



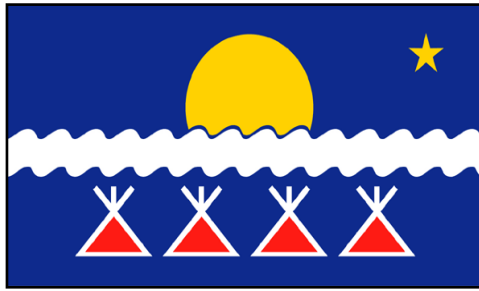
June 17, 2011

Dear Mr. Pryznyk:

Sincerely,

Ernie Campbell, ADM
Environment & Natural Resources

Eddie Erasmus, Grand Chief
Tłıchǫ Government



REVISED JOINT PROPOSAL ON CARIBOU MANAGEMENT ACTIONS IN WEK'ÈEZHÌI

IMPLEMENTATION PLAN

Submitted to:

Wek'èezhìi Renewable Resource Board

Submitted by:

Tłıchǵ Government

Behchokǵ, NT.

And

Department of Environment and Natural Resources,

Government of the Northwest Territories

Yellowknife, NT.

June 22, 2011

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DISCLAIMER

TG and ENR have been working jointly to review and propose commitments to address each of the Wek'èezhii Renewable Resources Board (WRRB) 60 Recommendations as seen in *Part B: Caribou Management Actions in Wek'èezhii – Implementation Plan Activity Sheets*. These proposed commitments listed by TG and ENR depend on available resources including funding for each fiscal year and may be subject to change as caribou management programs evolve as part of the adaptive management approach.

List of Acronyms

BNE	Bluenose East
CEC	Chief's Executive Council
ENR	Environment and Natural Resources, Government of the Northwest Territories
IP	Implementation Plan (this document)
IWC	Interim Wildlife Coordinator
LUP	Land Use Plan
NT	Northwest Territories
TCM	Tłıchǫ Community Monitor
TEWG	Tłıchǫ Ekwo Working Group
TG	Tłıchǫ Government
TLPD	Tłıchǫ Lands Protection Department
TWC	Tłıchǫ Wildlife Coordinator
TWG	Technical Working Group
YKDFN	Yellowknives Dene First Nation
WRRB	Wek'èezhìi Renewable Resources Board

INTRODUCTION & WRRB RECOMMENDATIONS ON CARIBOU IN WEK'EEZHII

This Implementation Plan (IP) for Caribou Management in Wek'èezhìi was developed by the Tłıchǫ Government (TG) and the Government of the Northwest Territories, Environment & Natural Resources, (ENR) in consultation with the Wek'èezhìi Renewable Resource Board (WRRB). The plan outlines activities and actions that will be carried out by the two governments from the 2010/2011 hunting season through the 2012/2013 hunting season, to manage and conserve barren-ground caribou in Wek'èezhìi in a spirit of respect, collaboration, and co-management with Tłıchǫ communities. The overall goal for the Bathurst herd is to promote stabilization and recovery, by reducing caribou cow and calf mortality rates. This will require recognition of traditional respect for caribou and the land, and an understanding of the relationship between caribou and people.

The caribou management actions proposed by TG, ENR and WRRB were developed in large part because of the rapid decline of the Bathurst herd from more than 100,000 in 2006 to an estimated 32,000 caribou in 2009. More detailed information about the background and context for this plan is in the Revised Joint Proposal on Caribou Management Actions in Wek'èezhìi submitted by TG and ENR to the WRRB at the end of May 2010, and in the Recommendations Report of the WRRB in Oct. 2010. These documents and related ones can be found on the WRRB web-site (www.wrrb.ca).

This implementation plan is viewed as a “living” or “working” document by TG, ENR and WRRB, recognizing that management will need to be adaptive, adjusting to new information about caribou, wolves and hunter harvest, and adjusting to the relative success of the management methods proposed. This implementation plan was structured to be consistent with the organization of the revised joint-management proposal to show how TG and ENR are implementing the proposed management actions; this format also incorporated and linked the WRRB's recommendations to the implementation plan. Throughout this plan, reference is made to 60 numbered recommendations from the WRRB Report in Oct. 2010 (listed in Table 1), to show how the plan addresses one or more of those recommendations¹. The overall implementation plan is referred to by WRRB recommendations 58, 59, and 60.

The time-frame for this implementation plan is primarily for the short-term, until a new population survey is carried out for the Bathurst herd in June 2012. However, TG, ENR and WRRB support the development of collaborative long-term plans for the Bathurst and Bluenose-East caribou herds that

¹ The reader is also referred to the Table of Contents in this Implementation Plan, where bracketed numbers in the section headings indicate WRRB recommendations from its October 2010 report. Similarly, WRRB recommendation numbers are bracketed within each of the section and subsection headers in the body of this plan, and summarized accordingly in the Activity Sheets.

will consider all factors that affect caribou, and respect the views of all interested governments and communities with responsibility for these caribou herds. The Tłıchǫ Agreement (Section 12.11) requires comprehensive management planning for barren-ground caribou in Wek'èezhìi.

TG, ENR, and WRRB recognize that management of the Bathurst and Bluenose-East caribou herds will depend in part on actions taken outside of Wek'èezhìi in other parts of the Northwest Territories (NT) and Nunavut. Joint management of the Bathurst caribou harvest under a separate agreement between the Yellowknives Dene First Nation (YKDFN) and ENR in Oct. 2010 is important to managing for the Bathurst herd's recovery, as the YKDFN traditional territory takes in a significant portion of the Bathurst herd's winter range and half the 300 Bathurst caribou to be hunted are assigned to the YKDFN.

Part A of this implementation plan is a narrative text that describes the approach to management, based on the joint TG-ENR caribou management proposal, WRRB recommendations of Oct. 2010, and implementation actions taken or planned as of April 2011. Part B of the plan is comprised of a linked set of Activity Sheets, which can be used as a stand-alone tabular summary of the narrative. The Activity Sheets summarize all management actions or activities completed to date or planned, with reference to the WRRB recommendations and TG-ENR proposal, as well as listing lead responsibilities, timing guidelines, and budget estimates for programs and projects. Budget commitments by TG and ENR are dependent on available funding for each fiscal year, and subject to change as caribou management programs evolve.

The overall time-frame for this plan is for caribou hunting seasons Aug. 2010-May 2011, 2011-2012, and 2012-2013. Elements of the plan carry over into planned long-term management plans for the Bathurst, Bluenose-East and Beverly/Ahiak caribou herds.

Table 1: WRRB Recommendations Oct. 2010 on caribou management in Wek'eezhii (in short form)

(BNE = Bluenose-East herd, B/A = Beverly/Ahiak herd)

Recomm- endation #	Subject	Recomm- endation #	Subject
1	Harvest targets – report effectiveness	31	Composition surveys, calving grounds – continue
2	Bathurst caribou – close commercial harvest	32	Fall composition surveys (sex ratio) – continue
3	Bathurst caribou – close outfitted harvest	33	Bathurst population survey 2012 – carry out
4	Outfitter harvest – reinstatement	34	Wolf den surveys – continue
5	Bathurst caribou – resident harvest	35	Wolf condition monitoring – continue
6	Resident harvest – reinstatement	36	Wolf harvest monitoring – continue
7	Bathurst harvest – target 300 ± 10%	37	Caribou habitat monitoring – continue
8	Bathurst harvest Tłıchō 225; others 75	38	Cow pregnancy rate (if cows taken) - monitor
9	Bathurst harvest sex ratio 85 bulls:15 cows	39	Calving reconnaissance surveys – continue
10	Bathurst harvest >300 – close; TAH possible	40	Caribou harvest monitoring via TK program
11	Bathurst harvest >45 cows – close; TAH possible	41	TG & ENR report 3 times/year; April, Sept. & December
12	Bathurst caribou – map for fall hunt	42	TK conservation education via elders
13	Bathurst caribou – map for winter hunt	43	Hunter/conservation education
14	BNE caribou – close commercial, outfitted, resident harvest	44	Adaptive co-management framework (TG,ENR,WRRB)
15	BNE caribou – harvest target 2800 caribou	45	Adaptive co-management – include WRRB staff in meetings
16	BNE caribou – harvest sex ratio 85 bulls:15 cows	46	Adaptive management – criteria for success/failure & altered management
17	BNE caribou – harvest >2800 – close harvest	47	Talk to NU re calving ground protection
18	BNE caribou – harvest >420 cows – close harvest	48	Best practices calving & post-calving
19	BNE caribou – map for fall hunt	49	Land use plan for Wek'eezhii
20	BNE caribou – map for winter hunt	50	Monitor landscape change (fire, development)
21	BNE caribou – no harvester assistance	51	Need for forest fire – assess
22	BNE caribou - TG overlap agreements with NU and Sahtu	52	Wolf harvest – increase via incentives; no focused wolf control
23	B/A caribou – close commercial, outfitted, resident harvest	53	Focused wolf control – TG & ENR to submit proposal if required
24	B/A caribou – no harvester assistance	54	Bison - joint management proposal
25	B/A caribou - TG overlap agreements NU and Akaitcho	55	Long-term caribou management planning
26	B/A caribou – map fall hunt	56	TG to increase capacity for caribou management & participation
27	B/A caribou – map winter hunt	57	Implement WRRB recommendations Jan. 1, 2011
28	TG – implement TK caribou program	58	Consultation on WRRB recommendations
29	Spring recruitment surveys – continue	59	Implementation plan (ENR & TG)
30	Health & condition monitoring (if cows taken)	60	Enforcement & compliance program

PART A. NARRATIVE TEXT

1.0 Implementing Management Actions for Barren-ground Caribou Herds

Due to the Bathurst herd's rapid decline 2006-2009, a major emphasis in the joint TG-ENR management proposal was on harvest management and secondarily on wolf management to help stabilize this herd. Monitoring and management were also proposed for the Bluenose-East herd, and to a lesser extent for the Beverly/Ahiak herd, which rarely occurs in Wek'èezhìi.

1.1 Bathurst herd – Harvest & Wolf Management [1-13]

The WRRB focused most of its recommendations on attempting to halt and reverse the rapid decline of the Bathurst herd. Both governments and the WRRB recognized that many factors affect barren-ground caribou herds, and that some of these are weather-dependent and beyond human control. In the short-term, the need to reduce mortality rates of cows, and secondarily mortality rates of calves, was the highest priority for management. Reduction or elimination of cow harvest was effective in stabilizing the Bluenose-West and Cape Bathurst herds, which like the Bathurst herd had been declining rapidly in the early 2000s.

Population modeling described in other reports² (see WRRB web-site) suggested that harvest of about 300 caribou/year from the Bathurst herd would have little additional effect on population trend, because the herd's cow mortality rates would then largely be the result of natural factors, not harvest. To further increase the herd's chances of stabilizing and recovering, increased wolf harvest was proposed by TG and ENR and supported by WRRB.

1.1.1 Bathurst herd – Harvest targets vs. strict limits [1]

Discussions between TG and ENR in April and May 2010 suggested that “hard” limits to caribou harvest had a history of association with the heavy hand of government this occurred most recently, without extensive Tłıchǫ community consultation, through the interim emergency hunting ban enacted by the GNWT in January 2010. Tłıchǫ hunters and people have a long intertwined history with caribou, and a return to traditional respect for caribou and land had to be part of the overall approach to Bathurst caribou management. Caribou harvest management for Tłıchǫ hunters and communities was most likely to succeed if it was shaped by them in ways that made the most

² See Boulanger, J. and Gunn, A. (2007) *Exploring possible mechanisms for the decline of the Bathurst Herd of Barren-Ground Caribou using Demographic Modeling*. ENR-GNWT Manuscript Report No. 175

Nesbitt, L. and Adamczewski, J. (2009) *Decline and Recovery of the Bathurst Caribou*. Workshop Report.

Boulanger, J. and Gunn, A., Croft, B. and Adamczewski, J. (2009) *Exploration of the decline of the Bathurst caribou herd using a data-driven demographic model*. Manuscript submitted to Canadian Journal of Zoology Dec 2009.

Boulanger, J. (2010) *Simulations of Harvest and Recovery for the Bathurst Caribou Herd, with Annual Variation*. DRAFT Report March 12, 2010)

Adamczewski, J., Boulanger, J., Croft, B., Cluff, D., Elkin, B., Kelly, A., D'Hont, Nicolson, C. (2009) *Decline in the Bathurst Caribou Herd 2006-2009: A Technical Evaluation of field Data and Modeling*. DRAFT Technical Report.

sense. As a result, the initial approach to harvest limitations was to use somewhat flexible harvest targets rather than strict limits that would be seen as imposed from outside. Greater detail on this issue is provided in the joint caribou management proposal for Wek'èezhìi. The WRRB recommendation report accepted this approach, but WRRB retained the right to declare a Total Allowable Harvest (TAH) if the harvest target approach was not successful in limiting the harvest of Bathurst caribou.

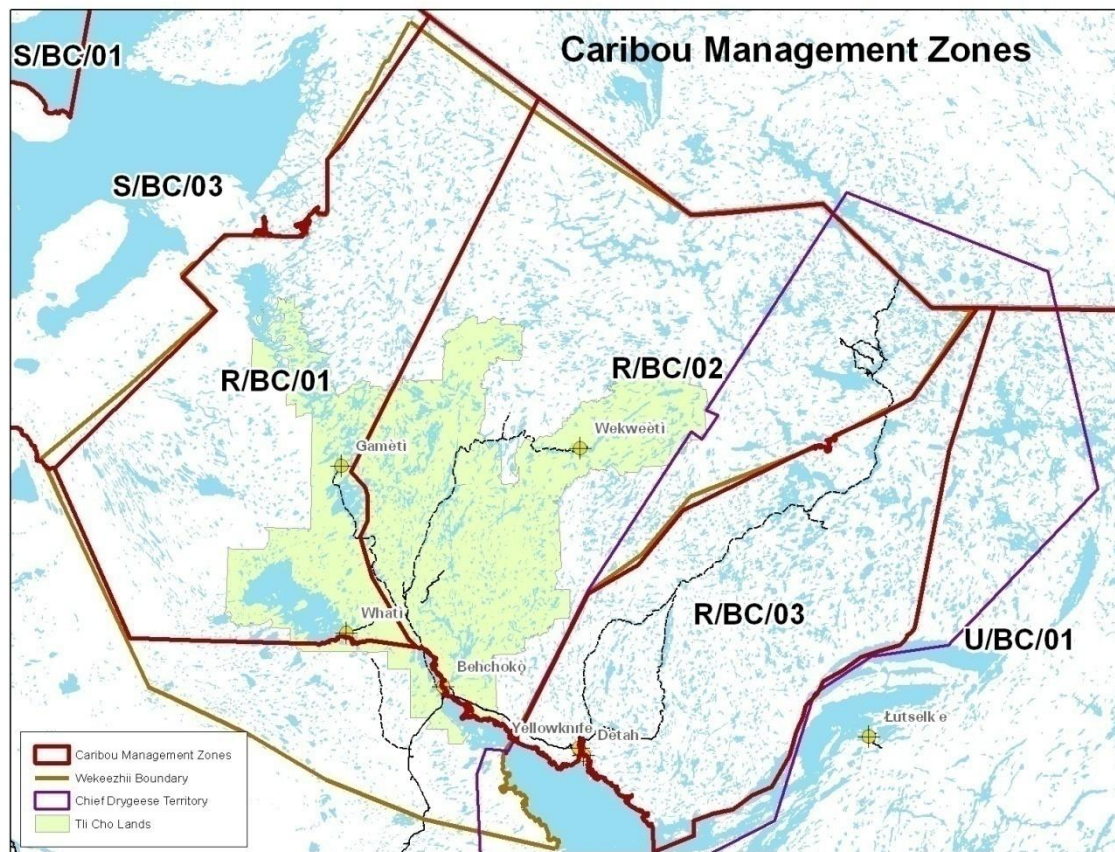
TG, ENR and WRRB recognize that the “harvest target” approach to limiting caribou harvest used for the first time in 2010-2011 is untested in this region. Harvest numbers and reviews of the approach will occur in May 2011 when the winter harvest season is closed.

