

## Jody Pellissey

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**From:** Lynda Yonge [Lynda\_Yonge@gov.nt.ca]  
**Sent:** February-19-16 2:06 PM  
**To:** Jody Pellissey  
**Cc:** Wally Schumann; Doug Pon; Ernie Campbell; Lucy Escalante; Lina Dobbin; grandchiefediwa@tlicho.com; lauraduncan@tlicho.com; 'Grant Pryznyk'; 'John Donihee'; Fred J Mandeville; sjoerd van der wielen  
**Subject:** WRRB BNE Information Request Round 2  
**Attachments:** Gasaway Ttest BNECalvingGrnd Survey JsN v2(2013-2015).xlsx; Response to WRRB BNE round 2 IR's Final - 2016\_02\_18.docx

Jody

Our apologies, the responses to Information Request Round No.2 on the Bluenose-East Caribou Herd Joint Management Proposal sent to the WRRB yesterday were inadvertently missing portions of some of the responses. Please accept the attached revised responses submitted jointly by the Tlicho Government and ENR.

Thanks for your understanding.

Lynda

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Northwest Territories Environment and Natural Resources

Mr. Jonas Lafferty  
Interim Chair  
Wek'èezhì Renewable Resources Board  
4504 49<sup>TH</sup> AVENUE  
YELLOWKNIFE NT X1A 1A7

FEB 18 2016

Dear Mr. Lafferty:

**Responses to Information Request**  
**Round No. 2 – Bluenose-East Caribou Herd Joint Management Proposal**

The Tłıchǫ Government (TG) and the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT) received a list of information requests from the Wek'èezhì Renewable Resources Board (WRRB) on February 8, 2016 in regards to the *"Joint Proposal on Management Actions for Bluenose-East Caribou 2016-2019"*.

TG and ENR would like to provide the attached joint response to the WRRB's information request.

Sincerely,

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Attachment

c. The Honourable Wally Schumann, Minister, ENR

Ms. Lucy Escalante, Executive Secretary to Minister Wally Schumann  
ENR

Mr. Ernie Campbell, Deputy Minister, ENR

Grand Chief Edward Erasmus, TG

Ms. Laura Duncan, Tłıchq Executive Officer, TG

Ms. Lynda Yonge, Director of Wildlife, ENR

Ms. Jody Pellissey, Executive Director, WRRB

## **Bluenose-East Caribou Herd Joint Management Proposal Information Requests Round No.2**

### **Information Request #1:**

Parties Responsible: Environment and Natural Resources

The 2018 census is a key element in assessing the success or failure of the current management proposal. The Proposal suggests that the decline may continue, which raises questions about whether the breeding cows will change their calving behavior in terms of dispersion, density and distribution. Those possible changes will have implications for census design and statistical power.

Response (ENR): We wish to clarify that our surveys are not censuses which implies that all the caribou are counted in the survey area. Rather surveys provide estimates of breeding females and adult caribou. Seldom are censuses possible with wildlife populations.

The Proposal indicates that the next population estimate is expected in June 2018:

- a) What will be the change in the number of breeding females that the 2018 census will be able to detect compared to the June 2015 census?

Response (ENR): The power to detect change in breeding females will depend upon the level of precision of the future survey which cannot be determined at this time. As a general rule, if the 95% Confidence Intervals associated with survey estimates do not overlap, then the estimates are likely to be statistically significantly different when a simple t-test is used. A t-test is a simple statistical test that compares two numbers that have range of uncertainty around them to determine whether there is a real difference between the two numbers. In this case, the t-test would determine whether the difference between the two survey estimates is a real difference or whether the difference in numbers can be accounted for by chance or imprecision in the survey results.

For the BNE survey in June 2015, the estimate of breeding females was  $17,396 \pm 2,308$  (95% Confidence Interval, lower 15,088, upper 19,704), indicating a higher precision on the BNE survey than on the Bathurst survey. For a statistically significant difference for the next BNE calving photo-survey, a higher estimate of breeding females would need to have a lower Confidence Interval greater than 19,704, and a lower estimate would need to have an upper 95% Confidence Interval of less than 15,088.

A more detailed response outlined below – although quantitative – is not meant to be predictive, but is provided as an analysis of potential sensitivity to detect numerical change for the June 2018 survey relative to preliminary results of the June 2015 survey and based on a methodological approach adopted from Gasaway et al. (1986). The WRRB's original IR is restated below as two separate but related questions with corresponding responses (and definitions/assumptions\*) in the bullets below:

- i) Question 1: Assuming Type I error rates of 0.10 and 0.05, and a Type II error rate of 0.20, what would be an expected rate of decline in abundance of breeding females that could be detected by a survey in June 2018?
  - A survey result of 14,974 + 286 (SE) (CV=0.02) breeding females would be detected as a significant reduction (at  $p = 0.10$ ) relative to the 2015 BNE calving ground estimate. The result would represent a decline of 14% ( $r = -0.05$ ; or 2,423 animals) relative to the 2015 estimate.
  - A survey result of 14,531 + 3073 (SE) (CV = 0.02) breeding females would be detected as a significant reduction (at  $p = 0.05$ ) relative to the 2015 estimate. The result would represent a decline of 20% ( $r = -0.06$ ; or 3,505 animals) relative to the 2015 estimate.
- ii) Question 2: If the next BNE calving ground survey in June 2018, had a similar sampling intensity to the June 2015 survey (i.e. degrees of freedom = 50) and a plausible level of precision (CV = 0.10), what decline in number of breeding females would be concluded as significantly lower based on a 1-tailed t-test?
  - A survey result of 14,974 + 1,497 breeding females would be detected as a significant reduction (at  $p < 0.10$ ) relative to the 2015 estimate. The result would represent a decline of 14% ( $r = -0.05$ ; or 2,423 animals) relative to the 2015 estimate.
  - A survey result of 14,102 + 1,410 breeding females would be detected as a significant reduction (at  $p < 0.05$ ) relative to the 2015 estimate. The result would represent a decline of 19% ( $r = -0.07$ ; or 3,295 animals) relative to the 2015 estimate.

\*Definitions/Assumptions:

- the degrees of freedom (df) was calculated based on the number of transects flown in each strata of the June 2015 survey and was assumed to be similar for the next survey in 2018 (df = 50);
- Type I error ( $\alpha$ ) is the acceptable probability of error from a practical point of view, if you were to conclude that a change in numbers had occurred when in fact it had not changed. The assumption was that  $\alpha = 0.10$  and/or 0.05.
- Type II error ( $\beta$ ) is the acceptable probability of error from a practical point of view, if you were to conclude that no change in numbers larger than a consequential difference of interests had occurred when in fact it had changed. The assumption was that  $\beta = 0.20$ .
- (see attached spreadsheet).

We note however that the use of t-tests to compare breeding female abundance is only the first step in the analysis of trend and demographics of the BNE herd using calving ground survey data. A weighted regression approach is used to estimate annual change and compare annual change between survey intervals. A weighted regression analysis is a more sophisticated statistical analysis that gives more weight to the variation in sampling in the observations. The calving ground results are then combined with other survey results in an integrated population model. This approach has much higher power and inference than a t-test comparison of estimates.

It is important to recognize that in reality we look at a number of approaches to assess whether there is a declining trend in breeding females, and how management might be approached. If, for example, a decline of 20% in the estimate of breeding females from 2015 to 2018 was found to be not significantly statistically different based on a t-test, we would conduct a power analysis and not simply assume that the herd was stable. In reality the regression analyses and population modeling, in combination with other measures of trend, would be used to assess whether the decline from 2012 to 2015 was continuing.

- b) What is the trend in the density and area of the calving grounds since 2003?  
Please provide a table giving the density and area for the low, medium and high density strata for census and reconnaissance surveys.

Response (ENR): Table 1 summarizes the density and area of calving grounds from survey reports in 2010, 2013 and 2015.

For the years prior to 2010, that information may be found by reviewing the previous calving ground survey reports and documents provided in response to the WRRB's earlier request for supporting documentation.

**Table 1: Strata area and density of caribou for Bluenose East calving ground photo surveys.**

Year	Strata	Survey Type	Area of Strata (km <sup>2</sup> )	Density (caribou/km <sup>2</sup> )	Source
2010	High	photo	4,840.0	10.47	(Adamczewski et al. 2014)
2010	Medium	photo	4,453.9	8.19	
2010	East	visual	2,996.4	3.75	
2010	North	visual	1,118.3	0.85	
2010	NorthWest	visual	2,259.6	1.48	
2010	South	visual	3,006.9	3.93	(Boulanger et al. 2014)
2013	HD	Photo/visual	4,502.4	8.93	
2013	NW	visual	2,490.7	1.93	
2013	SW	visual	2,503.5	2.00	
2013	SE	visual	3,717.8	1.44	
2013	SR	visual	7,364.6	0.68	(Boulanger et al. 2016)
2015	Photo	Photo	2,682.1	6.77	
2015	North	North	1,889.2	1.31	
2015	Central	Central	4,586.8	2.42	
2015	East	East	3,430.9	1.83	

## Sources

Adamczewski, J., J. Boulanger, B. Croft, T. Davison, H. Sayine-Crawford, and B. Tracz. 2014. A comparison of calving and post-calving photo-surveys for the Bluenose-East herd of barren-ground caribou in the Northwest Territories, Canada in 2010. Environment and Natural Resources, Government of Northwest Territories.

