifer A. Duncan  
Barrister & Solicitor

The **FOLLOWING EVIDENCE** is cited for consideration:

On the Hearing Record:

1. Deline Caribou Plan;
2. ENR Caribou Plan;
3. ENR Response, Colville BNE IR, February 26, 2016;
4. Colville Technical Summary of Key Concerns; and

Attached as Exhibits:

5. Exhibit "A": April 30, 2015 letter from Colville to ENR.

## Exhibit "A"

April 30, 2015 letter, Colville to ENR



### BEHDZI AHDA FIRST NATION

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April 30, 2015

VIA FAX: (867) 587-3516

Jules Fournel, Renewable Resource Officer II  
Government of the Northwest Territories  
Northwest Territories Environment and Natural Resources  
Sahtu Region  
Box 130, Norman Wells, NT X0E 0V0

Dear Mr. Fournel:

Re: Blue Nose-West Barren-Ground Caribou Tag Allocations

The Big Game Hunting Regulations ("Regulations") purport to require tags for harvesting of BNW caribou for Aboriginal harvesters in S/BC/01. However, under the Sahtu Dene and Metis Comprehensive Land Claim Agreement ("SDMLCA"), only the Sahtu Renewable Resources Board ("SRRB") may establish a total allowable harvest ("TAH") (s. 13.5.2) and the Sahtu Needs Level ("SNL") (s. 13.5.3). Sections 4, 5 and 6 of the Wildlife Act require that the Regulations be in conformity with the SDMLCA.

Your letter dated March 3, 2015 asserts that a TAH for the Bluenose West caribou herd and a SNL was recommended by the SRRB following the Public Hearing in Fort Good Hope in November 2007.

We have reviewed the SRRB November 2007 public hearing transcripts, and the SRRB Motions and Minutes. We do not agree that a TAH of 4% was established for the BNW caribou. There is no record of a Ministerial decision on this matter as per section 13.8.25 of the SDMLCA.

We met with representatives of the SRRB on April 23, 2015 and were informed by the SRRB that:

1. since 2007 the SRRB composition has changed;
2. the SRRB did not move forward with the 2007 recommendations;
3. SRRB would not move forward on the 2007 recommendations as;
  - a. the SRRB would not rely on the old 2007 information for the current BNW caribou population, and
  - b. there are currently no conservation concerns regarding BNW caribou in S/BC/01.

We are aware that ENR typically has the SRRB approve Regulations. There is no indication that the SRRB has approved the Regulations requiring tags for Aboriginal harvesters, nor has SRRB established a TAH or established a SNL for BNW caribou in consultation with the Colville RRC (considering all relevant factors in accordance with the SDMLCA section 13.5.5). Further, under section 13.8.21 of the SDMLCA, a new public hearing is required in instances where the Board intends to consider establishing a total allowable harvest for a species which has not been subject to a total allowable harvest in the past two years. No such hearing has occurred since 2007, and no total allowable harvest has been established for the BNW caribou in the past two years.

For the above reasons, we consider the Regulations requiring tags for Aboriginal harvesters in S/BC/01 to be invalid.

At the public hearing in November 2007, the Colville Lake Renewable Resource Council (“Colville RRC”) stated they do not support a TAH for BNW caribou. The Colville RRC has not requested tags for the harvest of BNW caribou.

At the Behdzi Ahda” First Nation (“BAFN”), Annual General Assembly on April 15, 2015, a resolution was passed to state that all future caribou conservation decisions must go to the Annual General Assembly for instructions, and the Colville RRC supports that resolution. We have been informed that the BAFN has not requested tags for BNW caribou.

Issuing tags and a quota system for the harvest of BNW caribou is not a successful means to conserve BNW caribou. Relying on dated information (from 2007) is not a responsible way to carry out conservation. The Colville RRC, BAFN and SRRB have independently determined that currently there are no conservation concerns regarding the BNW caribou in the Colville Lake area. If a need arises in the future for caribou conservation, then measures for conservation must be considered in consultation with Colville RRC, BAFN and in reliance on current data.

The process to establish a tag system and a quota under the Regulations has not been followed, therefore there is no enforceable requirement for tags for BWN caribou and a quota has not been set.