WRRB recommendation 1 accepted the use of harvest targets over strict limits or a Total Allowable Harvest.

[1.1.2 Bathurst herd – commercial, resident & outfitted harvest \[2,3,4,5,6\]](#)

In keeping with the Tłı̨chǫ Agreement and other northern land claims and treaties, TG and ENR proposed that commercial, outfitted and resident harvest of Bathurst caribou be reduced to zero in the short term. WRRB recommendations 2, 3, and 5 agreed with this approach. WRRB recommendations 4 and 6 requested that TG and ENR make public their views on reinstatement of commercial, outfitter and resident harvest. In response, TG and ENR varied those recommendations and proposed that discussions about reinstatement of harvest for users other than aboriginal harvesters are best addressed through collaborative and comprehensive caribou management planning. Elsewhere in the NT, co-management boards have taken the lead on restricting or closing harvest of caribou for conservation reasons, and on harvest allocation. ENR and TG suggest that the appropriate steps in harvest planning are first to establish goals or objectives for each herd, second to determine acceptable sustainable harvest levels depending on the herd's status and goals, and the third is determining allocation for hunter groups. These steps are best addressed through collaborative and comprehensive long-term planning for each herd.

Figure 1: Map of Wek'èezhii, Chief Drygeese Territory, and caribou management zones.



1.1.3 Bathurst herd – Aboriginal harvest targets and harvest sex ratio [7,8,9,10,11]

TG & ENR agree with WRRB recommendation 7 on the harvest target of $300 \pm 10\%$ Bathurst caribou and will monitor harvest closely and report to WRRB through the hunting season. TG and ENR suggest regulation changes or other restrictions should be jointly determined by TG, ENR, & WRRB if harvest targets for Bathurst total harvest and/or cow harvest (recommendations 7-11) are exceeded. WRRB retains the option of recommending a Total Allowable Harvest (TAH) if the harvest targets are exceeded (recommendations 10 & 11).

In their joint proposal, TG and ENR proposed that the sex ratio in the harvest of 300 Bathurst caribou should be at least 80% bulls. WRRB recommendation 9 proposed that the harvest sex ratio should be at least 85% bulls. TG and ENR varied the recommendation with the rationale that the originally proposed 80% sex ratio is an appropriate management objective and that a 5% increase in proportion of bulls provides little to no population-level benefit given that the overall harvest target is ca. 300 Bathurst caribou. The WRRB's suggestion to increase the composition of bulls by 5% translates to 15 fewer cows being taken (45 cows as opposed to 60) as part of the harvest target of 300. At this scale of herd size and trend, a high proportion of cow mortality is due to natural

causes and in effect the herd is close to being naturally regulated. ENR's surveys and estimates of population trend would not be able to detect a small change in cow mortality of this size, from a herd of 32,000 caribou.

Division of Aboriginal harvest

In recognition of the Chief Drygeese traditional territory encompassing a large part of the Bathurst winter range and the traditional hunting of Bathurst caribou by YKDFN members, the TG/ENR joint caribou proposal called for an equal division of the 300 Bathurst caribou by Tłıchǫ and YKDFN hunters. This division was also agreed to by ENR and YKDFN in a separate agreement in Oct. 2010. WRRB recommendation 8 proposed that Tłıchǫ hunters should have 225 of the 300 Bathurst caribou, TG and ENR varied that recommendation to retain the 150:150 division first agreed on by TG, ENR and YKDFN.

Possible Total Allowable Harvest

The recent and rapid decline of the Bathurst herd from 2006 to 2009 prompted ENR to enact a no-hunting zone for the main Bathurst winter range in early 2010. WRRB recommendations 10 and 11 indicated that the board took the herd's decline very seriously as well; while accepting TG and ENR's preference for harvest targets over strict limits, WRRB has the authority to impose a Total Allowable Harvest (TAH) if the overall target of 300 Bathurst caribou or the cow target number of 60 cows is exceeded (recommendations 10 and 11 as varied, respectively). TG and ENR have monitored the Bathurst and Bluenose-East caribou harvest by Tłıchǫ hunters closely in the winter of 2010-2011, and cooperative efforts with the YKDFN are also tracking YKDFN winter harvest closely. If the cow harvest target is reached or materially exceeded, TG and ENR will declare an end to cow harvest and a bulls-only hunt from that point on. Similarly, once the limit of 300 caribou is reached or materially exceeded, TG and ENR will declare Bathurst caribou hunting closed for the year, and Tłıchǫ hunters will be asked to hunt other caribou for the remainder of the winter.

1.1.4 Bathurst herd – fall and winter range maps and hunter harvest [12, 13]

ENR has made available to TG, WRRB and YKDFN maps of radio-collar locations of Bathurst, Bluenose-East and Beverly/Ahiak caribou during fall and winter 2010-2011. This spatial information is used to attribute harvest to one of the three herds, and could be used to assist hunters in accessing areas where bulls are abundant.

1.2 Administering Tłıchǫ Caribou Harvest [7-11, 40, 41, 45, 46, 54, 56]

In this section, harvest management measures carried out in winter 2010-2011 or planned for 2011-2012 are reviewed briefly.

Harvest monitoring is described in greater detail in section 2.2.3; however, harvest management for the Bathurst herd had to include close monitoring, particularly as the winter harvest approached the target limits. WRRB recommendations 7 & 9-10 supported a total Bathurst harvest

target of $300 \pm 10\%$, recommendation 11 as varied by government supported a sex ratio of 80% bulls, and a cow harvest limited to 60 cows. Caribou harvest by Tłıchǫ and YKDFN hunters for 2010-2011 was tracked by a combination of community monitors, check-stations and interviews in the communities. These methods were used in 2007-2008 and 2008-2009 to monitor caribou harvest by Tłıchǫ communities in joint ENR- Tłıchǫ programs. For the 2011-12 harvest season, revised methods of administering the Tłıchǫ harvest will be developed and implemented, consistent with WRRB recommendation 40 for monitoring Tłıchǫ harvest via Traditional Knowledge study methods.

[1.2.1 Planning and managing hunting for Tłıchǫ hunters \[7-11, 40, 54\]](#)

WRRB recommendations 21 and 24 proposed that no assistance be provided to caribou hunters accessing the Bluenose-East and Beverly/Ahiak herds. TG and ENR rejected those recommendations and further suggest the limited assistance to harvesters provided for several years by GNWT ITI should be continued and could assist in achieving harvest objectives such as a bull-focused harvest. In addition, the agreement signed in October 2010 by YKDFN and ENR included limited assistance to YKDFN hunters accessing the Beverly/Ahiak herd.

The Tłıchǫ Government receives \$141,000 in CHAP funding from GNWT ITI every year, which is divided between the 4 Tłıchǫ communities. The chiefs of each community receive this funding and disburse it at their own discretion. Previously this money was used for fall hunts and to assist trappers with the cost of fuel and supplies. In the harvest season of 2010-2011 this money was used to help hunters gain access to the BNE animals as the BNE caribou are less accessible to Tłıchǫ hunters than the Bathurst caribou. ENR made a commitment to Wekweètì to assist in clearing an existing trail to Hottah Lake so that hunters from that community could hunt BNE caribou. These CHAP funds were also used by some communities to access moose and bison.

In the coming hunting season, the Tłıchǫ Government and ENR will consider limited assistance and/or incentives to harvesters, youth and elders for educational purposes to promote traditional hunting values and principles. This would be in the form of well managed and monitored community hunts in the fall or late winter where harvesters and youth would have an opportunity to learn the traditional and respectful way of harvesting and handling caribou. Traditional Tłıchǫ fall hunts focused on taking limited numbers of bulls.

[1.2.2 Authorization Cards \[1,40-41\]](#)

The Tłıchǫ Government and ENR (with recommendations made by the Tłıchǫ Ekwo Working Group) developed an authorization card that will be required for the Tłıchǫ to harvest Bathurst caribou in R/BC/02 and R/BC/03 in 2011-2012.

ENR and the YKDFN have also developed an authorization card that is required for YKDFN hunters to harvest Bathurst animals in R/BC/02 and R/BC/03. These cards will be given to harvesters in R/BC/02 and R/BC/03. One card is equal to one caribou and hunters in R/BC/02 and R/BC/03 are expected to carry them when harvesting caribou. After harvest they are expected to return the card to the individual they obtained the card from. Hunters will be expected to report their harvest to community monitors. This will ensure greater accountability and monitoring of the harvest. Once all authorization cards have been given out TG and ENR will conduct public education and consultation to encourage harvesters to stop harvesting in zones R/BC/02 and R/BC/03. If the cow harvest target is reached or materially exceeded, TG and ENR will declare an end to cow harvest and a bulls-only hunt from that point on. Similarly, once the limit of 300 caribou is reached or materially exceeded, TG and ENR will declare Bathurst caribou hunting closed for the year, and Tłıchǫ hunters will be asked to hunt other caribou for the remainder of the winter. This will help to monitor the harvest in these two zones and ensure that enforcement is appropriately used if needed.

At the end of the hunting season in May of each year, this system will be examined and a report will be written by TG and ENR with recommendations to improve the system the following year. WRRB recommendation 1 requests annual reporting on the effectiveness of the harvest target approach, and recommendations 40 and 41 address harvest monitoring and reporting on harvest management.

1.2.3 Community Wildlife Monitors (winter 2010-2011) [1, 40, 41, 44-46]

For the winter harvest of 2010-2011, ENR hired one community monitor for Wekweètì, Gametì and Whatì. The community wildlife monitor (CWM) will be a seasonal position commencing in December and ending at the end of April or whenever the winter hunting season ends.

The CWM and ENR staff jointly monitored the harvest in each Tłıchǫ community by interviewing active hunters regularly during the caribou hunting season to document the location, sex and age of each caribou harvested. The CWM reported to the North Slave office of ENR. They regularly updated the Tłıchǫ Government. The CWM assisted ENR staff when required to interview hunters travelling along the winter road.

ENR prepared a map of numbers of caribou harvested for each herd by location, sex and age every two weeks. The map was made available to the Tłıchǫ Government Lands Protection Department, ENR, WRRB and SRRB.

TG and ENR staff will prepare a joint annual report on the overall success of the harvest target approach in June of 2011, 2012 and 2013, as requested by WRRB recommendation 1. Recommendation 41 requests reporting by TG and ENR at least 3 times annually and recommendations 44-46 address adaptive co-management where review of information and management is used to adjust monitoring and management actions as needed.

[1.2.4 Winter Road Check Station \[1, 40, 41\]](#)

ENR hired and maintained the winter road check station attendants. The check station was in operation from Jan 1, 2011 until the winter road closed for the season in early April. The winter road check station attendants reported to ENR. ENR will report harvest data to the TG and WRRB in its regular reports combining harvest data from community monitors and the winter road check station.

A final report will be written at the end of season to assess the success of the winter road check station and to make recommendations for future hunting seasons, addressing WRRB recommendations on harvest target effectiveness (1), harvest monitoring via the TK project (40), and periodic reporting to WRRB and the public (41).

[1.3 Wolf harvest \[52, 53\]](#)

Wolves are the single most important predator on caribou (other than man) and take calves and adults throughout the year. A large part of the natural mortality of barren-ground caribou is attributed to predation. Given the overall focus of short-term management for Bathurst caribou and reduction of cow and calf mortality rates, TG and ENR recommended that wolf harvest be increased through incentives to wolf hunters and trappers. The measures in place for winter 2010-2011 were to increase incentives for wolf carcasses from \$100 to \$200, and fur incentives for well-handled wolf pelts from \$200 to \$400. More intensive wolf management would be considered if initial measures proved unsuccessful and the Bathurst herd continued to decline. WRRB recommendation 52 supported increased incentives for wolf carcasses and pelts, but requested a comprehensive proposal to WRRB (recommendation 53) prior to any more intensive wolf management being undertaken.

A summary of wolf harvest numbers, as well as new information from summer wolf den surveys and wolf condition assessment will be reported by ENR and TG as the information becomes available, and initially in May 2011. Monitoring of wolves and associated WRRB recommendations are found in section 2.2.6 (Wolf harvest and wolf monitoring).

[1.4 Bluenose East herd – Harvest Management \[14,15,16,17,18, 19,20,21,22\]](#)

The Revised Joint Proposal on Caribou Management Actions in Wek'èezhii submitted to WRRB at the end of May 2010 and the WRRB recommendations on this proposal were both finalized before population size estimates for the Bluenose-East (BE) herd from June 2010 and July 2010 were available. The revised joint proposal assumed that the herd had continued to decline at the same annual rate as from 2000 to 2006, and the WRRB recommendations were also made without the final population estimates known. Fortunately, the most recent data on trend and herd size of the BE herd were better than expected. Both the calving and post-calving photo surveys indicated a herd of about 100,000, with good calf recruitment in recent years, and an increasing trend from 2006 to 2010. In view of these findings, recommended harvest for the BE herd will need to be re-

evaluated. Allocation among aboriginal governments and communities will also need to be re-considered.

A management planning process currently underway for the Bluenose-West, Bluenose-East, and Cape Bathurst herds is led by NT co-management boards as well as representatives from Nunavut. Over the short-term, co-management boards and aboriginal governments in the Sahtu, Dehcho, Inuvialuit, Tlicho and Akaitcho are currently discussing harvest management recommendations for the BNE herd. These may include a proposed harvest limit, sex ratio of harvest and regional harvest management allocations. The TWG will be involved in implementation of recommendations once received.

[1.4.1 Bluenose-East herd – Resident, Commercial and Outfitted Harvest \[14\]](#)

As with the Bathurst herd, commercial, outfitted and resident harvest for the BE herd were reduced to zero by GNWT regulation changes of Jan. 2010, as requested by WRRB recommendation 14.

[1.4.2 Bluenose-East herd – Aboriginal Harvest \[15-20\]](#)

WRRB Recommendation 15 proposed an aboriginal harvest target for the BE herd of 2800 caribou with a sex ratio (Recommendation 16) of 85:15 (bulls:cows), with steps to be taken (Recommendation 17) if this is exceeded by 10%, or (Recommendation 18) more than 420 cows are taken. As with the harvest sex ratio for the Bathurst herd, TG and ENR varied recommendation 16 to an 80:20 bull to cow ratio. Pending new or revised aboriginal harvest recommendations for the BE herd, TG and ENR support WRRB's recommendations of a conservative aboriginal harvest with a focus on bulls. The proposed target will be finalized through discussion with wildlife co-management boards and aboriginal governments in the Sahtu, Dehcho and Wek'èezhii. ENR and TG will work with other aboriginal governments and communities to track their harvest of this herd.

ENR made available to TG, WRRB and YKDFN maps of radio-collar locations of Bathurst, BE and Beverly/Ahiak caribou for the fall and winter seasons 2010-2011. Collar locations were used to attribute harvested caribou to one of the three herds. ENR worked with TG and WRRB in making these assessments. This information may be supplemented in future by aerial reconnaissance surveys to locate concentrations of caribou. This spatial information may also be used to direct hunters to areas with substantial numbers of bulls.

WRRB Recommendations 19 and 20 requested maps that show where BE caribou are considered to be for the fall and winter hunting seasons. In practice, radio-collar locations of Bathurst and BNE caribou were mapped with known caribou harvest locations through winter 2010-2011 and reviewed by TG, ENR and WRRB to assign harvest numbers to the two herds and track caribou movements.