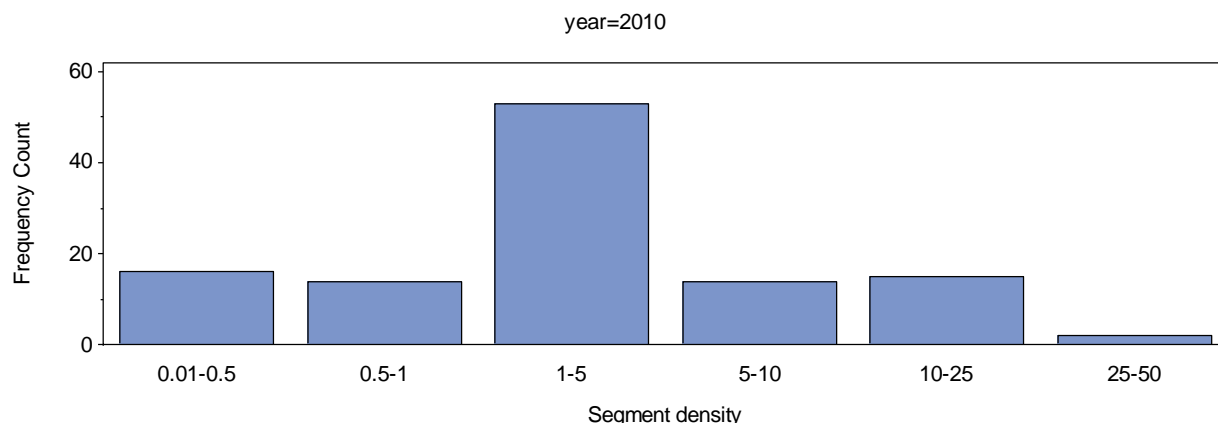
Boulanger, J., B. Croft, and J. Adamczewski. 2014. An estimate of breeding females and analyses of demographics for the Bluenose East herd of barren ground caribou: 2013 calving ground photographic survey. Department of Environment and Natural Resources, Government of Northwest Territories, File Report No. 143.

Boulanger, J., B. Croft, J. Adamczewski, D. Lee, N. C. Larter, and L. M. Leclerc. 2016. An estimate of breeding females and analyses of demographics for the Bluenose-East herd of barren-ground caribou: 2015 calving ground photographic survey. Environment and Natural Resources, Govt of Northwest Territories.

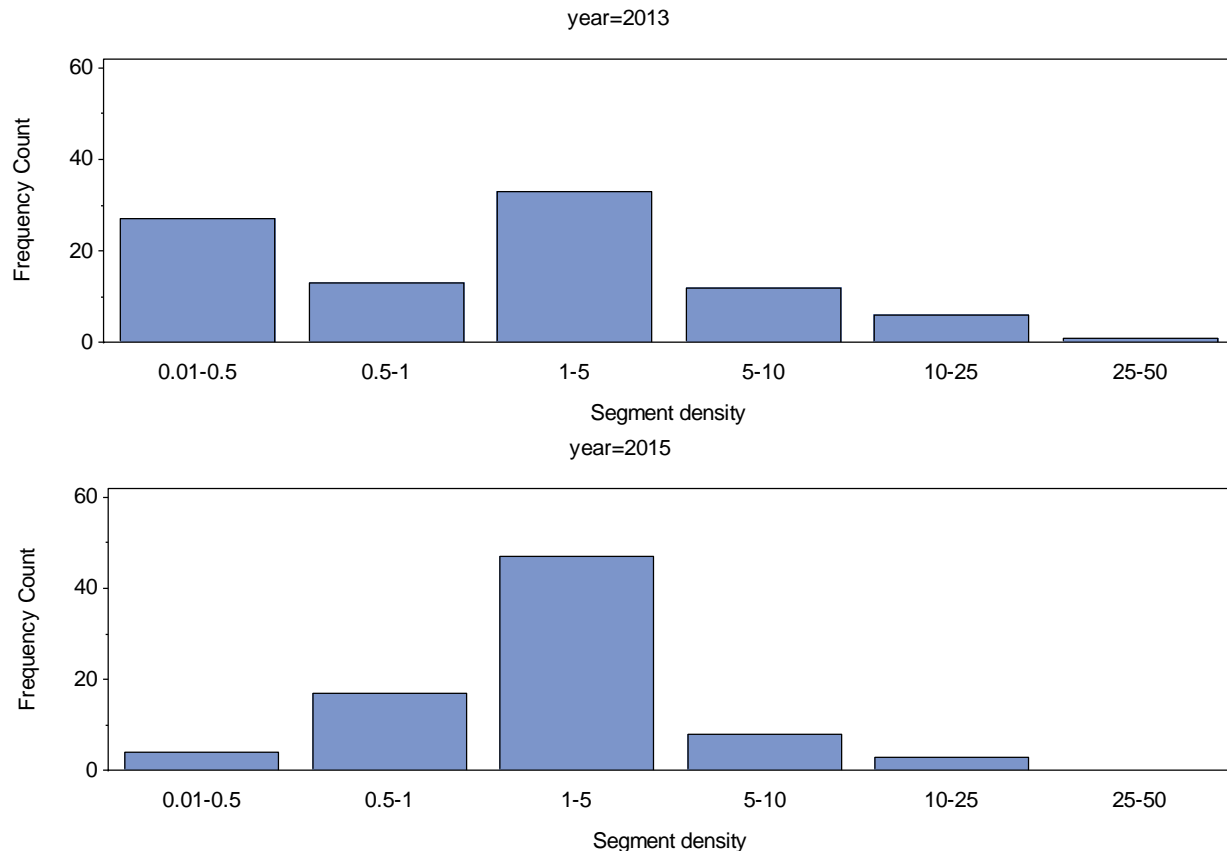
- a) What is the trend in the numbers of high, moderate and low density segments and their average densities? Describe possible limitations to and solutions for census design and estimates of breeding cows if breeding cow density or stratum area declines.

Response (ENR): In general, the number of high density segments has declined as the population has declined. Figure 1 illustrates the pattern of caribou densities within transect segments (each being 4 km<sup>2</sup> in area) from calving ground surveys 2010-2015. As discussed in Boulanger et al 2014 it is difficult to just use frequencies of segment densities to analyze trend given that the overall distribution of caribou and degree of aggregation will affect segment densities. Densities of 1-5 caribou have been the most common on all three surveys.

**Table 2: Adult Caribou Segment Densities Seen on Bluenose-East Surveys 2010-2015**







Segments summarized include areas to the west of the Coppermine River/Kugluktuk up to Bluenose Lake as described in the calving survey reports. Strata to the East of the Coppermine river are not included since this area was not surveyed in 2013 (and contained minimal breeding caribou in any of the years).

### **Information Request #2:**

Parties Responsible: Environment and Natural Resources

The Proposal indicates that “this harvest would be reviewed annually as new information becomes available”. Page 2 of the Proposal sets out a herd wide total allocation of 950 caribou, all bulls, divided among traditional users in the NWT and Nunavut. Commercial harvest is to remain at zero (“0”). The NWT share is to be 611 divided as follows: Tłıchǫ 373; Sahtú 163; Dehcho 15; Inuvialuit 8; NWT Métis Nation 14; Akaitcho 20 and North Slave Métis Alliance 17.

- a) Please provide the background information upon which the Proposal’s caribou harvest allocation is based. Explain the proposed allocations for each user group.

In response to this question, ENR would direct readers to its responses to SRRB IR Round 1, Question 6(a) and (b) and its Additional Information for Question 6. The proposed allocation for 2016 took into account all of the factors and principles that were considered in making the allocation for the 2014-2015 winter harvest season, subsequent information and input and then adjustments were made to recognize the lower total harvest target of 950 animals.

Prior to determining an allocation for the BNE herd in early Feb. 2015, ENR, on a request from the Advisory Committee for Cooperation on Wildlife Management (ACCWM), convened a conference call on BNE allocation to which all user groups and co-management boards were invited, on Feb. 2, 2015. Unfortunately some groups were not available and the parties on the conference call were unable to come to agreement at that time. Participants on the call indicated that it would not be appropriate for them to make a decision on allocation without all the necessary parties present.