For all the reasons outlined above, the Colville RRC will not be issuing tags. We are returning the tags which you sent with your letter dated March 8, 2015.

Colville RRC, BAFN and the Ayoni Keh Land Corporation would like to meet with the Minister of ENR to discuss this matter. Please contact Joseph Kochon at (867) 709-2200 to arrange this meeting.

Sincerely,



Richard Kochon  
President, Colville Lake Renewable Resources Council

cc. Fort Good Hope Renewable Resources Board  
Sahtu Renewable Resources Board  
Sahtu Secretariat Inc.

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TECHNICAL SUMMARY OF THE KEY CONCERNS, REGARDING THE PROPOSED MANAGEMENT  
PLAN FOR THE BLUENOSE-EAST CARIBOU HERD

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Date: May 13<sup>th</sup> 2016

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## INTRODUCTION

Despite gestures toward co-management, the proposed Government of the Northwest Territories, Department of Environment and Natural Resources (“ENR”) caribou management plan continues to be based largely on science. The process is foreign to most Dene. The Dene understanding of caribou is considerable, and they have a physical and spiritual bond with caribou that guides their approach to management. Science, although providing a useful contribution toward understanding caribou, fails to address questions of ethics and accommodation of social and cultural impacts. The process also ignores a huge body of relevant traditional knowledge, and marginalizes the communities that depend so heavily on caribou. Colville Lake is put in the difficult position of evaluating a science-based plan and a process that is inconsistent with the Dene approach to management.

I was asked to help Colville to understand the science behind the proposed ENR caribou management plan, and to evaluate both the rigor of the science and the process itself. In this summary I will tackle some of the key areas of concern, and lay out some key recommendations. At the outset I would like to underline the importance of co-management, and the essential need to involve the communities directly, to truly respect the Dene customs and practices, to incorporate their knowledge into the assessments, and to work closely with the communities to finding solutions. Co-management was a common theme at the Deline hearings – it should be fully embraced. The Dene should not be considered stakeholders, but rather partners in caribou management.

## KEY AREAS OF CONCERN

[We are concerned about the lack of co-management.](#)

The importance of co-management should be obvious. It is recognized in the objectives of the Sahtu Dene and Metis Comprehensive Land Claim Agreement (SDMCLCA) - to provide the Sahtu Dene and Metis with “*the right to participate in decision making concerning the use, management and conservation of land, water and resources*”. Specific provisions in the agreement provide the Sahtu Dene and Metis with the right to participate in “*the collection of local harvesting data and other locally available data respecting wildlife and wildlife habitat*”, and to involve Renewable Resource Councils (RRC) and participants directly in wildlife research. The Wildlife Act confirms these commitments – “*The minister shall act in a way that is consistent*

*with the land claims agreement, and will develop policies and programs that promote a cooperative and coordinated approach to wildlife management".* The importance of working together was a common theme at the Deline hearings. It's also one of the principles of the Caribou Management Plan (*Caring for Caribou – the Cape Bathurst, Bluenose-West and Bluenose-East Barren Ground Caribou Herds Management Plan, prepared by Advisory Committee for Cooperation on Wildlife Management, November 2014*). Working together must involve more than demanding harvest data and debating how to allocate a quota. The communities must be involved in the collection of locally available data, research studies and decision-making.

#### The deployment of radio-collars should be prohibited.

Among the Dene there is no apparent support for radio-collaring, yet the practice continues. Radio-collaring is an intrusive practice that is contrary to Dene laws and the special relationship between caribou and the Dene. The use of collars also contradicts the Wildlife Act's prohibition of wildlife harassment. One of the objectives of the SDMCLCA is *"To recognize and encourage the way of life of the Sahtu Dene and Metis which is based on the cultural and economic relationship between them and the land"*. A similar recognition can be found in the United Nations Declaration on the Rights of Indigenous Peoples, which recognizes *"that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment"*. In meeting these objectives and principles we believe there is an urgency to replace the use of radio-collaring with ethical research practices. We believe there are other more effective and respectful ways to understand caribou.

#### Currently management actions are based almost entirely on a population census that is of questionable accuracy, and is undertaken at a time when caribou should be left alone.