[1.4.3 Bluenose-East herd – Assistance for Aboriginal Harvest \[21\]](#)

The Tłı̨chǫ Government and ENR agree that a cautious approach to harvest management for the Bluenose-East herd is still required. As described earlier in section 1.2.1, careful use of assistance to

hunters could help in achieving recommended harvest totals and sex ratio. WRRB recommendations 21 and 24 recommended no assistance be provided to caribou hunters accessing the Bluenose-East and Beverly/Ahiak herds. TG and ENR rejected the recommendation suggesting instead that the limited assistance to harvesters provided for several years by GNWT ITI should be continued and could assist in achieving harvest objectives such as a bull-focused harvest by a resumption of traditional fall canoe hunts for bulls. In addition, the agreement signed in October 2010 by YKDFN and ENR included limited assistance to YKDFN hunters accessing the Beverly/Ahiak herd.

[1.4.4 Overlap Agreement between Tłıchǫ Government and Nunavut and Sahtu \[22\]](#)

The Tłıchǫ Government will consider the WRRB recommendation on TG establishing harvest overlap agreements with the Sahtu region and Nunavut. TG will provide a response to the WRRB once the recommendation has been internally reviewed.

[1.5 Beverly/Ahiak Herd – Harvest Management \[23, 24, 25, 26, 27\]](#)

Based on radio-collar location information, caribou of the Beverly/Ahiak herd have rarely been found within Wek'èezhii. Occasionally Tłıchǫ hunters have hunted in the Lutsel K'e area, which often has access to this herd in the winter. Reconnaissance surveys of the calving grounds of this herd in the Queen Maud Gulf area have suggested a declining trend 2006-2010, but the herd remains a substantial one. A population survey is planned for June 2011, led by the Government of Nunavut and supported by GNT-ENR. In general, the joint TG-ENR caribou management proposal supported recommendations of the Beverly and Qamanirjuaq Caribou Management Board (BQCMB), which has recommended better harvest tracking, restricting harvest to what hunters need, and promoting bull harvest.

[1.5.1 Beverly/Ahiak Herd – Resident, Commercial and Outfitted Harvest \[23\]](#)

As for the Bathurst and Bluenose-East herds, commercial, outfitted and resident harvest for the Beverly/Ahiak herd were reduced to zero by GNWT regulation changes of Jan. 2010, as called for by WRRB recommendation 23.

[1.5.2 Beverly/Ahiak Herd – Aboriginal Harvest and Incentives \[24, 26, 27\]](#)

GNWT through the Department of Industry, Tourism and Investment (ITI) has for several years made limited funds available to aboriginal hunters and communities, including Lutsel K'e, for caribou harvest in the winter. This support will continue as in the past, but the caribou harvest is unlikely to be greater than in past winters. Most of the winter harvest of this caribou herd is thought to be from communities in northern Saskatchewan. ENR has a cost-shared program with the Prince Albert Grand Council and Saskatchewan Environment in northern Saskatchewan, to build community relations and to improve tracking of caribou harvest in these communities. ENR will be working with communities such as Lutsel K'e to track their caribou harvest.

ENR also has an agreement with the Yellowknives Dene First Nations (YKDFN) on management of caribou harvest in the Chief Drygeese traditional territory, which includes limited support for

YKDFN hunters accessing the Beverly/Ahiak herd. As a result WRRB Recommendation 24 requesting that assistance and/or incentives not be made to aboriginal hunters accessing the Beverly/Ahiak herd was rejected by government.

ENR made available to TG, WRRB and YKDFN maps of radio-collar locations of Bathurst, BE and Beverly/Ahiak caribou through the fall and winter hunting seasons. WRRB Recommendations 26 and 27 requested maps that show where Beverly/Ahiak caribou are considered to be for the fall and winter hunting seasons.

1.5.3 Overlap Agreement between the Tłı̨chǫ Government, the Nunavut Government and Akaitcho [25]

The Tłı̨chǫ Government currently has an Agreement with Akaitcho Territory Dene First Nations on overlapping interests in lands and resources. The Tłı̨chǫ Government will consider the recommendation and begin internal discussions. TG will provide a response to the WRRB once the recommendation has been considered.

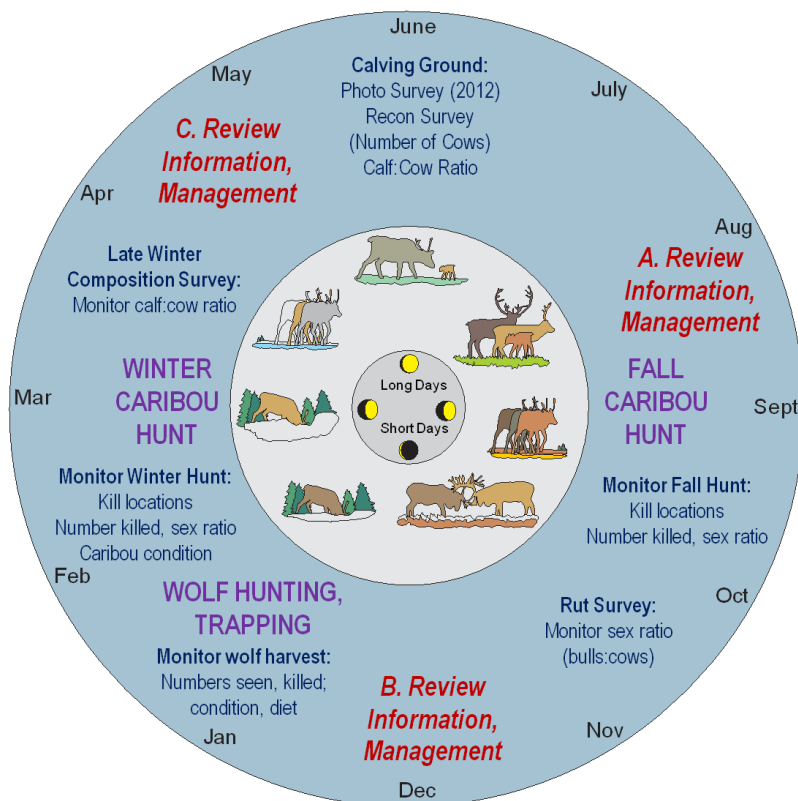


Figure 3: Adaptive Co-Management Annual Caribou Cycle

1.6 Monitoring Actions within an Adaptive Co-Mgmt Context (Cycle; 44,45,46)

In their joint caribou proposal in 2010, TG and ENR proposed using an annual cycle built around the seasons of the caribou, caribou harvest, and information review, as shown in the diagram above. In this cycle, information would be reviewed jointly by TG and ENR at 3 times of year – at the end of the winter hunting season in May, prior to the fall hunting season in August, and during mid-winter in December. WRRB recommendation 41 supports this approach and requests that information be reported to WRRB and the public at 3 times of year (April, September and December). ENR and TG accepted that recommendation but propose herein that late May would be a better time to review the end of the winter hunting season, given that hunting may extend into early May, depending on snow-melt.

At the May meeting, key information to review would be (1) the winter's caribou harvest information, (2) the success of the harvest monitoring and management, (3) wolf harvest information, (4) any health and condition monitoring results and (5) results of the spring caribou recruitment survey. This would also be an appropriate time to plan how to adapt harvest management for fall 2011 and winter 2011-2012 and changes to monitoring or overall management.

If the fall meeting occurs before hunting begins, this would be an appropriate time to (1) finalize plans for the hunting season, (2) review information from the June calving reconnaissance survey, and (3) review any new information on fires, relative severity of the insect season, or other environmental information.

At the December meeting, information to review could include (1) results of any fall composition surveys, (2) fall caribou harvest and condition information, and (3) any initial information on winter caribou harvest. This meeting would also provide an opportunity to refine winter harvest management plans.

Given the importance of monitoring the Bathurst caribou harvest, TG, ENR and WRRB agree that updates on caribou harvest and other information should occur on a regular basis through the hunting season. This was the case through the 2010-2011 hunting season.

WRRB recommendations 44 and 45 address adaptive co-management and information flow that will include WRRB as a partner with TG and ENR. TG and ENR agree with these recommendations and WRRB staff have been participants in TWG meetings through winter 2010-2011. Recommendation 46 requests that TG and ENR establish criteria for establishing success or failure of management actions, as well as how management actions might be altered based on these criteria. Table 4 from the Revised Joint Proposal on Caribou Management Actions in Wek'èezhii May 2010 is included in section B tables in this plan. It suggests criteria for monitoring outcomes

that would mean either amending management (Bathurst herd declining further) or staying the course (Bathurst herd stable or increasing).

2.0 Traditional Knowledge and Technical Monitoring and Reporting [28-40]

Given the rapid decline of the Bathurst caribou herd 2006-2009, close monitoring of the herd's trend, productivity, and harvest were recommended by TG and ENR and supported by WRRB.

2.1 Tłıchǵ Knowledge Research and Monitoring Program [28-39]

Recommendations from WRRB requested that information about caribou harvest by Tłıchǵ hunters be recorded via the *Special Project, Using Tłıchǵ Knowledge to Monitor Barren Ground Caribou* of the overall Traditional Knowledge Research and Monitoring Program. In addition, WRRB recommendations requested that hunters' information about caribou condition, pregnancy rate and other biological observations and insights be recorded via the TK project, in parallel with technical studies and surveys carried out by ENR.

The Tłıchǵ Government agrees with recommendations 28-42 of the *Recommendation Report related to the Revised Joint Proposal on Caribou Management Actions in Wek'èezhii*. The Tłıchǵ Government is committed to documenting and reporting on observations and trends observed by caribou harvesters and elders. Implementation of the 'Tłıchǵ Knowledge Research and Monitoring Program: Special Project, Using Tłıchǵ Knowledge to Monitor Barren Ground Caribou' will take approximately eight months and is expected to be implemented by September 2011.

The traditional monitoring system continues among the hunters and elders. Nevertheless the logistics of realizing a system that will rigorously and accurately document and report harvesters' observations and trends has yet to be initiated. The program requires trained Tłıchǵ researchers, offices, and equipment, all of which require a realistic annual budget and extensive fund-raising with those who will also benefit from Tłıchǵ knowledge research and monitoring.

The Tłıchǵ Government will inform the WRRB when this program has been implemented and ensure that data collection and sharing reflect WRRB recommendations.

WRRB recommendations 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, and 41 make reference to the Tłıchǵ TK program, either in recording caribou harvest by Tłıchǵ hunters or in recording hunters' observations about caribou, wolves and habitat. Detailed responses to these WRRB recommendations, as they refer to Tłıchǵ hunters, will be provided in future.

2.2 Biological monitoring & reporting on caribou, wolves & harvest [28-40]

The monitoring actions described in this section are intended to enable close monitoring of the Bathurst herd's trend, productivity and harvest, given the herd's rapid decline 2006-2009 and the

goal of promoting stabilization and recovery of the herd. Monitoring of wolf abundance and harvest are also summarized in this section, recognizing that this predator affects mortality rates of caribou calves and adults. Actions and activities described here are primarily of a technical nature, although the intent is to consider technical and traditional knowledge in tandem when recommending changes to monitoring and management. Activities and actions in this section are grouped into 6 categories: Caribou Surveys, Radio-collars, Caribou Harvest Monitoring, Caribou Health and Condition Monitoring, Wolf Harvest and Wolf Monitoring, and Reporting to WRRB and the public.

2.2.1 Caribou Surveys [29, 31-33,39]

The surveys described here have all been previously carried out for the Bathurst herd. The most expensive surveys are the ones that produce an estimated number of breeding females in the herd and overall herd size. Less expensive monitoring surveys provide an index of herd trend or productivity, which can serve as indicators of population change or continuity.

Late-winter recruitment surveys

Composition surveys in late winter (usually March or early April) provide a calf:cow ratio that is an index of the numbers of calves that were born the previous year and survived to 10 months of age. Ratios of consistently less than 20 calves: 100 cows are indicative of declining herds, while consistent ratios of 40 or more calves: 100 cows are typically indicative of increasing herds. These surveys will be carried out by ENR staff and observers from TG and YKDFN.

ENR will conduct a power analysis to assess the frequency with which these surveys should be carried out to adequately monitor trends in recruitment over time. Recommendations for the frequency of surveys should also consider herd trend (increasing, decreasing or stable) and whether the herd is at high, medium or low numbers. Results will be made available to TG and WRRB and other co-management partners.

WRRB recommendation 29 requests that these recruitment surveys continue.

Calving reconnaissance surveys and estimation of cow survival rates

Standardized reconnaissance surveys carried out by small fixed-wing aircraft over caribou calving grounds have been used by ENR to map distribution of calving females in June. Flight lines are flown 5 or 10 km apart and numbers of caribou and sex and age of groups of caribou are recorded. These surveys have been shown to be a repeatable method that provides an index of the number of breeding cows in a herd, if carried out in consecutive years or at regular intervals. These surveys are the lead-in to more comprehensive calving photographic surveys of the Bathurst herd and other barren-ground caribou herds. These surveys will be carried out by ENR staff and observers from TG and YKDFN.

In recommending that spring recruitment surveys be conducted for the Bathurst herd, WRRB also recommended that ENR should explore methods of estimating cow survival rates that do not involve large numbers of radio-collars. Currently there are no other practical ways of estimating

caribou cow survival. Twenty or fewer radio-collars are not an adequate sample size for estimating adult female survival rates with a reliable degree of precision. Instead, ENR is proposing that an index of breeding cow numbers can be derived from consistent annual or regular calving reconnaissance surveys. The main reason for assessing cow survival rate in caribou is that population trends are closely tied to cow survival rate and that appropriate interpretation of calf:cow and bull:cow ratios relies on an understanding of trends in cow survival. The calving reconnaissance surveys provide an index of breeding cow numbers in the herd. Because breeding cows are the most important and most numerous proportion of the herd, these surveys will provide a measure of trend in cow numbers, hence a measure of population trend.

Later in 2011, ENR will conduct a power analysis to assess the frequency with which these surveys should be done to adequately monitor trends in breeding cow numbers over time. Recommendations for the frequency of surveys should also consider herd trend (increasing, decreasing or stable) and whether the herd is at high, medium or low numbers. The results will be made available to TG, WRRB and other co-management partners.

WRRB recommendation 39 requests that these calving reconnaissance surveys continue. Recommendations 29 & 32 refer to means of assessing cow survival rate other than collars.

Composition surveys on the calving grounds to assess productivity

ENR has carried out composition surveys on the Bathurst calving grounds to provide an estimate of herd pregnancy rate or initial productivity. Additional information about pregnancy rate can be gathered from health and condition studies of cows harvested during winter, although the sample numbers are often less than 100 cows, whereas the composition surveys on the calving grounds include thousands of cows. If the pregnancy rate is lower than normal, these surveys and/or pregnancy data would provide an early warning of poor conditions for the herd, and might be used to adjust management of harvest or predators.

There are ongoing concerns about disturbance to cows and newborn calves on calving grounds. Helicopter-based composition surveys on calving grounds have evolved accordingly to eliminate low flying over high densities of cows and calves and minimize direct disturbance to large groups of caribou. The majority of the classification is carried out by observers on the ground after the helicopter has landed at some distance from the caribou. These surveys will be carried out by ENR staff and observers from TG and YKDFN.

Later in 2011, ENR will conduct a power analysis to assess the frequency with which these surveys should be carried out to adequately monitor trends in pregnancy or initial productivity over time. Recommendations for the frequency of surveys will also consider herd trend (increasing, decreasing or stable) and whether the herd is at high, medium or low numbers. The results will be made available to TG, WRRB and other co-management partners.

WRRB recommendation 31 recommends continuing these composition surveys on the calving grounds.