ENR made an interim allocation on the basis of criteria described in a letter from ENR to all parties on Feb. 6, 2015. As set out in the letter, the Minister considered the following at that time:

- The principles set out in the draft Management Plan, Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan.
- The desire to make a decision which reflects the long-term commitment to co-operative wildlife management recognizes the need for communities to be involved in management, the need to strike a balance so that the needs of all users with rights to harvest are met, and the need to think about the future of the caribou and manage actions accordingly.
- Past harvesting patterns based on reported harvests from the Bluenose-East herd on both a regional and community level for the 2011-2014 harvesting seasons;
- In considering prior year harvests, a recognition that there are some user groups who did not harvest and who have asserted rights to harvest caribou and had to be taken into account in the allocation;
- The draft BNE allocation discussed by the ACCWM in late 2010-2011 but recognizing and accepting its limitations as a draft document which did not proceed further and which did not include all users who have to be considered at the present time; the draft allocation was compared against three years of past harvesting patterns to come to an average. These calculations are shown in the chart below.
- The management actions set out in the Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan when the herd is in the orange zone;

- The Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan notes that the BNE herd usually migrates through settlement areas/regions in the NWT and that the herd is typically harvested by nine communities: Wrigley, Norman Wells, Tulita, Délı̨ne, Whatı̨, Gamèti, Behchokò, Paulatuk and Kugluktuk.
- The comments and recommendations contained in the community consultation report on the Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East Barren Ground Caribou Herds Management Plan;
- That the reported harvest as of February 2nd, 2015 was 593 Bluenose-East caribou and 308 of those animals are cows;
- Consideration of traditional harvesting patterns and practices;
- The migration patterns of the BNE herd and their typical availability within traditional harvesting areas of each Aboriginal organization;
- The proximity and access to the BNE caribou herd in 2014-2015 in relation to the location of communities and the distance to be traveled in order to harvest;
- The provisions of settled land claim agreements, along with obligations to groups who have asserted rights and the obligations created by the findings of courts as set out in the case law;
- The availability of other barren ground caribou herds including the Beverly Ahiak barren ground caribou herds, which have no limits on Aboriginal harvesting for the 2014-2015 harvesting season and the availability of Bluenose-West caribou herd for some users;
- The availability of other populations of wildlife that can be readily accessed to meet the need for subsistence food;
- The populations of each user group based on statistics maintained by government and in some cases provided by user groups, including the report from the NWT Bureau of Statistics entitled *Community Population by Ethnicity, 2001-2014*;
- Statistical information on the number of Aboriginal persons who *Hunt & Fished During 2008 on a Community Basis* as published by the NWT Bureau of Statistics;
- Personal consumption needs for people who have harvesting rights in these areas.
- During the October 2014 Technical Meeting and the November 2014 Leaders Meetings on caribou, there were a few concrete suggestions put forward:

- Mr. Bailey on behalf of the NWT Métis Nation indicated that they could hunt from the herds in the south and that it was important that the Tłı̨chǫ, YK Dene and the Métis north of the lake could hunt this winter.
- It was noted that one community had muskox which could be shared.
- At the Technical Working Meeting in October, there was an indication that the Sahtú were willing to limit their harvesting in the Hottah Lake area to reduce pressure on BNE and Bathurst.
- The ability of ENR to assist with and facilitate community hunts;
- The impact of earlier harvest restrictions on the Bathurst herd and other wildlife populations on Aboriginal harvesters;
- The input received during the course of our in-person meetings on November 7th, 2014, November 28th, 2014, the information received from our in-person meetings with users in December 2014 and January 2015, the information and input received through the written exchange of correspondence and the input received during a conference call on February 2nd, 2015 between Deputy Minister Campbell and affected Aboriginal organizations and co-management boards.

The precedent for this approach was the method used by the GRRB, WMAC-NWT and SRRB in 2006 to determine a sharing formula for the Bluenose-West harvest when a Total Allowable Harvest was being considered for that herd. Past harvest was the main criterion used. A similar approach was also taken for the sharing formula in the Porcupine Caribou Harvest Management Plan in 2010, also relying primarily on estimates of harvest from that herd by user groups.

In developing a proposed allocation for the Joint Bluenose East Caribou Management Proposal, in addition to considering all of the factors set out above, ENR also took into consideration the following:

- The results of the 2015 calving ground survey;
- The ACCWM management plan which would place the BNE herd in the orange declining phase where a Total Allowable Harvest acceptable to ACCWM can be established,
- ENR's harvest rule-of-thumb (discussed in WRRB BNE Round 1 IR #11; "Rule of thumb: document ENR 2014b provided as an attachment to the response to WRRB) and associated modeling of harvest and caribou populations,
- Feedback received from Aboriginal governments and organizations and co-management partners after the 2014-2015 harvest season;

- Feedback received from Aboriginal governments and organizations and co-management partners through participation in the Barren-Ground Caribou Technical Working Group through the Summer & Fall of 2015;
- Feedback received from attending the ACCWM Meeting on August 7, 2015 to discuss the preliminary results of the 2015 calving ground survey;
- Tłıchǫ Government recommendations of August 25, 2015 to the WRRB on BNE harvest;
- Feedback provided by Aboriginal governments and organizations and co-management partners in response to ENR's letter of September 24, 2015 sharing the preliminary results of the 2015 calving ground surveys for the BNE;
- The need to consider the Nunavut harvest;
- The harvest results for the 2014-2015 harvest season;
- The WRRB recommendations of 2010 for the BNE, and the herd's much reduced numbers and its downward acceleration similar to the Bathurst herd's most rapid decline between 2006 and 2009.

ENR received a request from the ACCWM in early fall 2015 to call a meeting of all traditional NWT and Nunavut harvesters of the BNE as well as wildlife management authorities from the BNE caribou herd range, including the GRRB, SRRB, WMAC (NWT) and WRRB, to discuss and determine a harvest allocation. ENR was able to facilitate that request on January 20, 2016. ENR is very optimistic that the final allocation for the next three years will be able to result from the recommendations from this workshop, which are now being reviewed by participant groups, and from further discussions at the upcoming public hearings of the SRRB & the WRRB.

b) Please outline the proposed system for harvest authorizations.

For compliance management to be effective, officers and monitors must be able to determine that harvest is authorized and thereby lawful. ENR proposes use of Authorization Cards for bulls only for this purpose. The cards would be provided to the Aboriginal Governments and organizations for distribution to their members/harvesters.

Authorization cards would contain a unique identifier number that can be registered, tracked and accounted for. The cards would be printed on durable materials that can withstand use in the field under adverse environmental conditions; are difficult to reproduce or counterfeit and could be designed in such a way that a portion can be removed and retained by the harvester and the other portion submitted to the regional ENR office to fulfill harvest reporting requirements.

The Délı̃nę Caribou Conservation Plan does not include use of authorization cards but does require harvesters to use Health Sample Kits that must be provided to the Délı̃nę Renewable Resource Council. It may be possible to use Health Sample Kits as a form of authorization but more discussion is required between Délı̃nę and ENR to ensure compliance with the regulations and to ensure that ENR is able to take action if needed.

- c) What contingencies are in place if the Nunavut Wildlife Management Board determines that the Nunavut quota must be larger than 339 Bluenose-East caribou?

The participants in the January 20, 2016 meeting to discuss harvest allocation for the BNE herd included representatives from the Kitikmeot Regional Wildlife Board, Kugluktuk Hunters and Trappers Association (HTA), Bathurst Inlet HTA, and Bay Chimo/Umingmaktok HTA. The Nunavut Wildlife Management Board (NWMB) and the Government of Nunavut were also present as observers. During discussions there was general agreement that the proposed harvest allocation was about right and would not require major changes. However, ENR recognizes that the NWMB has to follow its own processes to determine a total allowable harvest for Nunavut and there is no guarantee that the NWMB public hearings will result in a total allowable harvest of 339 for Nunavut. In that case, additional discussion amongst user groups will be needed to how to address any resulting concerns and returning to the SRRB and WRRB for further considerations.

- d) Will ENR participate in the Nunavut Wildlife Management Board hearing to set Bluenose-East total allowable harvest?

Yes, ENR is intending to participate in the Nunavut Wildlife Management Board hearing and has notified the board of this intent.

### **Information Request #3:**

**Parties Responsible:** Tłı̄chǝ Government and Environment and Natural Resources

Please confirm that there are no plans to initiate wolf control in relation to the Bluenose-East caribou herd until the Bathurst caribou herd's wolf reduction pilot study is completed.

Response (TG and ENR): There are no plans to initiate wolf control in relation to the BNE herd at this time. In the current Proposal (section 4), ENR has committed to conducting a technical feasibility assessment of a full range of wolf management options. The feasibility study is scheduled to be completed by the end of 2016. The intent of this review is to identify, consider and assess the technical feasibility and

potential effectiveness of a range of different wolf management techniques. A thorough and rigorous assessment is a necessary and important first step in identifying measures that could be recommended for implementation in the BNE range. There are no plans to initiate any wolf control programs on the BNE range until the feasibility assessment is done. Any proposed measures that arise from this review would require consultation with Aboriginal governments and organizations and wildlife management authorities, and would require submission of a separate management proposal to the WRRB before new measures are implemented.

Existing incentive programs to support all NWT wolf harvesters are underway to promote increased harvesting of wolves NWT-wide, including on the range of the BNE caribou herd.

#### **Information Request #4:**

Parties Responsible: Tłı̨chǫ Government and Environment and Natural Resources

The Proposal also indicates that TG and ENR will “consider additional monitoring”:

- a) What does “consider” mean? What specific information will be collected to guide decisions about predator control, caribou populations and range management and what thresholds will be used to decide when and whether additional action is required or not?

Response (TG and ENR): In the context of the management proposal, “considering” additional monitoring means that this monitoring may be implemented if fiscal resources are available, which is determined on an annual basis through the departmental budget process and as approved by the Legislative Assembly. Additional monitoring would include the items listed in the proposal (annual composition surveys on the calving grounds, annual fall composition surveys, assessments of wolf numbers and condition on the BNE winter range, annual winter assessments of caribou pregnancy rate from fecal samples, annual monitoring of environmental factors). A goal of this additional monitoring is to provide greater insights into the timing of calf and adult mortality and into the annual variation in pregnancy rate and its effects on herd trend. If an effort to substantially increase wolf harvest in the BNE range goes ahead, then it would be important to monitor wolf harvest and hunter effort, and to have a measure of wolf abundance to test whether the attempted reduction is effective. Overall, though, the monitoring that was described in Table 1 should be sufficient to monitor herd trend and key demographic indicators.