A population census is not required for management. It generates a number, and few clues as to what factors are influencing population change. Management actions can be greatly misdirected if we don't understand the problems. We believe that what is required is an understanding of demographic patterns and probable factors influencing population changes. The three important indicators of caribou herd status – cow survival, calf recruitment, and pregnancy rates – are currently obtained without the use of radio-collars. These "vital rates", as well as other indicators of herd health and demographic trend can be obtained through periodic composition surveys (aerial and ground), local assessment of group size, composition and pregnancy rates, fecal analysis, and body condition studies (field assessment, carcass assessment, pellet samples and blood testing).

The science-based literature indicates that the proportion of pregnant cows is tied to body condition and the amount of fat during the rut and through the winter (Cameron et al. 1993). The literature further indicates the weight of the cow is an indicator of female condition and influences maternal success, fetal growth, and calf condition at calving and at weaning (Taillon et al. 2012; Cameron et al. 1993). Blood parasites have been correlated with cow survival and calf production (Milner et al. 2003), and the probability of gestation has been linked to warble fly infestations (Pachkowski et al. 2013). Physiological and nutritional stress can also be measured based on hormones levels in fecal samples (Joly et al. 2015). Indeed body condition, blood samples, and fecal analysis can tell us plenty about caribou productivity, and predict

demographic trends, and together with periodic composition surveys and ground-based observations are far more useful in guiding management than an annual census on calving grounds. A calving ground census can be subject to considerable bias, due to shifts in calving distribution and interchange between herds (Hinkes et al. 2005), and the separation of barren cows from pregnant females during calving, which can underrepresent the population estimate. Hinkes and his colleagues (2005) documented shifts in calving distribution of a large barren ground herd in Alaska, which they suggested, “may contrast the conventional concepts of calving tradition and herd identity”. The lack of correlation between ENR’s census data on the Bluenose-East herd, and their composition surveys, further imply weaknesses in a calving ground census-based approach to management.

The observed changes in the number of caribou in the Bluenose East population has prompted a “caribou conservation crisis”, despite wide-spread acknowledgement (likely consensus) that barren ground caribou cycle in numbers over a 30-50 year period.

Caribou cycles have been observed approximately every 30 years since 1920, and known from traditional knowledge spanning a much greater period. Today most biologists believe that these fluctuations are driven by climatic oscillations related to ocean currents, air pressure gradients, and the jet stream (Gunn 2014). Climatologists refer to these patterns as Pacific Decadal Oscillations, the North Atlantic Oscillations and the Arctic Oscillations. Pressure gradients affect temperature, storm tracks and moisture. Ann Gunn, a previous caribou biologist with the NWT Department of Environment and Natural Resources (ENR) has published some very compelling analysis speculating that the declines in barren ground caribou herds are caused by climate through a complex relationship between caribou, climatic variation and forage (Gunn 2003; 2014). One of ENR’s current caribou biologists (Jan Adamaczeski) in reference to widespread declines of caribou in the Arctic, is quoted to say that “weather is the only thing that would operate on that big a landscape scale” (Weber 2009). ENR’s presentation at the Deline hearings confirms a global trend in the decline of caribou across the arctic (slide 12 of their presentation). The logical explanation is that climatic change operating at a global scale has a significant impact on caribou demographic patterns.

The most compelling explanation is that climate change is impacting caribou habitat (or their use of habitats) and forage conditions. Studies sponsored by ENR have analyzed data to indicate a trend in the July drought index (preliminary results from D. Russell, CARMA network, November 2015 – slide 14), and other studies in the NWT have found that plant growing-days and forage biomass and quality can predict caribou pregnancy rates and calf survival (Chen et al. 2014). Researchers in Alaska suggested that the probability of successful pregnancy is also influenced by the female’s body weight (an index of body condition) in the autumn, and that calf survival is influenced primarily by maternal condition during late pregnancy (Cameron et al. 1993). Another team of researchers stated that climate variation and subsequent effects on forage plants have the potential to influence the population dynamics of caribou through effects on their food supply (Lenart et al. 2002). Indeed all the indicators point to climate, and its affect on forage conditions and consequently body condition, as the driving feature in the cyclic pattern of caribou populations.