Fall composition surveys to assess sex ratio

Composition surveys have been carried out in the fall by ENR, usually at the peak of the rut in late October when all sex and age classes are mixed together and a representative sample can be obtained. For caribou herds where the calving photo-survey is used, an estimate of sex ratio is needed, to extrapolate from the estimate of breeding cows on the calving ground to overall herd size. Fall surveys also provide an opportunity to assess the calf:cow ratio, as calf mortality is usually highest during the first 5 months after calving. A population estimate based on a calving photo-survey in June 2012 will require at least one and preferably two estimates of fall sex ratio. The next fall composition surveys for the Bathurst and Beverly/Ahiak herds will be carried out in 2011.

Concerns have been raised in some communities about the effects of a bull-focused harvest on sex ratio in the caribou herds. Monitoring of the fall sex ratio can provide an assessment of whether the sex ratio is within normal range or has dropped to lower levels. These surveys will be carried out by ENR staff and observers from TG and YKDFN.

Later in 2011, ENR will conduct a power analysis to assess the frequency with which these surveys should be carried out to adequately monitor trends in sex ratio over time. Recommendations for the frequency of fall surveys should also take into account whether a calving photo-survey is planned, the herd trend (increasing, decreasing or stable) and whether a bull-focused harvest has been taking place. The results will be made available to TG, WRRB and other co-management partners.

WRRB recommendation 32 recommends continuing these fall composition surveys.

June calving photo-survey for Bathurst herd, June 2012

With several caribou herds at low numbers and/or declining in the 2000s, ENR's 2006-2010 Caribou Management Strategy called for population surveys every 3 years. When last surveyed in June 2009, the Bathurst herd was found to be in rapid decline compared to 2006 data, thus a new population survey in June 2012 was proposed by TG and ENR and supported by WRRB. If the herd is found to be stable or beginning to increase, intervals between population surveys and other surveys can be re-considered, but the rapid decline in 2006-2009 suggests that close monitoring should continue in the near future.

Later in 2011, ENR will conduct a power analysis for ENR to assess the frequency with which population surveys should be carried out to adequately monitor herd size and population trend. Recommendations for the frequency of surveys should also consider the herd trend (increasing, decreasing or stable) and whether the herd is at high, medium or low numbers. The results will be made available to TG, WRRB and other co-management partners.

The June 2012 survey will be carried out by ENR staff and observers from TG and affected Akaitcho communities.

WRRB recommendation 33 supports the planned calving photo-survey of the Bathurst herd in June 2012.

2.2.2 Caribou Radio-collars – Bathurst Herd [29, 32]

WRRB recommendations 29 & 32 requested ENR consider methods of estimating cow survival that did not rely on a large number of collars. As a result of concerns among Tłıchǫ elders, over the handling of animals and use of radio-collars on caribou, there have never been more than 20 radio-collars on Bathurst caribou cows. Owing to periodic mortality of collared caribou and eventual collar failure, there have at times been as few as 8 or 9 collars on Bathurst caribou. Section 2.2.1 discusses the applicability of annual calving ground reconnaissance surveys for establishing trends in breeding females and serving as a rough indicator of survival for the interpretation of herd composition ratios.

During winter, collared caribou are the only way of identifying where the herd is and which herd caribou are being hunted from. In areas where there is substantial overlap with Bluenose-East caribou, the low number of collared Bathurst caribou is a handicap in knowing which caribou are being taken. There are currently about 4 times as many collars on Bluenose-East caribou (80) as on Bathurst caribou (20). In addition, management recommended by ENR and TG, and supported by WRRB, calls for limits on cow harvest and an effort to harvest mostly bulls from the Bathurst and Bluenose-East herds. Radio-collared Bathurst and Bluenose-East bulls, and a larger number of radio-collared Bathurst cows, would increase the confidence of managers attempting to assign the harvest to one of the two herds, and would make it easier to direct hunters to areas where bulls are abundant.

Radio-collars on caribou are used for many purposes by ENR, however the numbers of radio-collars needed for each of the uses varies. Later in 2011, ENR will conduct a power analysis to assess the numbers of radio-collars needed for a more precise estimate of cow survival, for the purposes of appropriately allocating harvest among the BE and Bathurst herds and other purposes such as seasonal range delineation, cumulative effects studies, assessing rates of exchange among neighbouring herds, fidelity to calving grounds and timing of migration. The results will be made available to TG, WRRB and other co-management partners and discussed by the TWG, TG, WRRB and ENR.

2.2.3 Caribou Harvest Monitoring [40]

TG, ENR and WRRB recognize that timely and accurate reporting of caribou harvest is a priority in monitoring and managing the Bathurst and Bluenose-East caribou herds. This is particularly important for the Bathurst herd where a limit of 300 caribou \pm 10% and at least 80 % bulls are the targets. WRRB recommended that harvest reporting by Tłıchǫ hunters be recorded via the Traditional Knowledge program, not by ENR's methods for monitoring harvest. However, government varied that recommendation as it was not practical to implement harvest reporting via the Traditional Knowledge program for the fall 2010 and winter 2010-2011 hunting seasons, thus harvest reporting for the 2010-2011 season is different from the expected approach for 2011-2012.

Hunting season Aug. 2010 to May 2011

Caribou harvested by Tłıchǵo hunters during the fall season (August & September 2010) was essentially zero because caribou from the Bathurst, Bluenose-East and Beverly/Ahiak herds were well north of Wek'èezhìi during this time. In fact, collared caribou from the Bathurst and Beverly/Ahiak herds were north of treeline and in Nunavut through the fall. A few radio-collared Bluenose-East caribou were within the NT but well north of Tłıchǵo communities. Fall harvest by YKDFN hunters was also essentially zero, for the same reasons.

Winter harvest by Tłıchǵo and YKDFN hunters for 2010-2011 was tracked by a combination of community monitors, check-stations and interviews in the communities. These methods were used in 2007-2008 and 2008-2009 to monitor caribou harvest by Tłıchǵo communities in joint ENR-Tłıchǵo programs.

TG and ENR will report the results of these monitoring actions three times a year in May, September and December. WRRB recommendation 40 refers to monitoring of Tłıchǵo harvest via the TK study program, recommendation 41 requests at least 3 annual reports from TG and ENR on caribou harvest and management, and recommendations 44, 45 and 46 address adaptive co-management where information is reviewed at least 3 times annually and the status of indicators from monitoring activities will be used to determine if changes to current management actions are required as per the adaptive management approach.

Hunting season Aug. 2011 to May 2012

As noted earlier (section 2.1), WRRB requested that information about caribou harvest by Tłıchǵo hunters be recorded via the *Special Project, Using Tłıchǵo Knowledge to Monitor Barren Ground Caribou* of the overall Traditional Knowledge Research and Monitoring Program. The Tłıchǵo Government is committed to documenting and reporting on observations and trends observed by caribou harvesters and elders. Implementation of the “Tłıchǵo Knowledge Research and Monitoring Program: Special Project, Using Tłıchǵo Knowledge to Monitor Barren Ground Caribou” will take approximately eight months and is expected to be implemented by September 2011.

WRRB recommendations 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, and 41 make reference to the TK program and recording of information from Tłıchǵo hunters about reporting caribou harvest and observations of caribou, as well as reporting results to WRRB.

2.2.4 Caribou Health, Condition and Pregnancy Monitoring [30,38]

Samples for monitoring the health, condition and pregnancy rate of female caribou will be collected opportunistically when hunters hunt for themselves or for a community hunt. As recommended by the WRRB, biological monitoring will not be used as a primary rationale for hunting cows. Sample kits will be prepared to measure and collect the following items: pregnancy (presence of foetus), back fat thickness, collection of left kidney with the fat to assess contaminant levels and condition,

hunter condition score, collection of front part of the lower jaw with incisors for age determination, and location, date and sex of the animal harvested.

Monitoring of caribou health and condition will be carried out jointly by the Tł̨ch̨q̨ wildlife coordinator, community monitors and ENR staff. Training with methods and sample kits will be held jointly prior to each hunting season and will involve the wildlife coordinator, community monitors and ENR staff. Health, condition and pregnancy monitoring will be reflected in Wildlife Research Permits and results will be reported to the TWG in the May, September and December meetings.

WRRB recommendations 30 & 38 supports continued health and condition monitoring of Bathurst and Bluenose-East caribou from hunter-killed animals, with cow hunts not being conducted primarily for study purposes.

[2.2.5 Wolf Monitoring \[34, 35, 36\]](#)

The importance of wolves as predators on caribou throughout the year was recognized by TG and ENR in their joint caribou management proposal. Increased wolf harvest via increased incentives for wolf pelts and wolf carcasses, to reduce caribou adult and calf mortality rates, was supported by WRRB (noted earlier in section 1.3; recommendations 52 & 53).

Wolf den surveys

WRRB recommendation 34 requested that appropriate indices of wolf abundance, wolf predation rates and population responses to changing caribou abundance be developed and implemented. ENR varied the recommendation and will continue with wolf den surveys that have been carried out since the summer of 1996. This research was conducted at the south end of the Bathurst caribou summer/fall range and was designed to monitor trends in den occupancy and productivity. Results of the den surveys since 2005 suggest that wolf numbers have dropped rapidly in the wake of much reduced caribou numbers.

ENR, in consultation with the Tł̨ch̨q̨ Government, will provide a research proposal to develop a better assessment of wolf numbers associated with Bathurst caribou. The overall goal will be to understand how wolf numbers are responding to changing caribou densities and harvest incentives. This undertaking could help determine if current management actions are working or more intensive management is required to facilitate caribou recovery. Den occupancy is one measure of wolf abundance but the technique can be imprecise. A population estimate of wolves associated with the Bathurst caribou herd can verify and validate trend indices. A population estimate of wolves is best done in winter when Bathurst caribou congregate on their winter range. Collared wolves are needed to measure sightability of wolves during aerial abundance surveys, which can mitigate a potentially significant bias.

Wolf condition and reproduction

ENR will provide \$200 for each intact wolf carcass brought in by hunters or trappers in the North Slave region, which represents an increase from \$100 previously offered, and will provide a report to WRRB and the Tłıchǵ Government in June 2011 on the wolf carcass collection.

WRRB recommendation 35 supports monitoring of wolf condition.

Wolf harvest

ENR will provide a report to WRRB and Tłıchǵ Government in May of each year on wolf harvest data from all sources monitored by ENR.

WRRB recommendation 36 supported monitoring of wolf harvest. In addition, recommendation 52 supported increased incentives for wolf trapping or hunting, and recommendation 53 requested a proposal if more focused wolf control measures were being considered.

2.2.6 Reporting to WRRB and the public [41]

Based on the revised joint proposal from TG and ENR, information about caribou, wolves and related observations would be reviewed three times annually by TG and ENR in consultation with Tłıchǵ hunters and communities. This would be timed to fit the annual caribou cycle and the fall and winter hunting seasons. TG and ENR will report three times annually, in May, September and December.

WRRB recommendation 41 refers to monitoring results being reported at least 3 times annually to WRRB and the public.

3.0 Engaging Communities, Developing Capacity and Co-Management [42-46,56-58,60]

The decline of the Bathurst herd, the development of the initial and revised joint management proposals with ENR, and the WRRB hearings in March and August 2010 have proven to be a challenging period and yet a time for learning and mutual respect. The implementation of the revised joint management proposal and WRRB recommendations will rely on many factors and people working together, including the Tłıchǵ leadership, elders, harvesters, and youth, TG staff, ENR and WRRB board members and staff, and others. Tłıchǵ elders, harvesters and community members must be well informed and understand the situation if they are to support the programs underway.

WRRB recommendation 56 addresses the need for the Tłıchǵ government to increase its capacity for full participation in caribou monitoring and management.

3.1 Tłıchǫ Government Initiatives [56]

Tłıchǫ government efforts have focused on bringing together representatives of the four communities to review the information, improve understanding of caribou conservation, and devise ways of implementing conservation that will work in the communities.

3.1.1 Tłıchǫ Ekwo Working Group [56]

The Tłıchǫ Government has developed the Tłıchǫ Ekwo Working Group (TEWG). The primary role of the TEWG is to make recommendations to the Tłıchǫ Lands Protection Department (TLPD) and ultimately the Tłıchǫ Chief's Executive Council (CEC) on issues regarding implementation of the Revised Joint Proposal on Caribou Management in Wek'èezhii. The TEWG membership is comprised of 4 individuals chosen by the Lands Department and approved by the CEC for their particular skillsets, and one representative from each community chosen by the chief and council. This group will help to bring the Tłıchǫ community perspective into any decisions that are being made and will increase local knowledge of the Bathurst caribou conservation issue.

Some of the issues that the TEWG will consider and make recommendations on are as follows:

- Potential ways to increase access to bull caribou given the emphasis the revised joint management proposal has on hunting bulls (e.g. reconnaissance surveys, elders guiding younger harvesters);
- Possible increased use of collars on cows and potentially on bulls;
- Potential options to re-define the current management areas into smaller zones based on Tłıchǫ Traditional Knowledge and Place-names;
- Recommendations on conservation education and traditional knowledge education needs
- Recommendations on communication and consultation strategies for Tłıchǫ communities.

The TEWG will meet approximately 4-6 times per year with different topics being the focus of each workshop. They held an orientation workshop December 2010 and a second workshop in February 2011 where conservation and caribou education was the focus. The TEWG will provide recommendation to TG, ENR and the TWG throughout the year and at the end of the summer each year a report will be written on overall recommendations and needs for the following year.

3.1.2 Tłıchǫ Wildlife Coordinator(s) [56]

The TG and ENR are cost-sharing the new position of wildlife coordinator in the Tłıchǫ lands Protection Department. The position had been filled on a part time basis for the winter hunting season 2010-2011. The interim wildlife coordinator's (IWC) role is to work with elders, harvesters and community members to educate and inform people of the overall process and situation with Bathurst caribou. Once the winter season 2010-2011 is complete, the TLPD and the IWC will determine the best approach for the TWC in the next season.

TG anticipates having the equivalent of a full-time (F/T) employee hired by June 1, 2011.

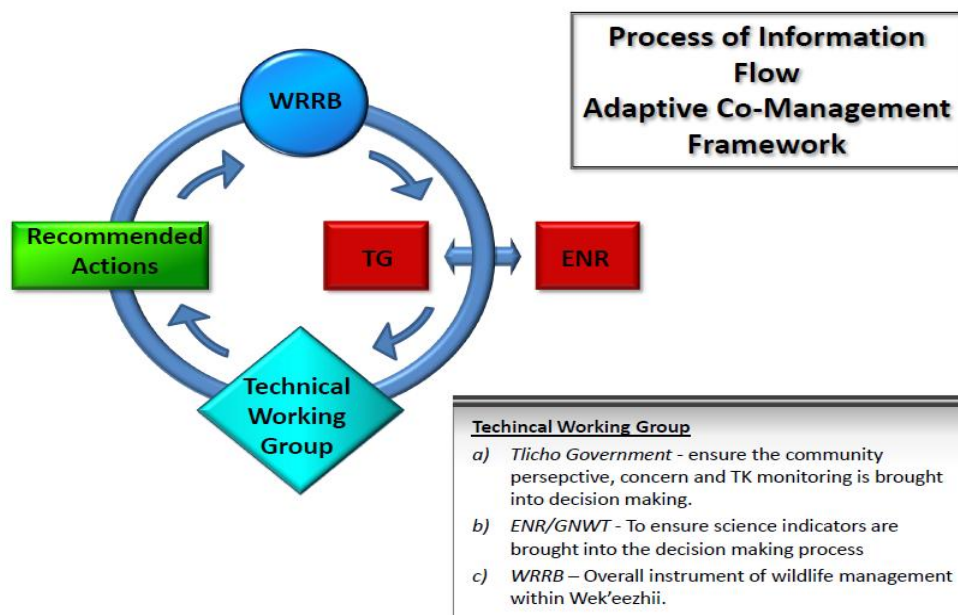
3.2 Co-Management Initiatives [44, 45, 46]

In the revised TG/ENR joint caribou proposal, a technical working group made up of TG and ENR representatives was proposed as a way of carrying on for the group that developed the joint proposal. This was one way of ensuring that the program continued with frequent communication, information review, and adjustment of management between the two governments. Since that time, the value of having the WRRB as a partner at the same table became clear, although the mandates of each of the three partners are in some areas distinct. Thus the TG/ENR working group has become the TG/ENR/WRRB working group.