The joint management proposal listed the BNE herd monitoring that is planned for 2016-2019, including the frequency of individual surveys. Desired ranges of monitoring outcomes (e.g. cow survival, spring calf:cow ratios) and possible adaptive management



options are provided where applicable in the table below. In practice, TG and ENR suggest that an annual technical review be held in full collaboration with WRRB and SRRB to review and assess up-to-date monitoring results. This workshop would help develop a common technical understanding of monitoring data among TG, ENR, WRRB and SRRB staff, and help establish an initial technical basis for future joint management proposals. Fall could be considered as a potential time for such a review, given monitoring results that would be available at that time and the scheduling of co-management board annual meetings. Results from calf:cow ratios (usually surveyed in March or April) would be available at that time and provide a measure of calf recruitment, and the June reconnaissance survey on the calving grounds should provide an index of the numbers of cows on the calving ground. Those results would be considered in the context of adaptive management options.



**Table 1: Biological monitoring of Bluenose-East herd  
(ENR lead for most elements)**

<b>Indicator(s)</b>	<b>Rationale</b>	<b>Desired Trend</b>	<b>Adaptive Management Options</b>	<b>How Often</b>	<b>Notes</b>
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	Tracks bull:cow ratio; Bathurst ratio increased from 31-	Bull:cow ratio above	If bull:cow ratio below target, reduce bull harvest.		Needed for June calving photo survey –

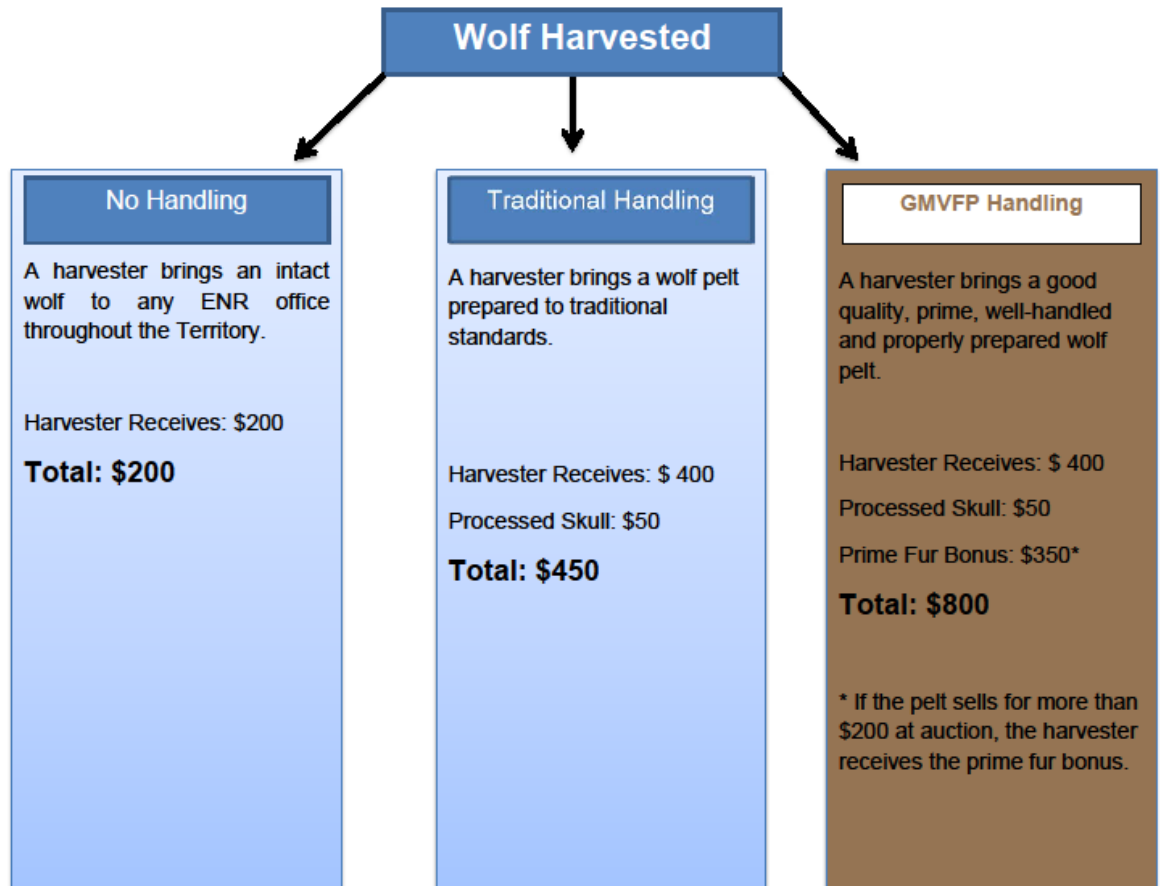
survey (October)	38 bulls/100 cows 2004-2009 to 57-58/100 in 2011-2012; prime bulls key for genetics, migration.	30:100.	Fall calf:cow ratios indicate spring & summer calf mortality relative to June ratios.	Every 3 years	extrapolation to herd size. Provides fall estimate for calf:cow ratio.
5. Calf:cow 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.	n/a	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 organizations 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, can be highly controversial.

- b) In light of the steep decline of this herd since 2013 (29% decrease in breeding females per year) and the “alarming” trend in the population, please explain how TG and ENR can justify a decision not to undertake wolf control on the range of the Bluenose East caribou herd.

Response (TG and ENR): ENR and TG have proposed a number of wolf management actions in the current Proposal (section 4) that we consider appropriate for the current status of the Bluenose-East herd. These include both immediate actions, and a feasibility assessment that will inform the need and approach for possible future actions.

- ENR has implemented both new and increased incentives (see figure below) for all NWT wolf harvesters to promote increased harvesting of wolves, including on the range of the Bluenose-East caribou herd.



- ENR will conduct a technical feasibility assessment of a full range of wolf management options. The intent of this review is to identify, consider and assess the technical feasibility and potential effectiveness of a range of different wolf management

techniques. A thorough and rigorous assessment is a necessary and important first step in identifying measures that could be considered for implementation in the NWT. Any proposed measures that arise from this review would require consultation with Aboriginal governments and organizations and wildlife management authorities, and would require submission of a separate management proposal to the WRRB.

Entering into a more intensive wolf management program without first assessing how it should be carried out to achieve the desired results is likely to result in wasted resources, potential public criticism, and possible negative biological consequences.

- The Tłıchǫ Government is implementing a Tłıchǫ community-based program to support targeted harvesting of wolves associated with the Bathurst caribou on their winter range. If successful, the approach may be extended to the BNE herd in 2016-2017 as part of an adaptive wolf management approach.
- ENR is also willing to consider proposals from Aboriginal governments and organizations to support wolf harvesting on the range of the BNE caribou herd.

- c) Please identify and explain thresholds for management action based on the monitoring proposed on page 2 of the Proposal. Identify the thresholds that will be used to trigger adaptive management actions based on monitoring results.

Response (TG and ENR): Please see response earlier to question 4a, which covers this subject.

- d) It appears that there will not be new population survey information for the Bluenose-East caribou herd until spring/summer of 2018. If annual review of survey information (such as calving reconnaissance surveys) indicates that more intensive management actions are required, how soon can TG and ENR come back to the WRRB with a new management proposal?

Response (TG and ENR): The calving ground photo survey planned for 2018 could be moved a year earlier if indicators suggest a substantial decline. A new management proposal can be drafted by TG and ENR in 2 months, but engagement and consultation would require additional time.

## **Information Request #5:**

**Parties Responsible:** Tłıchǫ Government and Environment and Natural Resources

The Proposal mentions annual monitoring of environmental factors that may affect caribou feeding, pregnancy rate and condition. The impacts of fires are also of interest, notably given the severe 2014 and 2015 fire seasons.

- a) Please provide specific examples of how the impacts of fire on caribou and Bluenose-East caribou habitat are being analyzed and used to support management actions.

TG and ENR recognize that fire is a key natural disturbance regime that is instrumental in creating and sustaining the natural mosaic of habitat patchiness and diversity of age class structure in boreal and taiga ecosystems. Migratory barren-ground caribou populations in the NWT have an adaptive strategy of seasonal range use whereby they space away from predators on the tundra during spring calving, and yet rely on old forested habitats during winter to feed on ground lichens. A number of past and current research projects looking at fire and barren-ground caribou can help inform our understanding of fire on BNE caribou habitat. Recent research on the impact of fires on the Bathurst caribou (Barrier 2011) showed that as of 2009, a shortage of winter habitat has not likely contributed significantly to the decline of the Bathurst herd, as the size of the remaining lichen-rich winter range could support a large, healthy herd. Studies of fire and caribou on the range of the Beverly herd in the 1980s by Don Thomas (e.g. Thomas et al. 1998) similarly indicated that despite large fires on that herd's winter range in the early 1980s the herd was not limited by the availability of lichen-rich winter range. Fire modeling studies from Alaska (Joly et al. 2012, Gustine et al. 2014) suggest that a greater frequency of large fire years (such as 2014 in the NWT) may occur with global warming and that these may affect caribou negatively if the boreal forest shifts to a much younger age class distribution. A study was initiated in 2015 by J. Baltzer (Wilfrid Laurier University) to assess the environmental effects of the 2014 NWT fires on vegetation and its recovery; the results from this work will be useful in assessing fire effects on lichen availability, and recovery after fire on caribou range.

ENR Forest Management Division delineates the area of forest impacted by fire on an annual basis across the NWT. This information is publicly available on ENR's Spatial Data Warehouse. Since records were started in 1966, 3,133,675 ha have burned on the BNE range which comprises approximately 13.3% (Table 1) of their range. The large fires of 2014 were mainly in the southern NWT and the BNE winter range was not heavily affected.