Some biologists have speculated that high population densities (at the peak of the cycle) contribute to the decline, due to the overgrazing of lichens that take 30+ years to recover (Macdonald 2016). Some elders speak of this as habitat “renewal”. One study suggested that

the combined effect of herd size and summer range conditions likely affect the weight of the cow, and consequently the condition of the calf (Taillon et al. 2012). Yet despite consensus that caribou populations cycle in abundance, triggered by climate variation, ENR has described the recent population change as a caribou crisis and proposed drastic conservation measures. The reactive response is contrary to one of the goals of the proposed caribou management plan – Caring for Caribou - which is to maintain herds within known natural range of variation.

There are many factors believed to be at play in the climate-caribou cycle to explain observed cyclic pattern, yet there is minimal effort to monitor these potential factors, or include them in analytical projections of herd trend.

Biologists and hunters agree that climate change is altering the landscape and consequently adversely impacting caribou. Hegel et al. (2009) have summarized some of the possible mechanisms whereby climate impacts body condition and consequently fecundity and calf survival, including, (a) the effects of harsh winter conditions, (b) poorer forage quality and/or quantity during peak lactation, (c) poor forage conditions in the summer and fall, (d) increased insect harassment affecting energetic costs and subsequently calf growth and survival, (e) winter severity during gestation, (f) increased snow depth that affect habitat use and increases predation rates, and (g) persistent snow in the spring that may impede movement of pregnant females. Clearly there are many factors at play to explain caribou population dynamics, yet ENR's management model rests almost entirely on harvest controls.

### Habitat changes

There are many speculations that climate changes are altering caribou habitat through plant growing days, available moisture, the extent of permafrost, the northern advance of the shrub zone into the tundra, and the widespread proliferation of wildfires. Habitat changes can influence the availability of forage, movement patterns, and distribution, resulting in higher energetic costs, and lower nutritional status. Indeed habitat and range conditions are critical to the health and condition of individual caribou, and consequently the productivity of the herd (Macdonald 2016). The displacement to less preferred habitats may also increase predation rates (Carruthers et al. 1986; St. Laurent 2014). Yet according to Macdonald (2016), there is no information on the status of habitat in the range of the Bluenose East herd. This information is of value in enabling a more realistic explanation of caribou dynamics, and to provide information on where caribou are most vulnerable, and which areas should be protected. Why are we not doing more to assess habitat change?

### Wildfires

Wildfires are the most obvious and severe alteration of habitat, replacing vast areas of coniferous forests and the understory of lichens with early successional grasses, sedges and willows. The loss of lichen habitat is of obvious consequence to caribou, despite a comment that we heard at the Deline hearings that caribou will return to burned-over areas a year after the fire. There is much literature and local knowledge to indicate that caribou benefit greatly from lichens – they offer a highly digestible source of energy which is essential to barren-ground caribou in the winter (Russell and Martel 1984). And it takes approximately 30 years for most lichens to recover (they grow slowly). Joly et al. (2007) reported that “wildland fires effectively destroy lichens, and overwintering caribou are known to avoid burned areas for decades while

lichen communities regenerate”. These researchers speculated that wildfires could decrease the availability and quality of winter habitat for up to 55 years, potentially impacting caribou population dynamics. Lutsel K’e’ elders similarly believe that caribou numbers and distribution are affected by wildfires (Kendrick et al. 2005). ENR biologist Jan Adamczewski in an article titled “Wildfires destroy caribou winter range – Bathurst, Bluenose-East herds could stay north for decades” told reporters that caribou typically spend winters in forests that are at least 100 year old, to ensure adequate supply of lichens, and that the recent burns have destroyed millions of hectares of lichens that caribou require to survive the winter, and that caribou are unlikely to return to these areas for 40-60 years (Ryder 2014; Wohlberg 2014). Wildfires also alter predator-prey dynamics. The rejuvenation and expansion of willow after a burn creates abundant forage for moose. More moose draws in more wolves. More wolves impose higher risks to caribou. Admittedly wildfires are difficult to manage, however, the relationship between caribou and wildfires should be an important feature of caribou population models.