3.2.1 Tłı̨chǫ -ENR-WRRB Technical Working Group (TWG) [44,45,46]

The Tłı̨chǫ Government and ENR proposed an integrated approach between science and TK as described in the TG/ENR revised Joint Proposal for Caribou Management Actions in Wek'èezhii. The governments' rationale for this approach is that the respective research and monitoring programs can be mutually informative during the early phases of program delivery, including development of specific research questions and study design, as well as collection of field data. The governments assert that the collaboration should occur throughout all phases of the respective research and monitoring programs, and not just occur once data have been collected and interpreted (See Figure 4 below).

Figure 4: Revised Information Flow Process



The Tłıchǫ Government, ENR and WRRB will be active participants in the TWG. Roles and Responsibilities will be laid out in Terms of Reference. The TWG will meet a minimum of 3 times per year as per the adaptive co-management framework, and at other times if needed. This will provide the TWG an opportunity to review new monitoring and any other information and implement adapt management actions. TG and ENR through the TWG will develop criteria to assess the success or failure and would indicate when management actions need to be revised.

In the TG/ENR joint proposal on caribou management, a number of examples of adaptive management were provided. For example, if reconnaissance surveys on the Bathurst calving grounds in June provided evidence of a continuing decline in cow numbers, recommended harvest might be re-visited and more intensive wolf management might be considered. Similarly, if spring recruitment surveys show two consecutive years of recruitment below 20 calves:100 cows, harvest and wolf management might be re-evaluated, as suggested by WRRB recommendation 46. A table from the joint proposal with initial suggested criteria is included in Part B of this implementation plan.

[3.2.2 Traditional Knowledge and scientific hunter/conservation education \[42, 43\]](#)

Traditional Knowledge Education Program

The TEWG will be tasked with doing an assessment of the current conservation education programs that have been developed from both a science and TK perspective. A summary report will be written following a workshop held in Feb. 2011 which will be shared with the TWG. The TWG will then determine the needs and steps required to implement a holistic conservation education program that will reach all demographic sectors of the Tłıchǫ population. Once the TWG has completed this assessment, a report will be written with recommendations to TG, ENR and the WRRB for implementation. This work will address WRRB recommendation 42.

Scientific Conservation Education Program

ENR will undertake this work jointly with Tłıchǫ Government in Wek'èezhìi and with other aboriginal groups outside Wek'èezhìi.

ENR will prepare facts sheets that will be posted on the ENR website. ENR has developed an interactive Caribou Educational Program that can be used in schools for youth to learn about scientific management practices. A contractor was hired by ENR in 2010 to develop and promote hunter ethics and education with co-management partners and communities.

The TWG will be tasked with assessing this conservation & hunter education program and making suggestions and recommendations as to how to make it more useful and culturally appropriate. As an example, the CircumArctic Rangifer Monitoring and Assessment Network (www.carmanetwork.com) has developed several education tools, including videos on hunter training and community perspectives on caribou (Voices of the Caribou People) and a caribou

anatomy atlas, which have potential for adaptation to conservation education in Tłıchǫ communities.

This work will address WRRB recommendations 42 and 43 on hunter & conservation education.

3.3 Implementation, Consultation & Enforcement [57,58,59,60]

The revised TG/ENR joint caribou proposal proposed that managing the aboriginal harvest could best be achieved by harvest targets and seeking methods of managing and reporting harvest that would have support in the Tłıchǫ communities. WRRB endorsed the overall approach but also recommended that the harvest and the effectiveness of management be closely monitored, and that enforcement was needed to effectively implement the program.

3.3.1 Implementation [57,58,59]

Implementation of key aspects of caribou management in Wek'èezhìi began before Christmas 2010. This included hiring of community monitors and an increased enforcement presence from ENR wildlife officers in the Tłıchǫ communities and in areas frequented by hunters. New regulations as of December 10, 2010 eliminated the current no hunting caribou zone and replaced it with two new hunting zones called R/BC/02 and R/BC/03 and authorized a limited harvest of Bathurst caribou within these two new zones.

ENR, TG and WRRB staff reviewed early drafts of an implementation plan for Wek'èezhìi in Feb. and March 2011 and a detailed plan will be finalized in May 2011. Key activities in the plan are already underway, including periodic review of harvest information as it is updated. Indian and Northern Affairs Canada (INAC) did not participate in the development of the revised joint TG/ENR caribou proposal and WRRB recommendations pertaining to land use, where INAC might be involved, will be addressed later in 2011.

The Tłıchǫ Government carried out a community consultation tour the week of Nov 24-26, 2010 in the communities of Gamètì, Whatì and Behchokò. The Lands Protection staff held a detailed meeting with the Chief and Council during the day in each community and then held a community meeting in the evening. A similar community meeting was held in Wekweètì in January 2011. WRRB recommendations 57, 58 and 59 request that implementation occur no later than January 1, 2011 and that the hunting ban remain in place until that time; consultations occur prior to January 1, 2011; and, that a detailed Implementation and Consultation Plan be developed as soon as possible

3.3.2 Enforcement and compliance [60]

The ENR North Slave regional office is currently working on an enforcement and compliance program that will be in place in time to address each of the pertinent WRRB recommendations. ENR wildlife officers maintained an increased presence in Tłıchǫ communities until the end of the winter hunting season in early May 2011. They also worked with community monitors to ensure that

caribou harvest was reported reliably. In addition, ENR wildlife officers maintained an increased presence in areas like Hottah Lake where caribou harvesting occurred in the winter of 2010-2011.

WRRB recommendation 60 requests from ENR an effective enforcement and compliance program.

4.0 Development, Habitat and Management Planning for Caribou Herds [47,48,49,50,51,55]

TG, ENR and WRRB support the development of comprehensive management plans for the Bathurst, Bluenose-East and Beverly/Ahiak caribou herds. The Tłı̨chǫ Agreement requires comprehensive management planning for barren-ground caribou (section 12.11). The revised joint proposal to WRRB from TG and ENR was focused primarily on short-term management of caribou mortality rates, given the Bathurst herd's steep decline. However, comments in several community meetings and workshops emphasized the need to consider all factors that affect barren-ground caribou herds, including development and cumulative effects, fire on the winter range and climate change/global warming.

WRRB recommendation 55 refers to ENR and Tłı̨chǫ Government working collaboratively to meet the obligations of Section 12.11 of the Tłı̨chǫ Agreement with support from WRRB staff.

4.1 Development and Caribou Habitat Management [47-51,55]

At the Caribou Summit held in Inuvik in Jan. 2007, delegates from many communities voiced their concerns over the importance of taking care of the landscapes that sustain caribou through the seasons. Protection of calving grounds in the NT and Nunavut was a top priority for management actions, and limits to the pace of development were an important concern. TG, ENR and WRRB recognize that over the long-term, conservation of habitat is of primary importance to caribou.

4.1.1 Calving ground protection in Nunavut [47]

ENR has initiated discussions with Nunavut concerning protection of calving grounds of trans-border herds, and will continue these discussions. The issue has also been raised by the Beverly and Qamanirjuak Caribou Management Board (BQCMB). It should also be recognized that INAC is the primary land manager in the Northwest Territories and Nunavut.

ENR accepted WRRB recommendation 47 to continue discussions with Nunavut on protection of caribou calving grounds.

4.1.2 Industry best practices for caribou calving and post-calving ranges [48]

ENR has been working on standard terms and conditions for wildlife that would be available for industry and regulators. ENR will be working collaboratively with other agencies to develop best practices for mining operations in the NT, and this is a commitment under the new draft Caribou Management Strategy for GNWT. Best practices can also be addressed in the development of long-

term management plans for the Bathurst, Bluenose-East and Beverly/Ahiak herds. INAC is the primary land manager for crown lands in NT and Nunavut and would need to be engaged in these discussions.

WRRB recommendation 48 was varied by ENR such that the development of best industry practices for caribou during calving and post-calving be done through the management planning process.

4.1.3 Land use plan for Wek'èezhìi [49]

The Tłıchǫ Government is currently undergoing a land use planning (LUP) process for Tłıchǫ Lands within Wek'èezhìi and would prefer to defer discussions of land use planning for Wek'èezhìi until this plan is complete. The Tłıchǫ Government rejected WRRB's recommendation as it is not responsible to establish a mechanism for the preparation, approval and implementation of a LUP in Wek'èezhìi. Pursuant to chapter 22.5.1 and 22.5.3 of the Tłıchǫ Agreement, the parties will determine how to move forward in the development of a land use plan for Wek'èezhìi Lands once the Tłıchǫ LUP process is complete.

4.1.4 Monitoring landscape changes (fire and development) [50]

ENR will continue to provide annual reports to WRRB and the Tłıchǫ Government on wildfire activity in the North Slave region. ENR expects that a number of research projects (both Traditional Knowledge and Scientific) on fire ecology and use of burned and unburned winter ranges by caribou will be completed by 2011-2012. Results of these studies will be made available to WRRB and TG. A number of studies were summarized in the Dec. 2009 ENR Bathurst technical report (on the WRRB web-site).

The ENR Fire Management Program is currently under review. The new program will reflect the position of ENR in regard to the need for forest fire control in areas of important caribou habitat, taking into account older and more recent information on fire ecology, and a realistic understanding of the limited resources available to combat fires on a very large landscape.

A cumulative effects project on the Bathurst summer range is being written up and further work on impacts of industrial exploration and development on caribou is planned. Assessing effects of development on caribou that are also affected by many other factors remains a complex challenge.

WRRB recommendation 50 requesting ENR and INAC to monitor landscape changes, including fires and industrial exploration and development, to assess potential impacts to caribou habitat was varied to reflect commitment to the above initiatives. Recommendation 51 requests that TG and ENR assess the need for forest fire control in areas of important caribou habitat.

4.2 Long-term management planning for caribou herds in Wek'èezhìi [55]

The TG/ENR/WRRB Technical Working Group will initiate discussions early in 2011 towards the development of a long-term Bathurst caribou management plan. Previous discussions between TG

and ENR included a review of management plans developed for other caribou herds that could serve as examples or models for a Bathurst plan. A multi-stakeholder management plan for the Bathurst herd was completed in 2004 but was not formally endorsed by all the parties. This section also provides summaries on management planning for the Bluenose-East and Beverly/Ahiak herds.

Bathurst Long-Term Management Plan

Management planning for the Bathurst herd is required by section 12.11 of the Tłıchǫ Agreement and has been under discussion by TG and ENR since 2007. A process for a Bathurst management plan will be determined in early 2011 by TG, ENR and WRRB, with a completion date sometime in late 2012.

Bluenose East herd Long-Term Management Plan

A management planning process currently underway for the Bluenose-West, Bluenose-East, and Cape Bathurst herds is directed by the Advisory Committee for Cooperation on Wildlife Management (ACCWM) which consists of the Northwest Territories and Nunavut co-management boards. The WRRB, TG and ENR are represented in the technical group that is developing the plan. Once the plan is approved by all participating co-management boards the ACCWM will recommend it to government.

Beverly/Ahiak herd Long-Term Management Plan

The Beverly and Qamanirjuaq caribou herds have been managed in part by the Beverly and Qamanirjuaq Caribou Management Board since 1982. The last photographic calving ground survey of the Beverly herd was conducted in 1994 when there were 276,000 caribou estimated in the herd. A calving ground survey has not been possible since early 2000 because the density of breeding females has dropped dramatically to the extent that current distribution and abundance of breeding females on the Beverly calving area is a remnant of the densities observed in the 1980s and 1990s. In the absence of a population estimate, it is not known precisely which factors have caused the virtually abandonment of the traditional Beverly calving ground observed recently in June 2010. The simplest explanation is that the abandonment was driven by both an overall decline in population size as well as a shift in calving distribution by breeding females, but to what extent each factor played is uncertain. There is evidence of some Beverly cows shifting from the traditional Beverly calving ground in the late 2000s to a calving ground in the Queen Maud Gulf area.

The BQCMB will review the existing management plans for the Beverly and Qamanirjuaq herds in 2011-2012, and will need to evaluate its mandate given the altered numbers and distribution of the Beverly/Ahiak herd. The governments of NU and NT are represented on this board, as are NT communities such as Lutsel K'e and Fort Smith. ENR and TG anticipate that BQCMB will develop updated management plans for the Qamanirjuaq and Beverly/Ahiak herds in 2012.

5.0 Use of Other Wildlife Species

During previous times of caribou scarcity, Tł̨ch̨q̨, and other aboriginal hunters, adapted by increasing their use of fish, moose, or muskoxen. Present-day hunters can also adapt their diets to other meat sources.

5.1 Use of Other Species as Country food [54]

Bison Management Plan

ENR has developed a 10-year wood bison strategy, which recommends that management plans be completed by 2012 for each of the three NT populations (Mackenzie, Slave River Lowlands and Nahanni). Bison in Wek'èezhìi are considered part of the Mackenzie population, thus TG and WRRB would be participants in the development of this management plan. New bison harvest zones were created at the time that the hunting ban was put in place by ENR in January 2010 in part to accommodate the impact of restricted caribou harvest. The Revised Joint Proposal requested that the bison hunting season for the new zones be changed to start September 1. WRRB supported the request and a regulation change was carried out to begin the bison hunting season on September 1.

WRRB recommendation 54 requests a joint management proposal from TG and ENR for wood bison in Wek'èezhìi to substantiate the establishment of zones and quotas for bison harvest made under the Interim Emergency Measures.

ENR has recognized that limited barren-ground caribou harvesting may mean deflected hunting pressure onto moose, muskoxen and other game species. As funding allows, surveys to monitor these species will be carried out to assess whether hunting remains sustainable.

6.0 Conclusion

This Implementation Plan (IP) for Caribou Management in Wek'èezhìi has outlined activities and actions that will be carried out by Tł̨ch̨q̨ government and ENR from the 2010/2011 hunting season through the 2012/2013 hunting season, to manage and conserve barren-ground caribou in Wek'èezhìi in a spirit of respect, collaboration, and co-management with Tł̨ch̨q̨ communities. This Plan is a “living” or “working” document, recognizing that management will need to be adaptive, adjusting to new information about caribou, wolves and hunter harvest, and adjusting to the relative success of the management methods proposed. ENR, TG and WRRB staff reviewed early drafts of the Plan in February and March 2011 and a detailed plan will be finalized in May 2011.