**Table 1 – Amount of forest fire on the range of the BNE caribou herd 1966-2015.**

<b>Year(s)</b>	<b>Area Burned (ha)</b>	<b>% of BNE Range</b>
1966-69	111,922	0.5
1970-79	889,620	3.8
1980-89	252,537	1.1
1990-99	868,800	3.7
2000-09	311,311	1.3
2010-15	699,485	3.0
<b>Total</b>	<b>3,133,675</b>	<b>13.3</b>

- b) Please clarify if, in addition to the location and spatial extent, fire intensity is part of the analyses. If intensity is not being considered, please clarify why not.

Response (TG and ENR): ENR Forest Management Division maintains a database of NWT fires dating to the 1960s, and carries out research on fire ecology including burn severity (fire intensity). Fire intensity can be assessed for relatively recent fires from remote sensing (satellite imagery), but it is more difficult to assess in older burns where satellite imagery may not exist and mapping methods were less sophisticated. Collar data and studies by Barrier (2011) suggest that caribou do make use of unburned or little-burned pockets within burns, and do not entirely avoid recent burns; this supports our understanding that wildfires are tremendously variable in spatial size, patchiness, and intensity, and therefore key in maintaining the heterogeneity of forested landscapes. Generally caribou prefer boreal forests that are 100 years old or older as winter range (Thomas et al. 1998).

#### **Information Request #6:**

**Parties Responsible:** Tłıchǵ Government and Environment and Natural Resources

In the Proposal, it is mentioned that the Bluenose-East caribou range has no active mines, and that industrial developments proposed for the Bluenose-East herd's range need to be considered carefully in view of the herd's reduced numbers and declining trend. It is also mentioned that ENR provided comments to the Nunavut Impact Review Board regarding proposed activities by Tundra Copper, and participated in a workshop on the draft Nunavut land use plan, supporting the Government of Nunavut's position of no development on the calving grounds.

- a) What has been done to protect important water crossings, migratory routes and other life stage habitats e.g. boreal forest wintering areas?

Response (TG and ENR): attached is a map that shows conservation and interim land withdrawals within the Bluenose East caribou range under a number of different protection schemes. Areas that are specifically protected for the purpose of conserving Bluenose East caribou are described below.

#### Conservation zones in Sahtu Land Use Plan

- Edaííla (Caribou Point) The Edaiila area was identified through the Sahtu Land Claim as an area of high importance for caribou. Edaííla provides important habitat for a number of wildlife species but the primary reason for its conservation status is to protect the Bluenose-East barren-ground caribou herd. The herd regularly aggregates on and close to the zone from mid-July to mid-October. Collared caribou locations confirm that this area is used during several seasons and is a key wintering area. Edaííla has also been forward as a candidate protected area under the NWT Protected Areas Strategy.
- Jonny Hoe River (Tehkaicho Dé) - According to the elders of Déline, Tehkaicho Dé is productive wildlife habitat that is important to the life cycles of a wide range of species. The zone lies along the Bluenose East herd migration path.
- Whitefish River (Luchaniline) - According to the elders of Déline, Luchaniline is productive wildlife habitat that is important to the life cycles of a wide range of species. Both Bluenose-east and west herds use this zone as fall and wintering habitat.

Conformity requirements and prohibitions for these three areas prohibit bulk water removal, mining and oil and gas exploration and development, power development, forestry and quarrying.

#### Tłıchų / Wek'èezhìi Resource Management Area

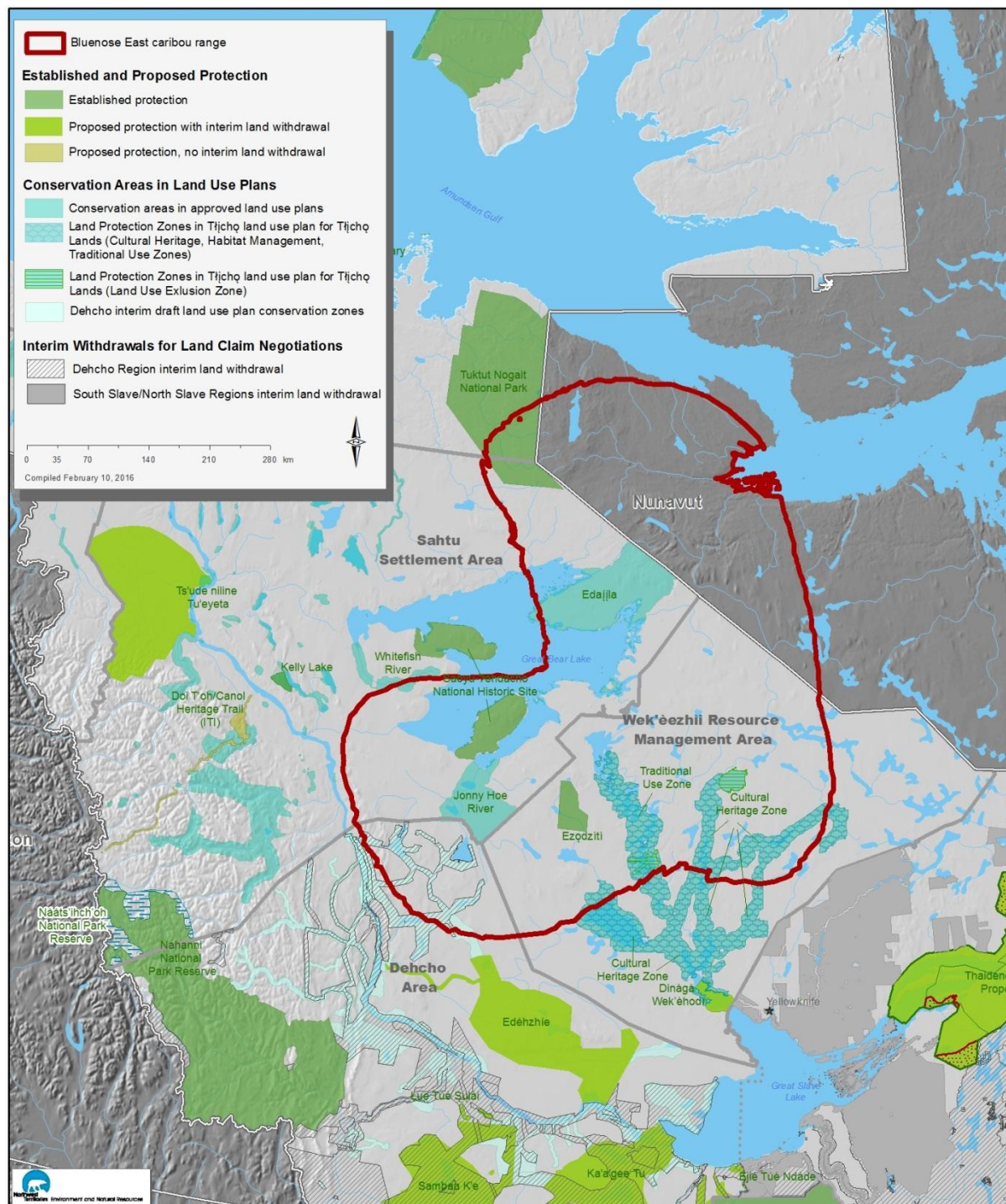
- Traditional Use Zone:  
It is centered on the Įdaà Trail, which is an ancestral trail that follows waterways and watershed areas. It includes areas for hunting, trapping and fishing as well as a number of spiritual sites, burial sites, cabins, caribou trails and canoe routes.
- Prohibited land uses:  
No mineral or oil and gas exploration or development allowed. Only activities that will be considered are camp or cabin, non-exploitive scientific research, transportation corridor. eco/cultural tourism, hydro power generation and utility corridor.
- Cultural Heritage zone:  
This area is connected to Chief Monfwi, who led his people along the trails where caribou could be found and the people were fed and survived hardships and strife. These lands are a fundamental part of Tłıchų heritage and identity.



- Prohibited land uses:  
No mineral or oil and gas exploration or development allowed. Only activities that will be considered are camp or cabin, non-exploitive scientific research, transportation corridor, eco/cultural tourism, hydro power generation and utility corridor.

Additional protection on a herd range-wide basis would need to work through land use planning processes and could be enabled through the type of range planning currently underway for the Bathurst herd.

# Conservation and Interim Land Withdrawals in the Bluenose East Caribou Range



The GN and GNWT have both expressed opposition to development on any barren-ground caribou calving grounds, and both governments have expressed opposition to the mineral exploration by Tundra Copper on the BNE calving grounds. GNWT will engage in environmental assessment processes that may affect the BNE herd's range in NWT or NU. As noted in the management proposal, to date the BNE herd's range has not been affected by industrial development to the extent that the Bathurst range has.

### **Information Request #7:**

**Parties Responsible:** Tłıchǫ Government and Environment and Natural Resources

**Resources** There have been a number of initiatives/tools used to monitor natural and anthropogenic landscape changes and assess potential impacts to habitat for the Bathurst caribou herd, but it is unclear what tools and approaches are being used for monitoring landscape changes on the Bluenose-East caribou range.

- a) Please provide examples of how both natural and anthropogenic landscape changes and disturbances on the Bluenose-East caribou range are being monitored and assessed.