#### Impediments to travel – energetic costs and hazards

Changes in climatic conditions can also be adverse to caribou through deeper snow conditions, greater winds that hard pack snow, and freeze-thaw conditions that create snow crusts. Studies have shown snow conditions affect caribou movements and cratering activities (Russell and Martell 1984), as well as the location of winter range and the timing, direction, speed and routes of animal migrations (Pruitt 1959). Rapid spring run-off may also impose hazards at key river-crossing sites during spring migration. These obstructions can elevate energy requirements, and deflect caribou away from preferred habitats and migration routes.

#### Predators-prey dynamics

People on the land are reporting more moose, more wolves, and more muskoxen within traditional caribou range. There are speculations that more moose attract more wolves, and that more muskoxen displace caribou from parts of their range, and yet these environmental changes are not monitored, or built into the models that project caribou population estimates. Caribou probably avoid areas where wolves are common. Carruthers et al. (1986) found that Bluenose caribou used different areas of the winter range, which they speculated was due to cows using areas to escape from wolves. Grizzly bears, the most significant predator on newborn calves, may also be benefiting from climate change. Melting permafrost may increase denning opportunities, and the advance of spring may result in earlier emergence from hibernation. Density of bears may also be increasing with greater forage productivity. Caribou population models would benefit greatly from understanding some of these changes in the environment.

[The decline in caribou has coincided with northern development \(diamonds, oil and gas, mineral exploration\), yet meager effort is made to manage adverse impacts associated with development.](#)

Studies indicate that caribou avoid diamond-mining sites (Boulanger et al. 2012), and are displaced from road corridors. According to local opinion caribou avoid industrial noises, notably helicopters. Indeed science-based studies support these local assertions. Researchers have found that aircraft over-flights do disturb caribou, most notably on calving grounds. One study concluded that caribou run away from flights up to 300 metres away, and display panic

responses when flights are within 150 metres of caribou (Calef et al. 1976). Other studies found that aircraft over-flights caused the rate of nursing to decline, and helicopter landings at a distance of 300-2000 metres, would readily displace caribou and alter their activity patterns (Gunn et al. 1983).

Exploration activities within the [calving range](#) of the Bluenose East Caribou herd should be of considerable concern to wildlife managers. Caribou are loyal to specific calving grounds. Here they form large groups and drop their calves within a brief period of time. If many newborns are exposed to relatively few predators, the majority of calves are able to escape predators when they are most vulnerable. According to many studies these preferred calving grounds are unique – they are typically snow free, in areas of relatively low predator density, adjacent to areas that provide insect relief, and support relatively abundant emergent herbaceous plants (particularly cotton grass), and willows. It is well known that newborn losses typically account for a substantial percentage of the annual mortality of barren ground caribou calves. These preferred and essential habitats minimize newborn losses, provide cows with enough high quality digestible forage to allow cows to lactate, and are adjacent to important insect relief areas. The importance of these areas is well known to the Dene – they are considered sacred areas, and avoided by the Dene during the calving period.

Studies in Alaska have found that development indeed displaces caribou from calving areas (Cameron et al. 2005), and that disturbance of caribou on these calving grounds has a direct effect on their reproductive success (Steve Murphy, quoted in Russell et al. 2002) and calf mortality (Whitten et al. 1992). Macdonald (2016) reminded us that, “studies show that communities, roads and other developments can cause major changes in the distribution of migrating herds and possibly cause them to move from preferred calving grounds”.

Developments should be prohibited on caribou calving grounds to avoid the displacement of caribou. Strict conditions should also be imposed on studies on the calving grounds to avoid invasive methods that disturb caribou during the critical calving period. There can be little question as to the importance of these key habitats. To suggest that caribou can adapt to industrial activities on their calving grounds, as suggested at the Deline hearings based on population trends of the Central Arctic Herd, is a gamble that we believe governments should not be taking. This is particularly troubling given that industrial development on the Bluenose Caribou Herd is contemplated at a time that Dene harvesting rights and traditional harvesting practices are being infringed upon.

Governments should also ensure that [spring migration corridors](#) are protected. Caribou migrate within a corridor of least resistance. Cows typically move at a rate of 20 km/day, with little food available, and encounter obstacles such as deep snow and spring floods. They are pregnant, with minimal body reserves. These travel corridors are used year after year, presumably because they offer features that minimize hazards and energy costs. Yet a road is being proposed along a portion of the Bluenose East Herd migration route. According to a Kendrick et al. (2004), Lutsel K’e elders believe that disturbance within traditional migration corridors and water crossings might be displacing animals to less optimal routes, and this likely influences where they winter.