Part B: Caribou Management Actions in Wek'èezhìi – Implementation Plan Activity Sheets

Section 1: Implementing Management Actions for Barren-ground Caribou Herds

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.1 Bathurst herd – Harvest and Wolf Management					
<p>1.1.1 Bathurst herd – Harvest targets vs. strict limits</p> <p>A key point in the TG/ENR joint management proposal, which WRRB accepted, was the use of harvest targets for Aboriginal harvest rather than hard limits like a Total Allowable Harvest (TAH). A harvest target was defined as a number of caribou or a number of cows, within a range of 10% higher or lower. A TAH was likely to be seen as the heavy hand of government. However, WRRB shared the concern of TG and ENR as to whether harvest targets would be effective.</p> <p>WRRB Recommendation 1) TG and ENR to report annually on success of harvest target approach to Bathurst aboriginal harvest Management.</p>					
1.1.1	1. Harvest monitored & reported to TG, ENR, WRRB throughout hunting season, especially as targets approached. If needed, management can be altered.	TG/ENR	Reports every week or every 2 weeks during hunting season	No extra cost associated ³	1
1.1.1	2. Annual report from TG and ENR in May on harvest totals and effectiveness of harvest target approach	TG/ENR	Report May 2011, 2012, 2013	No extra cost associated	1
<p>1.1.2 Bathurst herd – commercial, resident & outfitted harvest</p> <p>WRRB Recommendation 2) Commercial harvest of Bathurst caribou set to zero for 2010-13 3) Outfitted harvest of Bathurst caribou set to zero for 2010-13 4) ENR & TG to make public prior to 2012 Bathurst population survey their positions on reinstatement of outfitter harvest 5) Resident harvest of Bathurst caribou set to zero for 2010-2013 6) ENR & TG to make public prior to 2012 Bathurst survey their position on reinstatement of resident Harvest</p>					

³ No extra cost associated refers to in kind support that will be provided by TG/ENR and WRRB

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.1.2	1. Interim Emergency Measures Regulation Changes set Commercial, Outfitted and Resident Harvest for Bathurst Caribou to Zero	ENR	Jan 1, 2010	No extra cost associated	2,3,5
1.1.2	2. Changed status of Barren-Ground Caribou Management Zone R/BC/02 and R/BC/03, from a No-Hunting Conservation Zone, to a special management zone; Commercial, Outfitted & Resident harvest remain at 0.	ENR	Completed Dec 8, 2010	No extra cost associated	2,3,5
1.1.2	3. Reinstatement of Outfitter & Resident harvest of Bathurst caribou TG & ENR suggest that reinstatement of outfitter and resident harvest should happen as part of a long-term plan for Bathurst herd, where the first step is establishing goals for the herd, the second is determining acceptable sustainable harvest levels depending on the herd's status and goals, and the third is determining allocation for hunter groups. Best done via long-term planning process to be completed 2012.	ENR, TG	Completion of Bathurst longterm management plan 2012	Bathurst long-term planning \$200,000 (ENR proposed; Caribou Mgmt Strategy)	4,6 (55 indirectly)

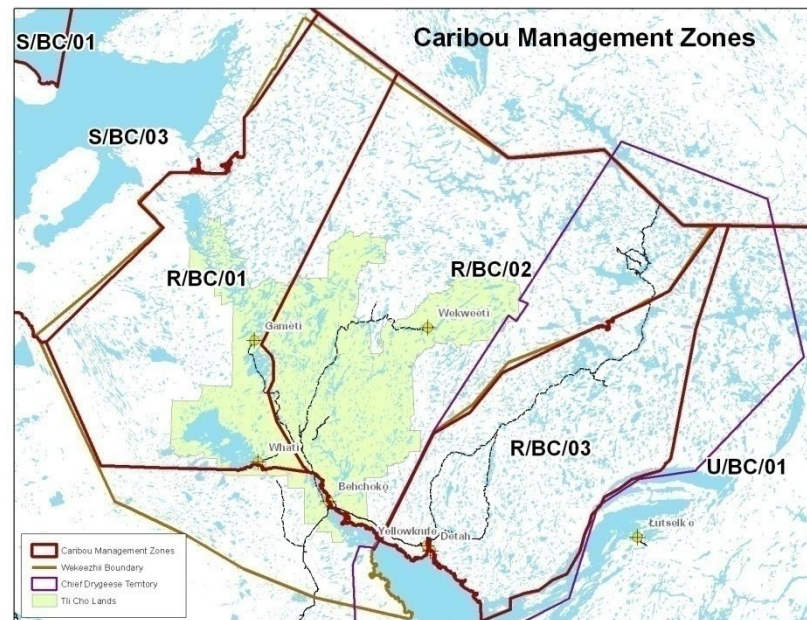


Figure 1. Map of Wek'èezhìi, Chief Drygeese Territory, and caribou management zones.

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.1.3. Bathurst herd – Aboriginal harvest targets and harvest sex ratio WRRB Recommendation 7) Harvest target for Bathurst herd should be $300 \pm 10\%$ 8) Allocation of harvest should be 225 for Tliche hunters, 75 for other aboriginal hunters 9) Harvest sex ratio for Bathurst herd should be at least 85 bulls:15 cows 10) If Bathurst harvest near or likely soon over $300 \pm 10\%$, close all harvest; TAH possible 11) If Bathurst harvest near or likely soon over 45 cows, close cow harvest; TAH possible					
1.1.3	1. TG & ENR agree with WRRB recommendations on harvest target of 300 Bathurst caribou and will monitor harvest closely & report to WRRB through hunting season. Suggest regulation changes or other restrictions to be jointly decided on by TG, ENR, & WRRB. WRRB retains option of calling for TAH.	TG, ENR, WRRB	Harvest monitored and reported throughout hunting season (Aug-Sept & Nov-May)	No extra cost associated	7,10
1.1.3	2. The TG/ENR joint caribou proposal called for an equal division of the 300 Bathurst caribou by Tliche and YKDFN hunters. Agreement between ENR and YKDFN also calls for equal sharing between Tliche and YKDFN. TG & ENR prefer to retain 150:150 division.	TG, ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	8
1.1.3	3. TG and ENR proposed 80:20 harvest sex ratio target and prefer to retain this split. Modeling suggests small variation in sex ratio has limited significance to herd.	TG, ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	9
1.1.3	4. TG & ENR agree with WRRB recommendations on harvest target of 45 Bathurst cows and will monitor harvest closely & report to WRRB through hunting season. Suggest regulation changes or other restrictions to be jointly decided on by TG, ENR, & WRRB. WRRB retains option of calling for TAH.	TG, ENR, WRRB	Harvest monitored and reported throughout hunting season (Aug-Sept & Nov-May)	No extra cost associated	11
1.1.4 Bathurst herd – fall and winter range maps and hunter harvest WRRB Recommendation 12) Identify and make public the area to harvest Bathurst caribou prior to fall hunt 13) Identify and make public the area to harvest Bathurst caribou prior to winter hunt					

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.1.4	1. TG & ENR suggest detailed information on caribou collar locations best limited to aboriginal groups hunting them. ENR was requested at 2007 Inuvik Caribou Summit to limit publicizing caribou collar information, consistent with conservation measures of reducing caribou harvest.	ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	12,13
1.1.4	2. Collar Location Maps will be provided weekly to TG and WRRB during fall and winter hunting seasons.	ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	12,13
1.1.4	3. The TWG will be kept updated of the collared caribou movements on a bi-weekly basis; if the animals begin to move out of the designated areas, discussion and re-evaluation of the zones will ensue with recommendations made to the TG and ENR. Based on winter 2010-2011, collar locations are key to assigning harvest to Bathurst, Bluenose-East herds and directing hunters – see also section 2.2.2 on radio-collars.	TG/ENR/TWG	As needed	No extra cost associated	12,13 (29, 32 indirectly on collars)

1.2 Administering Tłıchǫ Caribou Harvest

This section in the implementation plan corresponds in part to WRRB recommendation 40 on reporting Tıcho harvest, recommendation 56 on TG increasing capacity to participate fully in caribou monitoring and management, recommendations 44, 45 and 46 on adaptive co-management, and recommendations 42 and 43 on hunter education. These are addressed in other sections of the plan and tables. However, administration of the Tłıchǫ caribou harvest is a key part of the overall caribou program, thus some detail is provided on the measures taken in winter 2010-2011 and planned for the 2011-2012 hunting season.

1.2.1 Planning and managing hunting for Tłıchǫ hunters

1.2.1	1. Meeting to assess community needs for Fall Hunt	TG/TEWG	July/August annually until 2013	No extra cost associated	
1.2.1	2. Recommendation Report on Fall hunt possibilities to TG/ENR/WRRB	TG/TEWG	July/August annually until 2013	No extra cost associated	7,9,10, 11 (indirectly)
1.2.1	3. Assessment of Alternative species harvested and needs and expectations of CHAP funds for next year	TG/TEWG	July/August annually until 2013	No extra cost associated	40, 54 (indirectly)
1.2.1	4. Reporting requirements to be developed regarding ITI funds	TG/TEWG	July/August annually until	No extra cost associated	40 (indirectly)

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
			2013		
1.2.2 Tłı̨chų Harvest Authorization Cards					
Authorization cards were developed and are required by the Tłı̨chų to harvest in R/BC/02 and R/BC/03 for hunting season 2010-2011 & 2011-2012					
1.2.2	1. Authorization cards Developed and dispensed to Community Chief	TG/ENR	August 2011	No extra cost associated	40 (indirectly)
	2. Reporting system designed and tested	TG/ENR	August 2011	No extra cost associated	40 (indirectly)
	3. Reporting back of harvesters to community monitor or TK researcher	TG/ENR	Ongoing through Hunting season (Aug-April 2011-2012)	No extra cost associated	40
	4. Reports made to TG/ENR every two weeks on the harvest data	TG/ENR	Ongoing through Hunting season (Aug-April 2011-2012 & 2012-2013)	No extra cost associated	40, 41 (indirectly)
1.2.3 Community Wildlife Monitors (winter hunt 2010-2011)					
1.2.3	1. Hire one Community Wildlife Monitor (CWM) for Whatı̨, Gametı̨ and Wekweetı̨. The community caribou monitor will be a seasonal position.	ENR/TG	Hired in Dec 2010 until hunting season is finished in 2011.	\$40,000 annually	56
	2. Monitor the harvest in each Tłı̨chų community by interviewing active hunters regularly during the caribou hunting season in order to document the location, sex and age of each caribou harvested.	ENR jointly with CWM	Ongoing through Hunting season (Aug-April 2011)	No extra cost associated	40
	3. Bi-weekly summary report of caribou harvested for each herd by location, sex and age. The summary report will be made available to the TG, ENR, WRRB and SRRB	ENR jointly with CWM	Ongoing through Hunting season (Aug-April 2011)	No extra cost associated	40,41 (indirectly)
	4. Joint Annual Report prepared on success of overall harvest monitoring which will be presented to TWG at meeting in May/June 2011.	TG/ENR	July/August 2011, 2012, 2013	No extra cost associated	1,44,45,46

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
	5. Roles to be reassessed for summer 2011				
1.2.4 Winter Road Check Station					
1.2.4	1. Hire a check station monitor and maintain winter road check station	ENR	Jan 1 – End of winter Road season 2011	\$17,000 annually	40 (indirectly)
	2. Report regularly to ENR	ENR	Ongoing through winter road season 2010-2011	No extra cost associated	40 (indirectly)
	3. Annual Report on success and recommendations for next year provided to TWG	ENR	July/August 2011	No extra cost associated	1,41,46
1.3 Wolf Harvest					
WRRB Recommendation 52) Wolf harvest to be increased through suggested incentives for wolf pelts and carcasses					
1.3	1. Increased incentive for wolf Carcass	ENR/ITI	Initiated fall 2010	\$200/carcass	52
1.3	2. Increased incentive for well handled wolf pelt	ENR/ITI	Initiated fall 2010	\$400/pelt	52
1.3	3. Summary report of wolf harvest for year provided to TWG and considered in tri annual meeting	ENR	May/June 2011, 2012, 2013	No extra cost associated	52
1.3	4. Consideration of summary report and recommendations made to consider wolf harvest in following year	ENR/TG/WRRB	May/June 2011, 2012, 2013	No extra cost associated	52
1.4 Bluenose East Herd – Harvest Management					
1.4.1 Bluenose East Herd – Resident, Commercial, Outfitted Harvest					
WRRB Recommendation 14) Close all commercial, outfitter and resident harvest for Bluenose-East caribou herd.					

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.4.1	1. Interim Emergency Measures Regulation Changes set Commercial, Outfitted and Resident Harvest for Bluenose East Caribou to Zero	ENR	Jan 1, 2010	No extra costs associated	14
<p>1.4.2 Bluenose East Herd – Aboriginal Harvest</p> <p>WRRB Recommendation 15) Harvest target of 2800 Bluenose-East caribou, sharing to be determined by co-mgmt boards, aboriginal governments</p> <p>16) Harvest sex ratio should be at least 85% bulls (85:15 ratio bulls:cows) for Bluenose-East herd</p> <p>17) If harvest of Bluenose-East caribou near or more than 10% over target, close harvest by regulations</p> <p>18) If Bluenose-East harvest near or likely soon over 420 cows, close cow harvest by regulations</p> <p>19) Identify and make public the area to harvest Bluenose-East caribou prior to fall hunt</p> <p>20) Identify and make public the area to harvest Bluenose-East caribou prior to winter hunt</p> <p>Based on the new 2010 population estimate of the Bluenose-East herd and its increasing trend, wildlife co-management boards and Aboriginal Governments are reviewing information and the proposed targets recommended by the WRRB and plan to develop a harvest management strategy that will be shared among Aboriginal hunter groups. These recommendations may influence recommendations for the 2011-2012 hunting season. Recommendations from WRRB and TG/ENR were made before the final Bluenose-East population estimates for 2010 were known.</p> <p>ENR could assist in developing harvest recommendations by contracting population/harvest modeling for Bluenose-East herd based on scenarios developed collaboratively with TG, WRRB and other partners.</p>					
1.4.2	1. Monitoring of BNE harvest done by Community monitors and winter road check station.	ENR/TG	Ongoing through hunting season Nov.2010-May 2011	Cost as per 1.2.3 and 1.2.4	15,16,17,18
1.4.2	2. Harvest of BNE by other aboriginal groups monitored	ENR,SRRB, WRRB, KIA	Same as Above	Same as above	15,16,17,18
1.4.2	3. Bi-weekly reporting of BNE harvest to WRRB, TG, SRRB	ENR/TG	Same as Above	Same as above	15,16,17,18
1.4.2	4. Assessment of BNE data and recommendations made to TG/ENR	TWG	Same as Above	Same as above	15,16,17,18,1
1.4.2	5. Annual Report of BNE harvest to WRRB, TG, SRRB	ENR/TG	July/August	No extra cost associated	15,16,17,18

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.4.2	6. TG & ENR suggest detailed information on caribou collar locations best limited to aboriginal groups hunting them. ENR was requested at 2007 Inuvik Caribou Summit to limit publicizing caribou collar information, consistent with conservation measures of reducing caribou harvest.	ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	19,20
1.4.2	7. Collar Location Maps will be provided weekly to TG and WRRB during fall and winter hunting seasons.	ENR	Applicable to fall (Aug-Sept) and winter (Nov-May) hunting seasons	No extra cost associated	19,20
1.4.2	8. The TWG will be kept updated of the collared caribou movements on a bi-weekly basis; if the animals begin to move out of the designated areas, discussion and re-evaluation of the zones will ensue with recommendations made to the TG and ENR. Based on winter 2010-2011, collar locations are key to assigning harvest to Bathurst, Bluenose-East herds and directing hunters – see also section 2.2.2 on radio-collars.	TG/ENR/TWG	As needed	No extra cost associated	19,20 (29, 32 indirectly on collars)
1.4.3 Bluenose East herd – Assistance for Aboriginal harvest WRRB Recommendation 21) TG & ENR should not provide harvest assistance for Bluenose-East harvest					
1.4.3	1. ENR had previously agreed to provide limited assistance to improve a trail from Wekweètì to Hottah Lake to provide alternative hunting opportunities. ENR will monitor harvest at Hottah Lake and maintain an enforcement presence there.	ENR	Winter 2010-2011	\$30,000	21
1.4.4 TG Overlap Agreement with Nunavut and Sahtu WRRB Recommendation 22) TG to negotiate caribou harvesting overlap agreement with Nunavut and Sahtu region					
1.4.4	1. TG will consider the recommendation and begin internal discussions. TG will provide a response to the WRRB once TG has considered the recommendation	TG	April 2011	No extra cost associated	22
1.5 Beverly/Ahiak Caribou – Harvest Management & Incentives					