**Response (TG and ENR):** ENR has a number of initiatives underway to track and report on anthropogenic landscape change on barren ground caribou ranges in the NWT including on the range of the BNE herd as follows:

1. Since 2013, the NWT Cumulative Impact Monitoring Program has been developing several products related to the mapping of human and natural disturbances in the NWT under the Inventory of Landscape Change project. As part of this initiative, NWT CIMP and partners have developed a series of validated anthropogenic disturbance footprints for the different administrative regions of the NWT. These datasets were compiled using information collected through the regulatory permitting systems of the Land and Water Boards of the NWT and footprint extents were validated using remotely sensed satellite imagery. Additional attributes that denote the temporal duration and significance of the activity by noting the type of development, the means of access to the site, and the approximate number of people staying on site was also recorded. These datasets will be updated twice a year to ensure the data remain current.

As part of the larger Inventory of Landscape Change, NWT CIMP has been developing an online webviewer so that interested users can see where anthropogenic activities have taken place in the NWT. Users also have the ability to download these spatial datasets should they want to use them for additional analyses in a GIS. The webviewer is scheduled to be online by March 1, 2016. In the interim, interested users can search

and download human disturbance information (as .shp files) via the NWT Discovery Portal ([www.nwtdiscoveryportal.enr.gov.nt.ca](http://www.nwtdiscoveryportal.enr.gov.nt.ca)) and using the “Inventory of Landscape Change” link.

2. NWT State of Environment Report reports on human activity and landscape disturbance on an annual basis by ecozone. While it is difficult to apply to the range of barren ground caribou herds, within the southern arctic and taiga shield ecozones (which comprise most of the range of the BNE) linear feature density in southern arctic and taiga shield ecozones are between 0 – 0.5 km/km<sup>2</sup> while road and other linear feature density is 0.25 km/km<sup>2</sup> and 0.34 km/km<sup>2</sup> respectively for those two ecozones.
3. GNWT monitors all land use permits submitted on the range of the BNE including within Nunavut and provides expert comments/recommendations on all permits and authorizations that may negatively impact caribou habitat, especially with respect to sensitive habitats such as calving and post-calving grounds.

ENR also tracks natural change on the ranges of NWT barren ground caribou herds including for the BNE herd as follows:

1. ENR, Forest Management Division delineates the area of forest impacted by fire on an annual basis across the NWT. This information is publicly available on ENR’s Spatial Data Warehouse. Since records were started in 1966, 3,133,675 ha have burned on the BNE range which comprises approximately 13.3% of the range (Table 1).

**Table 1 – Amount of forest fire on the range of the Bluenose East caribou herd 1966-2015.**

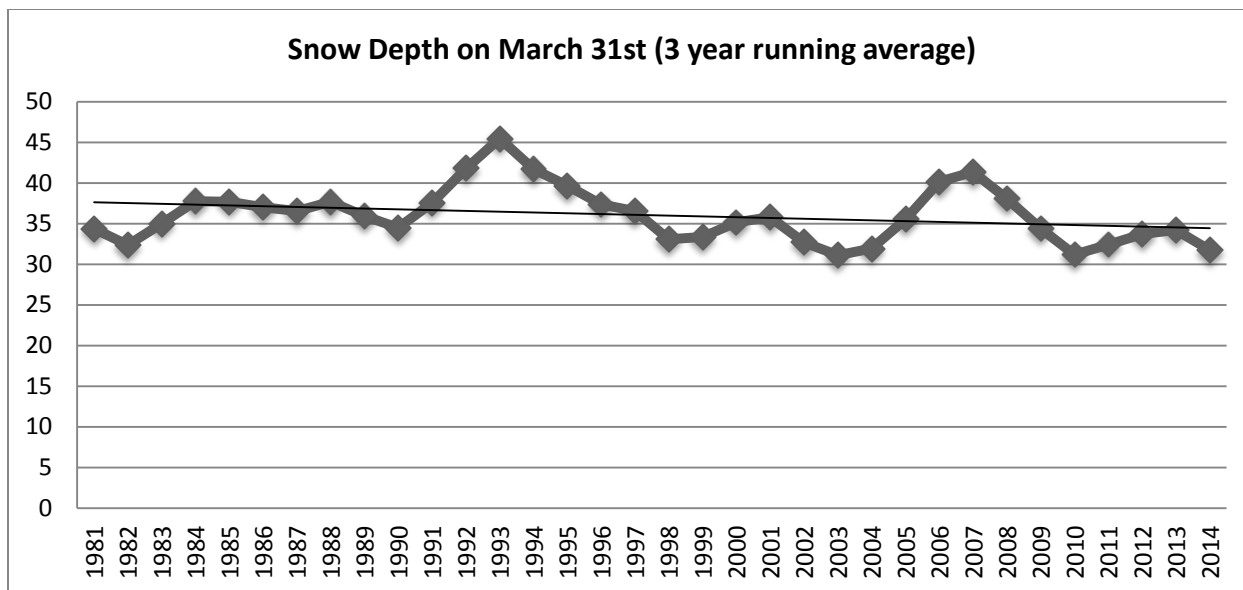
<b>Year(s)</b>	<b>Area Burned (ha)</b>	<b>% of BNE Range</b>
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1990-99	868,800	3.7
2000-09	311,311	1.3
2010-15	699,485	3.0
<b>Total</b>	<b>3,133,675</b>	<b>13.3</b>

2. The NWT Center for Geomatics is proposing to undertake an NWT-wide analysis of land cover change using the ParkSPACE method (Fraser et al. 2012) which involves analyzing a 40-year time series of Landsat images to detect temporal changes in the spectral value of landscape pixels to detect changes in vegetation cover due to natural processes and anthropogenic disturbances. Implementation of this project will depend on GNWT gaining access to NASA computers to the conduct processing of satellite imagery.
3. Climatic indices relevant to barren ground caribou have been developed by CARMA (Circum Arctic Rangifer Monitoring and Assessment) (see Russell et al. 2013). The indices use climate data from a raster-based product downloaded from the MERRA (Modern Era Retrospective Analysis for Research and Applications) website <https://climatedataguide.ucar.edu/climate-data>. Daily climate data for each seasonal range for each herd are downloaded and annual indices calculated.

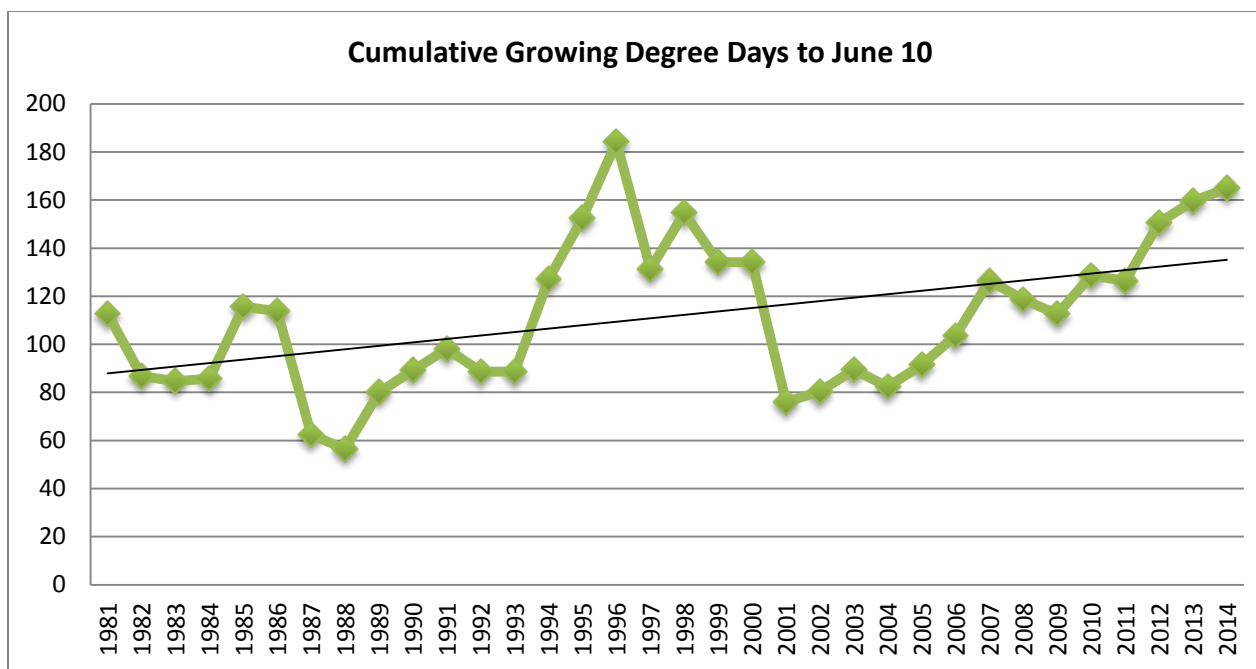
ENR has requested of Don Russell (caribou biologist in Whitehorse) a summary of environmental trends 1979-2014 for NWT barren-ground caribou herds based on the MERRA climate data with an interpretation of herd-specific trends and their implications to each herd. ENR expects those results in the early part of 2016 and will make them available to the WRRB and other interested parties as soon as a report is available.