Despite what seems to be overwhelming evidence that development has a direct effect on caribou, notably on calving grounds, ENR’s response is to develop guidelines to reduce stress

from industrial activity. No apparent effort is being made to restrict development or regulate aircraft over-flights in key habitats at sensitive times of the year.

[Harvest is singled out despite any compelling evidence that harvest caused the decline or will influence its recovery.](#)

As indicated above most experts (biologists and traditional land stewards) believe caribou fluctuate in abundance over a 30 to 50 year cycle. Scientists attribute these demographic trends to oscillations in climate due to changes in ocean currents and the jet stream, perhaps amplified by impacts to winter range through overgrazing at the peak of the cycle. Weather conditions influence caribou demographic patterns through habitat changes, snow conditions, wind patterns (relief from insects), and redistribution of predators. At no time in the past were quotas imposed, and caribou rebounded. Today, harvest effort and rates in the range of the Bluenose Herd are far less than historic patterns, when travel was by dog team and dogs needed to be fed, and when the Dene were not anchored to communities where there are schools, health centres, and grocery stores. In historic times, according to Dene elders, a Dene family needed about 100 caribou to survive. The harvest today is presumably much less.

Biologists speculate, based on empirical studies, that many factors influence caribou population dynamics and generate a cyclic pattern of abundance and scarcity. No evidence or opinion has been proposed that harvest has caused or altered such cyclic patterns. The arguments used to convince us that hunting caribou is significant and detrimental are based on an arbitrary adjustment of harvest, and a model that misrepresents caribou population dynamics.

[Significant impacts to the Dene way of life](#)

Harvest restrictions are being imposed without any regard to the severe consequences it has on cultural practices, the Dene way of life, and the social welfare of community members. Not only is there a significant economic cost to replacing country food with southern store-bought food, there are significant cultural impacts of eroding the spiritual and physical relationship between the Dene and caribou. This concern was repeated many times in the Deline hearings. In addition, the imposition of a quota system creates divisiveness between communities, and creates an adversarial approach to management. It also disregards one of the principles of the proposed Caribou Plan (Advisory Committee for Cooperation on Wildlife Management 2014), which states that harvesting is fundamental to the cultural, social and spiritual well-being of the community. We believe that the imposition of a punitive harvest quota based on incomplete science and unrealistic population models, undermines the spirit of the SDMCLCA and the principles that should guide the management of caribou. Such measures should be implemented only under extreme conditions and with the support of the community, and not as a reaction to a caribou population that is regulated by multiple factors, and happens to be at a low density in its cycle of abundance. There is much to gain and little to lose by rescinding this proposal in favour of a collaborative approach to management that truly respects Dene traditions and practices, as well as Dene knowledge and advice, and signals a willingness to work together as was intended in the SDMCLCA.

[The determination of harvest is badly flawed](#)

ENR measures harvest, which is then arbitrarily adjusted upwards based largely on a simple arithmetic model that calculates harvest based on the population estimate. Such an arbitrary adjustment of the reported harvest is a deceptive use of science. It calculates harvest to explain the population estimate (which in itself may be a crude estimate), in a very simple model that ignores other variables, despite speculations by most biologists that population changes are a result of complex relationships between caribou, climatic variation, and their forage. Our concerns are supported in Macdonald's (2016) assessment, "Government agencies made the calculation that indigenous hunting must be taking roughly 100,000 caribou a year to explain the change in herd size".

[ENR's population projections are very simplistic and unrealistic.](#)

As stated above, ENR concedes that barren ground caribou population dynamics and ecological relationships are complex. Caribou populations' naturally cycle. Climatic oscillations are an important feature in this cycle, altering the forage quality and availability, bringing about significant habitat changes, such as wildfires that influence distribution and movement patterns, and predator-prey relationships. Global climate change may be altering the natural fluctuations in climate. ENR admits that industrial development may add further potential impacts on caribou. Yet ENR is promoting very simplified and unrealistic models to project population trend in order to justify harvest restrictions. One model presented at the Deline hearings (slide 28) sets harvest to 0, and constrains cow survival at 71%, despite ample evidence in the literature that cow survival fluctuates as a function of nutrition and body mass. The model then varies calf productivity, again ignoring empirical data that correlates cow survival with productivity. A second model (slide 33) projects population trends, based on static measures of cow survival (71%), and calf productivity (at 2013-15 levels), and variable harvest numbers. Again, the model ignores the dynamic nature of caribou populations, and natural changes in the three "vital rates". Without realistic inputs, the model is meaningless.