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
1.5.1 Beverly/Ahiak herd – Resident, Commercial and Outfitted Harvest WRRB Recommendation 23) Close all commercial, outfitted and resident harvest of Beverly/Ahiak caribou in Wek'èezhii.					
1.5.1	1. Interim Emergency Measures Regulation Changes set Commercial, Outfitted and Resident Harvest for Beverly/Ahiak Caribou to Zero	ENR	Jan 1, 2010	No extra costs associated	23
1.5.2 Beverly/Ahiak herd – Aboriginal Harvest and Incentives WRRB Recommendation 24) TG and ENR not to provide harvest assistance and/or incentives to hunt Beverly/Ahiak caribou 26) Identify and make public the area to harvest Beverly/Ahiak caribou prior to fall hunt 27) Identify and make public the area to harvest Beverly/Ahiak caribou prior to winter hunt					
1.5.2	1. GNWT ITI has provided limited assistance to aboriginal hunters from Lutsel K'e in hunting Beverly/Ahiak caribou for several years. 2. Agreement between ENR and YKDFN provides for limited hunter assistance in accessing Beverly/Ahiak caribou during winter. 3. ENR expectation is that harvest of Beverly/Ahiak caribou will be similar to harvest on recent winters. ENR is working with all aboriginal hunters to monitor Beverly/Ahiak harvest in NT closely. 4. ENR has a cost-sharing agreement with SK and Prince Albert Grand Council to monitor caribou harvest in northern SK communities.	ENR	Winter hunting season Nov-May		24
1.5.2	1. Collar Location Maps of Beverly/Ahiak provided weekly to TG, WRRB, YKDFN and Lutselk'e.	ENR	Weekly throughout harvest season	No extra cost associated	26,27
1.5.2	2. The TWG will be kept updated on the caribou movements on a bi-weekly basis; if the animals begin to move out of the designated areas, discussion and re-evaluation of the zones will ensue with recommendations made to the TG and ENR.	TG/ENR/TWG	As needed	No extra cost associated	26,27
1.5.2	3. TG & ENR suggest detailed information on caribou collar locations best limited to aboriginal groups hunting them.	ENR	Applicable to fall (Aug-Sept)	No direct cost	26,27

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
	ENR was requested at 2007 Inuvik Caribou Summit to limit publicizing caribou collar information, consistent with conservation measures of reducing caribou harvest.		and winter (Nov-May) hunting seasons		
1.5.3. Overlap Agreement between Tẖcẖ Government, Nunavut and Akaitcho WRRB Recommendation 25) TG to consider caribou harvesting overlap agreements with Nunavut and Akaitcho region					
1.5.3	1. TG will consider the recommendation and begin internal discussions. TG will provide a response to the WRRB once TG has considered the recommendation	TG	April 2011	No extra cost associated	22
1.6 Monitoring Actions within an Adaptive Co-Management Cycle Within the context of an adaptive co-management cycle, the TG/ENR and WRRB will have 'official' meetings three times a year in order to review, analyze, make recommendations and coordinate on plans for the following months. These meetings will follow the cycle of the caribou, taking place at logical times based on the data and information being collected throughout the year. Aside from these 'official' meetings, TG/ENR and WRRB TWG will maintain regular meetings throughout the year to work through the details and additional issues that arise.					
1.6	1. Annual meeting for review of winter harvest information; success of harvest monitoring and management; wolf harvest information; results of spring caribou recruitment survey; recommendations for improvement 2. Summary report written and submitted to WRRB and shared with Tẖcẖ communities.	ENR/TG/WRRB	May/June annually	No extra costs associated	1,41,44,45, 46 (in part or indirectly)
1.6	3. Annual meeting to finalize plans for hunting season; review information from June calving reconnaissance survey and calving ground composition survey; review new information on fires, relative severity of insect season, or other environmental information 4. Summary report written and submitted to WRRB and shared with Tẖcẖ communities.	ENR/TG/WRRB	August annually	No extra costs associated	1,41,44,45, 46 (in part or indirectly)
1.6	5. Annual meeting to review results of fall composition surveys; fall caribou harvest and condition information; initial info on winter caribou harvest and refine winter harvest management plans. 6. Summary report written and submitted to WRRB and shared with Tẖcẖ communities.	ENR/TG/WRRB	December annually	No extra costs associated	1,41,44,45, 46 (in part or indirectly)
1.6	7. Annual community tour to share information and consult with communities on caribou issue overall.	TG/ENR/WRRB	Jan/Feb annually	\$25,000 shared	1,41,44,45, 46 (in part or indirectly)

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
	8. Versions of reports suitable for posting on WRRB web-site will be discussed and agreed on by TG, ENR and WRRB.			between 3 parties	indirectly)

Section 2: Traditional Knowledge and Technical Monitoring and Reporting

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
2.1 Traditional Knowledge Research and Monitoring Program					
<p>WRRB Recommendation 28) Implementation of Special Project, using Tłıchǵ Knowledge to Monitor Barren Ground Caribou. 29-39) Monitoring recommendations</p> <p>The Tłıchǵ Government agrees with recommendations 28-42 of the <i>Recommendation Report related to the Revised Joint Proposal on Caribou Management Actions in Wek'èezhii</i>. The Tłıchǵ Government is committed to documenting and reporting on observations and trends observed by caribou harvesters and elders. Implementation of the 'Tłıchǵ Knowledge Research and Monitoring Program: Special Project, Using Tłıchǵ Knowledge (to Monitor Barren Ground Caribou' will take approximately eight months and is expected to be implemented by September 2011.</p>					
2.2 Biological Monitoring & Reporting on Caribou, Wolves and Harvest					
<p>2.2.1 Caribou Surveys</p> <p>WRRB Recommendation 29) ENR to continue monitoring caribou recruitment via March/April composition surveys 31) ENR to continue monitoring caribou birth rate via June composition surveys on calving grounds 32) ENR to continue monitoring caribou sex ratio via fall composition surveys 33) ENR to estimate Bathurst herd size via calving photo-survey June 2012 39) ENR to monitor density of breeding cows on calving grounds via reconnaissance surveys</p> <p>(Note: WRRB Recommendation 37: ENR & TG to monitor landscape changes, including development & fire, is very similar to Recommendation 51. Recommendations 37 & 51 are addressed in section 4.1)</p> <p>Wherever practical, observers from TG and/or other aboriginal groups will participate in surveys.</p>					
2.2.1	1. Late-winter recruitment surveys (Bathurst herd)	ENR	March/April 2011, 2012, 2013	\$70,000	29

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
2.2.1	2. Late-winter recruitment surveys (Bluenose-East herd)	ENR	March/April 2011, 2012, to be determined	\$60,000	29
2.2.1	3. Late-winter recruitment surveys (Beverly/Ahiak herd)	ENR	March/April 2011, to be determined	\$90,000	29
2.2.1	4. Calving reconnaissance surveys (Bathurst herd)	ENR	June 2010, 2011, 2012 (2012 part of photo-survey)	\$70,000	39
2.2.1	5. Calving reconnaissance surveys (Bluenose-East herd)	ENR	June 2012, to be determined	\$70,000	39
2.2.1	6. Calving reconnaissance surveys (Beverly/Ahiak herd)	ENR	to be determined	\$250,000	39
2.2.1	7. Composition surveys on calving grounds (Bathurst herd)	ENR	June 2012 (part of calving photo-survey)	Part of \$400,000 photo-survey	31
2.2.1	8. Fall composition surveys to assess sex ratio (Bathurst herd)	ENR	Late Oct. 2011, 2012	\$70,000	32
2.2.1	9. Fall composition surveys to assess sex ratio (Bluenose-East herd)	ENR	To be determined (1 survey in next 5 years)	\$70,000	32
2.2.1	10. Fall composition surveys to assess sex ratio (Beverly/Ahiak herd)	ENR	Late Oct. 2011	\$90,000	32
2.2.1	11. Calving photo-survey for Bathurst herd	ENR	June 2012	\$400,000	33
2.2.1	12. Post-calving photo-survey for Bluenose-East herd	ENR	July 2012 or 2013	\$200,000	33 (indirectly)
2.2.1	13. Calving photo-survey for Beverly/Ahiak herd (Survey led by Govt of Nunavut; GNT supporting)	Govt of Nunavut	June 2011	\$900,000	33 (indirectly)
<p>2.2.2 Caribou Radio-Collars, Bathurst herd</p> <p>WRRB Recommendations 29 & 32 request ENR to find methods other than large numbers of collars for estimating cow survival. Radio-collars are used for many purposes, in this case including assignment of harvest to herds and managing harvest. ENR suggests calving reconnaissance surveys as a method of tracking breeding cow numbers. For more complete discussion on collars, see text section 2.2.2</p>					

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
2.2.2	1. Replacement radio-collars on Bathurst cows (maximum 20) Costs include purchase, placement, data acquisition	ENR	New collars April 2011	\$104,000	29, 32 (indirectly)
2.2.2	Discussion of value of increased collar numbers, including technical recommendations, will involve TWG, TEWG, TG, ENR and WRRB.	ENR, TG, TWG, TEWG, WRRB	Summer 2011	Estimated \$12,000 for power analyses	29, 32 (indirectly)
2.2.3 Caribou Harvest Monitoring WRRB Recommendation 40) TG to monitor Tłı̨ch̓ caribou harvest via Traditional Knowledge Study, not via ENR technical methods For hunting season of 2010-11, Tłı̨ch̓ TK program not ready to monitor Tłı̨ch̓ harvest; TG & ENR used methods used in 2007-2008 & 2008-2009. For hunting season 2011-2012 and thereafter, Tłı̨ch̓ TK program to monitor Tłı̨ch̓ harvest. More details on caribou harvest monitoring in section 1 text & tables.					
2.2.3	1. Caribou harvest monitoring - winter 2010-2011 (not via TK project)	TG/ENR	Nov. 2010 – May 2011	\$30,000	40
2.2.3	2. Caribou harvest monitoring, winter 2010-2011 (via TK project)	TG	Aug. 2011 – May 2012 & thereafter	To be determined (not small)	40
2.2.4 Caribou Health, Condition & Pregnancy Rate Monitoring WRRB Recommendation 30) Monitor health & condition of harvested caribou, but do not take cows primarily for study 38) Monitor pregnancy rate of harvested cow caribou, but do not take cows primarily for study					
2.2.4	1. Caribou Health & Condition Monitoring (Bathurst & Bluenose-East caribou)	TG/ENR	Nov. 2010 – May 2011 & following 2 winters	\$30,000	30
2.2.4	2. Caribou Pregnancy Rate Monitoring (Bathurst & Bluenose-East caribou)	TG/ENR	Nov. 2010 – May 2011 & following 2 winters	(included above)	38

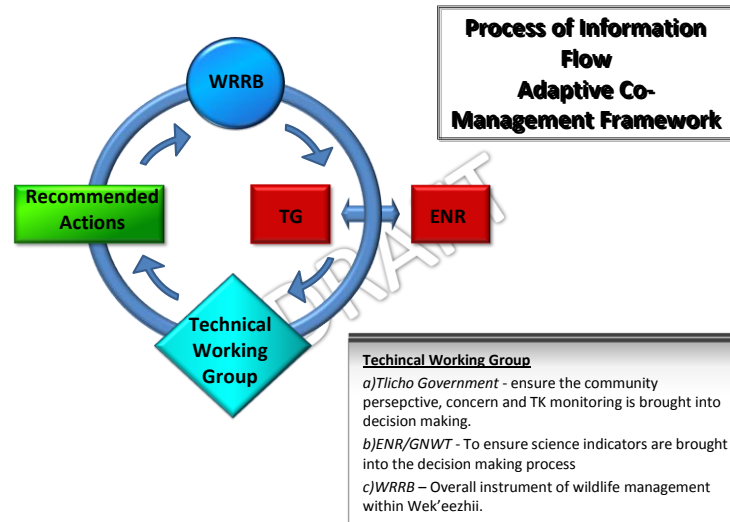
Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
2.2.5 Wolf Monitoring WRRB Recommendation 34) ENR to continue wolf den occupancy surveys 35) ENR to monitor wolf condition and reproduction 36) ENR to continue monitoring wolf harvest Note WRRB recommendations (52, 53) and actions on wolf harvest management are in section 1.3					
2.2.5	1. Wolf Den Surveys (continues annual monitoring since 1996)	ENR	Summer (May-June and Aug.-Sept)	\$25,000/year	34
2.2.5	2. Wolf condition and reproduction monitoring (Assessment late winter at end of wolf hunting)	ENR	Late winter annually	Estimated \$4,000/year	35
2.2.5	3. Wolf harvest monitoring (Assessment late winter at end of wolf hunting)	ENR/TG	Throughout each winter	No extra costs associated	36
2.2.5	4. Research on wolf numbers in response to caribou ENR N. Slave to submit a research proposal on tracking wolf numbers associated with Bathurst caribou	ENR	Summer-Fall 2011	To be determined	34,35,36 (indirectly)
2.2.5	5. Annual reporting on wolf data and harvest	ENR	Tri Annual meeting in May/June annually	No extra cost associated	34,35,36
2.2.6 Reporting to WRRB and public WRRB Recommendation 41) ENR & TG to report on monitoring results 3 times annually to WRRB and public Note: Reporting & review of information 3 times annually is covered more fully in section 1.6.					
2.2.6	1. A summary suitable for public review will be provided to WRRB three times/year (May, Sept, Dec) by TG and ENR.	TG/ENR	May, Sept., Dec., 2011, 2012,2013	No extra cost associated	41

Section 3: Engaging Communities, Developing Capacity and Co-Management

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
3.1 Tłıchǵo Government Initiatives					
3.1.1 Tłıchǵo Ekwo Working Group					
WRRB Recommendation 56) TG to increase capacity to participate fully in caribou monitoring and management					
3.1.1	1. Establish Tłıchǵo Ekwo Working Group (TEWG) with representation from all 4 Tłıchǵo communities	TG	December 2010	\$25,000/meeting	56
3.1.1	2. TEWG meetings held every 2 months	TEWG	Ongoing	\$25,000/meeting	56
3.1.1	3. Determine ways to enhance or encourage Bull Harvest for Tłıchǵo. Consider both local and scientific options. 4. Recommendations to TWG, TG, ENR	TEWG	July 2011	No extra cost associated	56
3.1.1	4. Develop Communication and Consultation strategy for Tłıchǵo community members. 5. Recommendations to TWG, TG, ENR	TEWG	July 2011	No extra cost associated	56
3.1.1	6. Workshop to assess how to break Special Management Zones into smaller zones for future. 7. Recommendations to TWG, TG, ENR	TEWG	August 2011	No extra cost associated	56
3.1.2 Tłıchǵo Wildlife Coordinator					
3.1.2	1. Hire Interim Tłıchǵo Wildlife Coordinator (TWC) for 2010-2011 winter hunting season. Reassess at end of season.	TG/ENR	February 2011 – April 2011	\$40,000 CA between TG and ENR	56
3.1.2	2. Summary report and recommendations on initial TWC program	TG/ENR	June 2011	No extra cost associated	56
3.1.2	3. Hire equivalent of fulltime Tłıchǵo Wildlife Coordinator and assess at end of first year (may be 1 or 2 people hired)	TG/ENR	June 1, 2011	Approx. \$140,000/year joint	56

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
				between TG/ENR	
3.2 Co-management Initiatives					
3.2.1 Tlchq-ENR-WRRB Technical Working Group WRRB Recommendation 44) ENR & TG to implement information flow, review & assessment as per diagram in recommendation report. 45) WRRB staff to be full participants in Technical Working Group with TG, ENR. 46) ENR & TG to develop criteria for assessing success or failure of management, including reinstatement of resident, outfitter & commercial harvest.					
3.2.1	1. Establishment of Technical Working Group (TG-ENR-WRRB) 2. Development of Terms of Reference	TG/ENR/ WRRB	Initial meeting Jan 2011, further meetings Feb, Mar, April 2011	No extra cost associated	45
3.2.1	2. Official TWG meetings held 3 times/year as per adaptive co-management cycle to review key information and data	TG/ENR/ WRRB	May, Aug, Dec Annually	No extra cost associated	44, 45,46
3.2.1	3. Regular Meetings of TWG to ensure frequent communication is maintained between parties	TG/ENR/ WRRB	Monthly or on as needed basis	No extra cost associated	44,45
3.2.1	4. Information flow between TG, ENR and WRRB as per diagram below. TG & ENR suggest 3-way dialogue between TG, ENR, WRRB	TG/ENR/ WRRB	Regular meetings & communication by email, phone	No extra cost associated	44