Climate may affect productivity of caribou herds through its influence on cow fall body condition and in turn probability of getting pregnant. A recent paper by Chen et al. (2014) found a correlation between spring calf:cow ratios in the Bathurst herd and a composite index of summer range productivity, with a time lag, with the suggested mechanism being poor summer feeding conditions leading to poor cow condition and low pregnancy rates the following winter and reduced calf ratios the following year. Winter snow depth, timing and growth of spring forage, insect harassment and availability of mushrooms (a valuable protein source) together affect the fall body condition of caribou. The charts presented below (Figure 1 a – e) show the trends in climate indices and range condition of the BNE caribou herd. Trends show slightly decreasing spring snow depth; increased spring temperatures which leads to increased and earlier growth of spring forage for caribou; increasing oestrid fly harassment (warbles and bot flies) which results in energy expenditures; increasing summer drought resulting in reduced plant growth and nutritive quality; and decreasing mushroom abundance. These trends together may indicate poor summer feeding conditions for the BNE herd, which could be correlated with reduced cow condition in the fall, low pregnancy rate, and a subsequent low recruitment ratio in late winter.

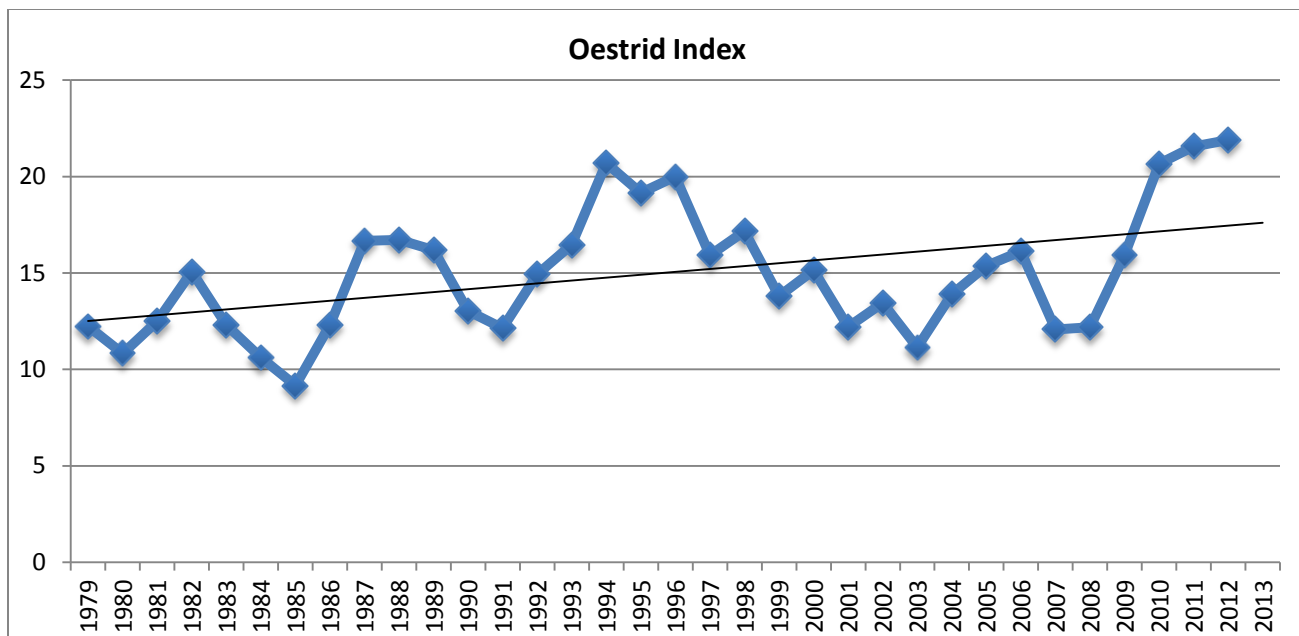




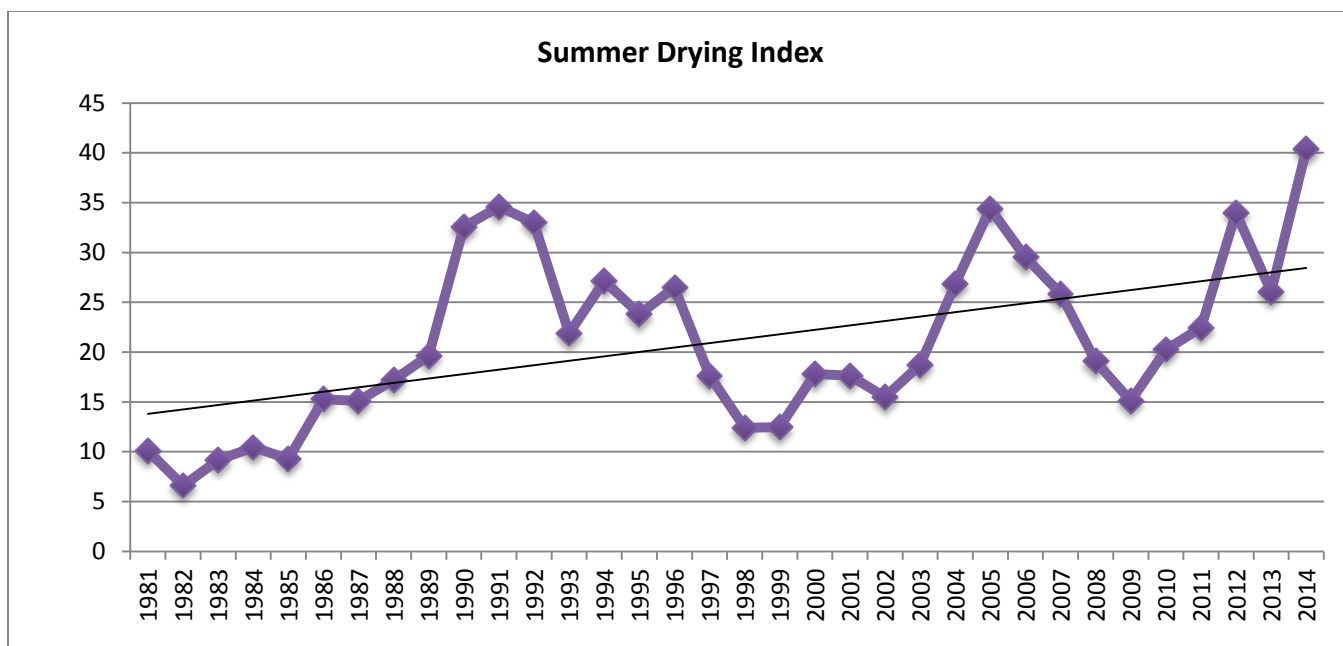
**Figure A: Snow Depth on March 31<sup>st</sup> (3 year running average)**



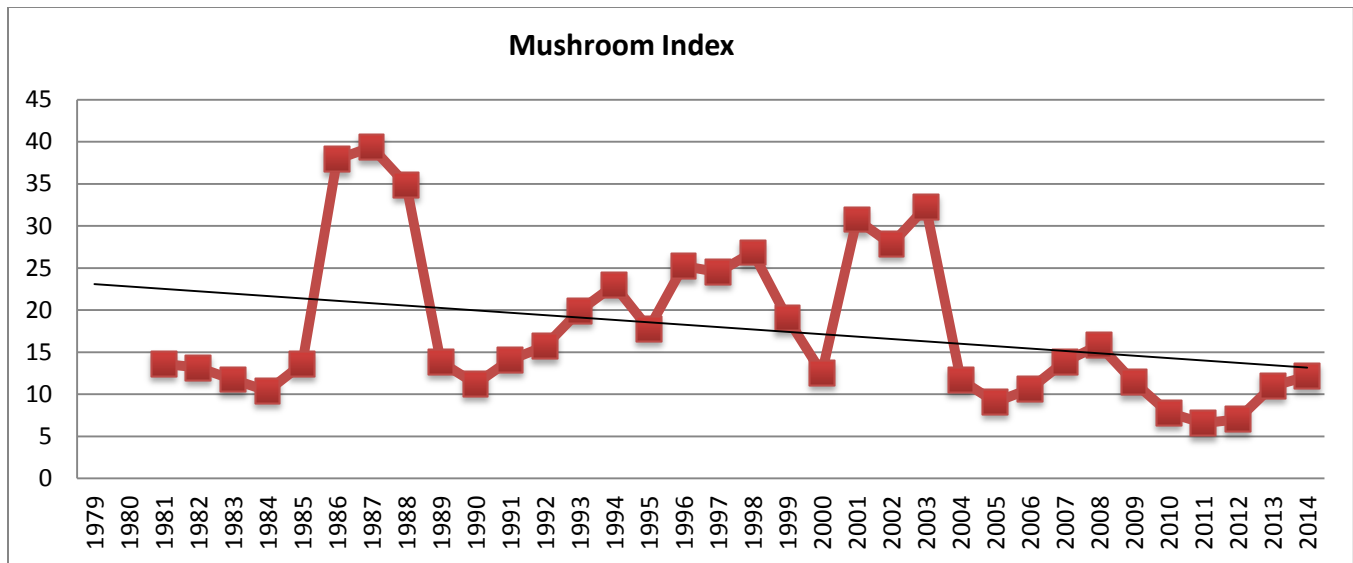
**Figure B: Cumulative Growing Degree Days to June 10**



**Figure C: Oestrid Index**



**Figure D: Summer Drying Index**



**Figure 1 – Trends in key climatic indices for barren ground caribou on the range of the BNE caribou herd from 1979 – 2014. a) snow depth on March 31<sup>st</sup> indicating a winter maximum; b) Growing Degree Days to June 10 as indicative of spring temperatures; c) oestrid fly index indicating warble and bot fly harassment; d) summer drought index indicating decreasing quality of summer forage; and e) mushroom index indicating trends in mushroom availability (fall source of protein).**

### References

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

Fraser, R.H., Olthof, I., Deschamps, A., and Carrière, M. 2012. Protocol for remote sensing based vegetation change detection in Canadian arctic and subarctic national parks. ParkSPACE project. Natural Resources Canada, Canada Centre for Remote Sensing. Prepared for Parks Canada Agency, Ecological Integrity Branch. 114 pgs.