Statements made by ENR that harvest restrictions suspended the decline, or caused an increase in the number of caribou also have no empirical basis. A team of caribou researchers in the NWT cautioned ENR from making such extrapolations. "Conclusions drawn by directly linking the harvest regulation with changes in caribou productivity thus could be misleading, without first quantifying and removing the impacts of natural factors" (Chen et al. 2014).

If science is required to manage caribou, there should be far more rigor in how it is applied. We are concerned that ENR is using the models to justify harvest restrictions, rather than objectively projecting population trends based on realistic inputs into the model. We should not be mesmerized by science. It is an important tool that should be used (along with other information) in an objective way to understand caribou, not as a tool to justify harvest restrictions. If biologists don't know enough to build realistic models they should concentrate on studies to generate more information to feed the model.

[ENR's promotion of bull-only harvest is also far too simplistic and ignores what is likely a far more complex relationship between sex ratio and caribou productivity and survival.](#)

Some studies and local opinion suggest that the proportion of bulls and the number of prime bulls in the population will influence the efficiency of the rut. Inadequate males or proportionally fewer prime bulls may result in incomplete breeding or delays in breeding,

resulting in fewer pregnancies and late-borne calves whose survival is unlikely. There are also speculations that young bulls engaging actively in the rut because there are fewer prime bulls, lose too much weight and suffer higher winter mortality because they are less able to compensate for weight loss as a result of a strenuous rut. Some elders are also of the opinion that young bulls accompanying female-calf groups act as sentries, and therefore reduce the anxiety of females and increase foraging time. We believe the promotion of a bull only harvest (as portrayed on slide 34) without regards to caribou social dynamics should be reconsidered.

### Recommendations to the Sahtu Renewable Resources Board

1. **Co-management.** Dene communities must have far greater opportunities to participate in caribou management, including the inclusion of local knowledge, policy development and decision-making (as agreed to in the SDMCLCA). More effective collaboration between SRRB, RRC, and ENR is required. We also recommend joint decision-making in consideration of better data and a range of management options.
2. **Social and cultural considerations.** The management of caribou must recognize and encourage the Dene way of life based on our cultural and economic relationship to the land (as agreed to in the SDMCLCA). This should include the adoption of ethical management practices, respect for traditional laws, acknowledgement and respect for traditional knowledge, and consideration and accommodation of cultural and social impacts. Research should be in compliance to these considerations.
3. **Knowledge.** Management of caribou must be informed by more comprehensive and holistic knowledge of caribou, which includes traditional and local knowledge and advice, as well as science, and in consideration of past events and current indicators. To this end, the Dene must be able to participate in the collection of locally available data, and be involved in research. Science is an important contribution, but should be undertaken and interpreted in an objective way.
4. **Balance.** Science is a way of knowing, and an important tool to understand caribou, but should not be paramount over other ways of knowing, and should not drive the decisions or be used as a mechanism to justify predetermined policies. We see the SRRB as an important institution to speak on behalf of the Sahtu communities, and promote a balanced approach to management, where we are working together to manage caribou and not simply adopting ENR's management policies developed by science-based practitioners.
5. **Management actions.** Management actions should be based on comprehensive information and compelling arguments, arrived at collectively, and not limited to the provisions under the Wildlife Act. More effort must be made to protect habitats, and regulate industrial activities, and road developments. Harvest restrictions, if imposed, should be decided in collaboration with the RRC's and their communities.
6. **Education.** There is great value in educating our youth and management partners, about caribou, Dene cultural practices and customs, the management process, and management tools. Much of the misunderstanding and mistrust between management partners can be linked to a lack of communication and inadequate exchange of

knowledge. It is also very important to build capacity within the community to invest in land stewards and community leaders.

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