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
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3.2.1	<p>Criteria on success or failure of management actions</p> <p>Note inclusion of Table 4 from Joint TG-ENR Caribou Management Proposal May 2010 (end of section 3): suggest criteria for monitoring outcomes that would mean either amending management (Bathurst herd declining further) or staying the course (Bathurst herd stable or increasing).</p>	TG, ENR, WRRB	Initial criteria May 2010	No extra cost associated	46
<p>3.2.2 Traditional Knowledge and scientific hunter/conservation education</p> <p>WRRB Recommendation 42) TG to develop & implement TK hunter/conservation education program</p> <p>43) ENR to develop & implement scientific hunter/conservation education program</p>					
3.2.2	1. Assessment of current conservation education and caribou education materials & options from TG and ENR (Traditional knowledge and Science)	TEWG/TG/ENR	Feb 13-15, 2011 workshop	\$25,000 (as noted in 3.1.1)	42,43

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
3.2.2	2. ENR contractor to focus on hunter education programs (started fall 2010), including collaborative programs with TG, other partners)	ENR/partners	Fall 2010	Estimated \$60,000	42,43
3.2.2	3. Development of Sub-committee to determine conservation education needs and gaps from science and TK perspective	TG/ENR TEWG	June 2011	No extra cost associated	42,43
3.2.2	4. Recommendation Report written to move forward education initiatives	TG/ENR	September 2011	No extra cost associated	42,43
3.3 Implementation, Consultation & Enforcement					
3.3.1 Implementation WRRB Recommendation 57) TG, ENR & INAC to implement WRRB recommendations by Jan. 1, 2011 58) TG & ENR to consult on WRRB recommendations by Jan. 1, 2011 59) ENR & TG to develop detailed implementation & consultation plan as soon as possible					
3.3.1	1. Implementation began Nov. 2010 when winter hunt began	ENR/TG	Varied – Nov. 2010 – March 2011	Various costs TG and ENR (noted elsewhere)	57
3.3.1	2. TG carried out consultation meetings on caribou management in Whati, Gameti, Behchokò and Wek'weètì	TG	Nov. 2010 & Jan. 2011	\$40,000	58
3.3.1	3. 1st draft implementation plan Dec. 22, 2010; further drafts in Feb. and Mar. 2011; draft plans available to WRRB staff	TG/ENR	Final IP due April 2011.	No extra cost associated	
3.3.2 Enforcement and Compliance WRRB Recommendation 60) ENR develop and implement as effective and continuing enforcement and compliance program					
3.3.2	1. ENR has increased enforcement presence in Tłı̨chʼo communities and in hunting areas used by Tłı̨chʼo & YKDFN hunters. ENR wildlife officers and other staff spending increased amount of time in Tłı̨chʼo communities, at check-stations, and working with community monitors tracking caribou harvest	ENR	Increased officer presence in communities & hunting areas - Nov. 2010, will continue to end hunting season.		60

Table 4. Summary of monitoring actions and adaptive management options for Bathurst caribou herd (From TG-ENR Revised Joint Caribou Management Proposal May 31, 2010)

Action	Indicator(s)	Priority	Rationale	Desired Response	Adaptive Management Options	How Often	Notes
1. Reduce cow harvest to <60	1. Numbers (density) of 1+ year old caribou on annual calving grounds reconnaissance surveys	1	Cow survival in Bathurst herd 67-68% in 2009; need at least 85-88% for herd to stabilize/recover. Trend in breeding females correlated to abundance of 1+ year-olds on annual calving ground.	Stable/Increasing trend in numbers of 1+ year old caribou on annual calving ground	If trend in 1+ year old caribou is stable/increasing, continue as before; if trend negative, consider closing harvest and intensifying wolf kill effort	Annual	Further review of best approach to analysing trend from calving reconnaissance surveys to occur with statistician; could use modeling to integrate other data.
	2. Estimate of breeding cows from calving ground photo survey	1	Most reliable estimate for abundance of breeding cows & can be extrapolated to herd size based on pregnancy rate and sex ratio.	Stable/Increasing trend in numbers of breeding cows	If trend in breeding cows stable/increasing, continue as before; if trend negative, consider closing harvest, intensifying wolf kill effort	Every 3 years	Last survey 2009, next 2012. Trend in breeding females is most important; total herd size is best understood by public.
	3. Calf:cow ratio in late winter (March-April); composition survey	1	Herd can only grow if enough calves are born and survive to one year	>40 calves:100 cows on average	If average calf:cow ratio $\geq 40:100$, continue as before; if average ratio $\leq 20:100$, herd likely declining; re-evaluate management	Annual	Calf productivity & survival vary widely year-to-year, affected by several other variables, including weather.
	4. Fall sex ratio; composition survey	2	Tracks bull:cow ratio; Bathurst ratio has been relatively low (31-38 bulls/100 cows); prime bulls key for genetic health, migration	Maintain bull:cow ratio above 30:100	If bull:cow ratio below target, reduce/eliminate bull harvest	Every second year?	Needed for June calving photo survey – extrapolation to herd size
	5. Cow productivity; composition survey on calving ground in spring (June)	2	Relatively low calf:cow ratio in June 2009 – many very young cows not yet breeding; affects recruitment	High calf:cow ratio (80-90 calves:100 cows)	Low ratio may indicate nutritional problems and possibly low recruitment following March; spring recruitment survey integrates initial productivity and calf survival	Every 3 years?	Essential component of June calving ground photographic survey. Could also be done during systematic survey years if required.
	6. Caribou condition assessment/pregnancy rate	1	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)	Poor condition or low pregnancy rate may indicate poor environmental conditions, possible decline	Annual	Annual participation of hunters required. Sex & age of animals important to confirm. Key component of cultural hunts.
2. Track caribou harvest accurately	7. Numbers of cows and bulls taken by all hunters	1	Cannot assess effectiveness of management if harvest is poorly tracked; harvest well over target could lead to further decline	Accurate harvest reporting & numbers within target limits	If harvest reports accurate and within target limits, continue as before; if harvest not tracked well or well over limit, review/revise harvest reporting and management immediately	Annual	Location of hunter's kill sites used to assign caribou to herds. ENR-GNT grid-based hunter survey method to be developed in collaboration with hunters.
3. Reduce wolf predation on adult and calf caribou	8. Numbers of wolves killed/year	1	Wolves are main non-human predator on caribou; natural cow and calf survival rates should increase	Stable/increasing no. of breeding caribou cows. Annual wolf harvest increased from 40 to 80-100.	If cow numbers stable/increasing, continue as before; if trend negative, consider closing harvest, intensifying wolf kill effort	Annual	Difficult to assess effectiveness on caribou survival. Monitoring will also depend on methods used to increase wolf mortality.
	9. Numbers of wolves seen on den surveys	2	Index of relative wolf numbers and productivity, tracked since 1996	Declining trend in wolf numbers & productivity		Annual	Develop standardized aerial survey methods for estimating wolf numbers
	10. Wolf numbers from hunter reports	2	Hunters may report areas of higher wolf numbers; additional measure of trend in wolf numbers	Declining trend in wolf numbers	Areas with more wolves could be targeted for wolf trapping/hunting efforts	Annual	Need to develop hunter interview methodology to collect data.

Section 4: Development, Habitat and Management Planning for Caribou Herds

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
4.1 Development and Caribou Habitat Management					
4.1.1 Calving Ground Protection in Nunavut					
WRRB Recommendation 47) ENR to continue discussions with Government of Nunavut (GN) on protecting calving grounds					
4.1.1	1. ENR has raised issue with GN at minister's level; GNWT & GN to develop inter-jurisdictional agreement 2. ENR & TG suggest issue could be raised also by TG, WRRB directly with INAC, GN 3. BQCMB has recommended protection of Beverly, Qamanirjuaq calving grounds for several years.	ENR TG & WRRB BQCMB	On-going	No extra cost associated	47
4.1.2 Industry best practices for calving and post-calving ranges					
WRRB Recommendation 48) ENR, INAC to develop best practices for calving & post-calving ranges					
4.1.2	1. Best management practices for mining to be developed.	ENR, INAC, mining companies, monitoring boards	2011-2012	\$125,000 for 2011-2012 (ENR Car. Mgmt Strategy proposed)	48
4.1.2	2. ENR is developing standard terms & conditions for land use activities, focused on mitigating impacts to wildlife & habitat	ENR	On-going	No extra cost associated	48

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
4.1.2	3. ENR meets with diamond mines & monitoring boards several times/year to review/amend wildlife monitoring & assessment & how to respond to wildlife issues	ENR, diamond mines, monitoring boards	On-going	Limited costs to ENR; diamond mines fund monitoring & boards	48
4.1.3 Land Use Planning for Wek'eezhii WRRB Recommendation 49) TG work towards development and implementation of land use plan for Wek'eezhii including consideration of thresholds for industrial land use.					
4.1.3	1. TG notes this is responsibility of INAC and/or GNT to develop and implement a Land Use Plan for Wek'eezhii	INAC, GNT	Defer until land use plan for Tlicho lands complete	Large; would need federal funding (INAC)	49
4.1.4 Monitoring landscape change (fire and development) WRRB Recommendation 50) ENR and INAC monitor landscape changes including fire and development 51) ENR and TG assess need for forest fire control in areas of important caribou habitat Note: WRRB Recommendation 37: ENR & TG to monitor landscape changes, including development & fire, is very similar to Recommendation 51.					
4.1.4	1. Monitor landscape change	ENR, INAC	On-going	Annual budget for fire varies	50, 51(37)
	2. ENR will continue to monitor annual and cumulative wild-fires and report to WRRB, TG and others. Fire program review provides an opportunity to identify key caribou winter ranges for protection.	ENR	On-going	N/A	50,51(37)

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
	3. ENR and partners have a number of projects ending or on-going, on fire, environmental trends and cumulative effects. Will report to TG, WRRB. (Some trends in Dec. 2009 Bathurst technical report).	ENR	On-going	Various; shared by ENR and universities	50, 51(37)
4.2 Long-term management planning for caribou herds in Wek'eezhii					
WRRB Recommendation 55) ENR & TG to work with WRRB on long-term plans for caribou, as per Section 12.11 of Tłı̨chǫ Agreement					
4.2	1. Bathurst caribou long-term management plan	ENR, TG, WRRB (& multiple other partners)	Initial discussions March 2011; TWG to review previous TG-ENR plans Apr. 2011; completion 2012	\$200,000 (ENR Caribou Mgmt Strategy, proposed)	55
4.2	2. Bluenose-East caribou long-term management plan	ACCWM (co-mgmt boards, aboriginal govts)	On-going March 2011.		55
4.2	3. Beverly/Ahiak caribou long-term management plan	BQCMB	BQCMB needs to update existing plans for Qamanirjuaq, Beverly herds. Beverly/Ahiak herd status under review	BQCMB annual funding overall shared by govts of NT, NU, SK, MN.	55

Section 5: Use of Other Wildlife Species

Item	Action/Activity	Lead Responsibility	Timing Guidelines	Estimated Budget	WRRB Recommendations
5.1 Use of Other Wildlife Species as Country Foods					
WRRB recommendation 54) ENR & TG to submit bison management plan to WRRB					
5.1	1. Bison management plan	ENR (wood bison management strategy); bison management plans - multiple partners)	Bison management plans due for 3 NT populations TG & WRRB would be part of planning for Mackenzie population. Draft plan will be provided to WRRB.	\$125,000 (3 herds) ENR proposed for monitoring, surveys, consultation, management (ENR wood bison strategy)	54
5.1	2. Regulation change to start bison hunting season Sept. 1	ENR	Dec. 2010		54
5.1	3. Monitoring alternate game species: ENR has increased survey effort for muskoxen and moose	ENR	2010-2013	To be determined (depending on funds)	N/A

Appendix 1: Overview of Caribou Annual Cycle August 2010 – July 2011, Caribou Monitoring & Management in Wek'èezhìi

2010						2011						
Month	August	September	October	November	December	January	February	March	April	May	June	July
Caribou Seasons & Activities	Summer Range; fattening	Early fall; migration south	Migration south; peak of rut late in October	Last part of migration; winter starts	Early winter	Mid-winter	Mid-Winter	Mid-late Winter	Late winter; slow drift north	Late winter; migration north	End migration (Cows), Calving (peak around June 7-10)	Post-Calving; Early Summer, bug season
Aboriginal Caribou Harvest	Cultural (Canoe) Hunt; Fall Hunt; Mostly Bulls	Cultural (Canoe) Hunt; Fall Hunt; Mostly Bulls	Little/no hunting	Start of Winter Hunt	Winter Hunt; skidoos; cows & bulls; cows preferred	Winter Hunt; skidoos; cows & bulls; cows preferred	Winter Hunt; skidoos; cows & bulls; cows preferred	Winter Hunt; skidoos; cows & bulls; cows preferred	Winter Hunt; skidoos; cows & bulls; cows preferred	Winter hunt ends		
Caribou Harvest Monitoring (TG/ENR)	Little/no harvest; caribou out of range	Little/no harvest; caribou out of range		Community monitors & interviews	Community monitors & interviews	Community monitors & interviews	Community monitors & interviews	Community monitors & interviews	Community monitors & interviews	Community monitors & interviews		
Bathurst Caribou Monitoring			Fall (rut) composition survey (sex ratio, calf:cow ratio)					Late Winter composition survey (calf:cow ratio; recruitment)			Calving comp. survey (calf:cow ratio) & Calving recon. Survey (index trend cow numbers)	
Surveys (pop. survey 2012)												
Wolf harvest				Wolf hunting/trapping season starts	Wolf hunting/trapping continues	Wolf hunting/trapping continues	Wolf hunting/trapping continues	Wolf hunting/trapping continues	Wolf hunting/trapping ends			
Wolf Den Surveys	Den survey in summer range									Den survey in summer range	Den survey in summer range	
Wolf Condition Monitoring				Wolf carcasses collected	Wolf carcasses collected	Wolf carcasses collected	Wolf carcasses collected	Wolf carcasses collected	Wolf carcasses assessed			
Tlìcho Ekwo Working Group Meetings					3-Day Orientation Workshop		3-Day Hunter Training/Education Workshop					
Tlìcho Community Consultation				Meetings in Behchoko, Gameti, Whati Nov. 24-26		Meeting in Wekweeti						
Tlìcho/ENR Community Monitors, Check-station					Community monitors start	Community monitors working	Community monitors working; check-station starts	Community monitors, check-station continue	Community monitors, check-station continue	Hunt ends; monitors, check-station ends		
Tlìcho Wildlife Coordinator(s)						Interviews for coordinator unsuccessful	Joseph Judas on radio, community visits	Joseph Judas on radio, community visits	Joseph Judas on radio, community visits			
Tlìcho Traditional Knowledge Study (under development)												
TG-ENR-WRRB Working Group meetings						Review harvest Info, Terms of Ref., status of implement. plan	Review harvest Info, implement. plan, community education	Review harvest Info, implement. plan, community education				
WRRB meetings & Reports	WRRB resumed hearing on caribou issues		WRRB Recommendation Report		Correspondence TG & ENR with WRRB	Correspondence TG & ENR with WRRB	Correspondence TG & ENR with WRRB	Initial Draft Implementation Plan Complete	WRRB board meeting; review Implementation Plan			
TG & ENR report results to WRRB, public									Implementation Plan finalized	First TG-ENR report to WRRB		