Russell, D.E., P. Whitfield, J. Cai, A. Gunn, R.White and K. Poole. 2013. CARMA's MERRA-based caribou range climate database. Rangifer, 33 Special Issue No. 21: 145-152.



## **Information Request #8:**

**Parties Responsible:** Environment and Natural Resources

Comparison of the Bluenose-East caribou herd 2015 calving ground survey estimate to the 2013 estimate indicated that the abundance of breeding females had decreased approximately 29% per year. For the Bluenose-East caribou herd, a Management Plan has been accepted, and work is underway on the Bluenose-East caribou herd Action Plan.

- a) Please provide an update for the Action Plan for the Bluenose-East Caribou, including expected completion date

The Action Plan for the Bluenose-East caribou herd is being developed by the Advisory Committee for Cooperation on Wildlife Management (ACCWM), which consists of Chairpersons (or alternate appointees) of the Wildlife Management Advisory Council (NWT), Gwich'in Renewable Resources Board, ?ehdzo Got'ine Gots'ę Nákedı (Sahtú Renewable Resources Board), Wek'èezhii Renewable Resources Board, Kitikmeot Regional Wildlife Board, and Tuktut Nogait National Park Management Board. The GNWT is not a member of the ACCWM and it would therefore the GNWT is not best placed to provide a response to this question. ENR's role in the development of the Action Plan for the Bluenose-East Caribou herd is limited to providing technical and financial support to the ACCWM.

- b) Please provide an update on any commitments in place related to the rapid implementation of the Action Plan

Once the ACCWM finalizes their Action Plan for the Bluenose-East caribou herd, ENR expects the plan will be provided to the appropriate governments (TG, GNWT, Government of Nunavut) as a recommendation. The Minister of ENR would review the plan and depending on the content of the Action Plan, ENR may need to consult with Aboriginal governments and organizations. The Minister of ENR would then respond to the ACCWM on the recommendations. Once the appropriate consultations and renewable resource board processes are complete, implementation can begin. While responding to ACCWM recommendations will be a priority, the GNWT is unable to comment further without knowing what the recommendations will entail.

## **Information Request #9:**

**Parties Responsible:** Tłıchǫ Government and Environment and Natural Resources

The new *Wildlife Act* for the Northwest Territories came into force in November 2014. There are a number of actions and approaches for the purpose of ensuring compliance for caribou harvest.

a) How will the Bluenose-East caribou herd total allowable harvest be enforced?

When a decision has been made about the total allowable harvest for the BNE, the WRRB will provide a determination and the SRRB will provide a recommendation to the Minister. Once all of the processes are complete, if there is a need to amend the *Big Game Harvesting Regulations* to reflect the decisions of the Boards and Minister, ENR will take steps to implement any changes. An amended regulation is a law of general application in the NWT and compliance with the legislation is mandatory. Education and prevention are the primary tools used in achieving compliance.

ENR provides education on the following types of topics, some of which are based upon traditional knowledge and others which are law under the *Wildlife Act* and regulations, to encourage sound harvesting practices for barren-ground caribou generally:

- Sighting-in firearms for accuracy to reduce wounding;
- Not harvesting cows;
- Harvesting the younger bulls;
- Letting the leader caribou pass;
- Taking only what is needed and can be carried home;
- Not wasting any meat, and bringing all parts back to be used;
- Harvesting respectfully - do not chase or harass wildlife needlessly.

Prosecution will always be a tool of last resort. Each situation will be assessed on its own merits to determine whether there is a reasonable prospect of conviction. Officers will consider other factors, including but not limited to:

- Gravity of violation
- Technical violations
- Safety violations

- Environment/Resource impacts
- Effectiveness of achieving desired result
- Equitable and consistent enforcement

Every case is different, compliance actions are influenced by the overall situation where outcomes are determined after careful consideration of all the facts. Inspections may be undertaken in appropriate situations to ensure compliance with the *Wildlife Act* and regulations. If necessary, investigations may be undertaken to determine whether or not the laying of charges are appropriate. If warranted, charges may be laid, and may be referred to a Prosecutor who will assume conduct of the case. The Prosecutor then determines if it is in the public interest to proceed and if there is reasonable prospect of a conviction then prosecution through the courts may be undertaken. Prosecution is the last resort in the compliance model. Officers have many other options to educate and prevent and build stewardship.

Before harvesting restrictions are put in place for conservation reasons, (such as a bulls only harvest, quotas, allocation cards or tag requirements, closed areas or mobile zone measures for barren-ground caribou) ENR carries out consultation with Aboriginal Governments and organizations. Where restrictions are in place, ENR endeavours to meet with Aboriginal leaders and harvesters regularly to discuss the status of the species in question and the approach to enforcement to ensure conservation measures are respected.

ENR will continue to collaborate with co-management partners and communities to ensure that Aboriginal Governments and organizations and their community monitors work with ENR Officers in the field.

- b) Please provide a brief description of the specific measures planned for harvest compliance in the North Slave and Sahtú regions, including field enforcement and public education.

Generally, when caribou are easily accessible from a community or winter road, an ENR Officer is sent to the community/check station to monitor harvest activity. Officers educate the hunters and regulate hunting activity.

In the North Slave region, an officer-staffed check station is set up at Marion Lake at the junction of the winter roads to Whatì, Gamètì and Wekweètì. Signs set up before the check station ask vehicles to stop. Officers or monitors record the name of each person stopping at the station and their licence plate number, and ask them why they are travelling in the area. If the party is hunting, they are reminded that they are asked to show their authorization cards and are reminded that the harvest is for bulls only. They are also

asked to stop at the check station on their return to report on any hunting and any other observations they have made.

Community monitors are also present in Whatì, Gamètì and Wekweètì to monitor community hunting activity. The community monitors keep ENR updated on activities on the land and report any infractions. Officer presence will be increased in the communities if hunting pressure increases, but the primary approach is to work with community harvesters to educate them about the management and conservation measures in place.

Sahtu region has engaged harvesters by providing information to hunters about the conservation measures, posters signs, and information placed around the community, sight in your rifle events, funded and conducted workshops on caribou conservation, training for harvest monitoring and sample collection, collaborated with the SRRB and the RRCs on monitoring and funded RRCs to complete this work. The Sahtu region deploys officers to the field on patrols to harvesting areas based on information received about harvesting activity. Officers patrol winter roads, conduct check stops and patrol by snowmobile to monitor activity. In past years this has been done with local RRC members in attendance. The expectation is that this type of collaboration will continue. ENR may, when necessary, hire aircraft to conduct reconnaissance flights of harvest areas to determine where hunting is taking place. These flights may be followed up by ground operations to inspect kill sites.

ENR Sahtu Regional Office has a check station located at the Délı̨ne Junction on the winter road. This may be operated at various times as a means of inspecting for wildlife compliance. ENR encourages RRCs to participate in these operations. Other check points may be established in the field at other locations. Officers have worked at Hottah Lake on similar operations in the past. It is expected this will continue.

- c) Please provide details of the roles of Aboriginal governments in ensuring compliance to programs in b).

They also play a role in carrying out compliance actions. For example, the Tłı̨chǫ Government has worked with ENR to put in place community monitors who are set up in Whatì, Gamètì and Wekweètì to monitor local harvesting activities. In the Sahtu, ENR has had funding agreements in place for several years with RRCs, which derive their role from the Land Claim Agreements, to conduct harvest monitoring. RRCs under the Sahtu Land Claim Agreement have a duty to report harvest data to the GNWT. Reporting is to include harvest numbers by sex. Officers patrol winter roads, conduct check stops and patrol by snowmobile to monitor activity, in past years this has been done with local RRC members in attendance. The expectation is that this type of collaboration will continue. ENR has a check station located at the Délı̨ne Junction on the winter road. This may be operated at various times as a means of inspecting for wildlife compliance. ENR encourages RRCs to participate in these operations.

### **Information Request #10:**

**Parties Responsible:** Tłıchǵ Government, North Slave Métis Alliance and Déline First Nation

The new *Wildlife Act* for the Northwest Territories came into force in November 2014. There are a number of actions and approaches for the purpose of ensuring compliance for caribou harvest.

- a) What role has your organization played in the compliance and public education programs run by ENR for the Bluenose-East caribou herd?

(TG) The Tłıchǵ Government has been and will be in regular contact with the ENR about the compliance for caribou harvest. Our community monitors are in contact with ENR officers on an almost daily basis. The Tłıchǵ Monitors are very active spreading awareness among the Tłıchǵ hunters. Tłıchǵ Leadership and the Elder Advisory Committee have at every Assembly session allowed for a dialogue with community members on the importance of the caribou to our language culture and way of life and our responsibility to ensure our actions towards the caribou is respectful. Radio messages and the use of social media material has been developed and used online. Community Directors help by spreading the information as well by putting up posters, answering questions etc.

The Tłıchǵ Leadership and the Elder Advisory Committee will continue to support the community workers who do monitoring for ENR on caribou and talk about the importance of adhering to the measures taken in the Joint Management Proposal.