

APR 19 2010

Mr. Grant Pryznyk
Interim Chair
Wek'èezhì Renewable Resources Board
Yellowknife Office
102A - 4504 49TH AVENUE
YELLOWKNIFE NT X1A 1A7

Dear Mr. Pryznyk:

WRRB Public Hearings - Undertaking 1 and 2

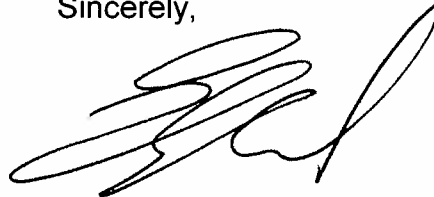
Attached are responses to the following undertakings for Environment and Natural Resources from the March 2010 Wek'èezhì Renewable Resources Board (WRRB) public hearings:

Undertaking 1: To provide efforts to date demonstrating progress on:

- Action Items of the 2004 Bathurst Caribou Management Plan.
- Strategies of the 2006 Barren-ground Caribou Management Strategy.
- Action items, priorities and recommendations of the 2007 Caribou Summit.

Undertaking 2: To provide information on the proportions of Bathurst winter range that has been burned in the past 40 to 50 years

Sincerely,



Ernie Campbell
Assistant Deputy Minister

Attachments



Undertaking 1: To provide efforts to date demonstrating progress on:

- Action Items of the 2004 Bathurst Caribou Management Plan (Attachment 1)
- Strategies of the 2006 Barren-ground Caribou Management Strategy (Attachment 2)
- Action items, priorities and recommendations of the 2007 Caribou Summit (Attachment 3)

Attachment 1

Status of Draft Bathurst Caribou Management Plan Actions – April 2010

This table outlines actions undertaken by the North Slave Caribou Monitoring Program based on the draft 2004 Bathurst Caribou Management Plan. Results are presented in the Technical Report submitted to the Wek'eezhii Renewable Resources Board. This table notes where actions in the draft plan were expected to be undertaken by agencies other than Environment and Natural Resources.

A: Core Monitoring Actions		
These monitoring actions are necessary at all times during the herd's natural cycle of abundance and should be the minimum level of monitoring for the herd.		
<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
1.1.1. Design and implement community-based monitoring approaches to collect information on caribou movements, calf fall body weight, health, diseases and environmental conditions.	Information on body condition and diseases should be collected using a standardized protocol during fall community hunts. Although collecting information in the fall means that direct measurements of pregnancy rates cannot be collected, body condition scores can be used to predict pregnancy rates, which can then be compared to the proportion of non-breeding cows at calving.	Collections have been undertaken on fall or late winter hunts for the Bathurst herd in 2006, 2007, 2008, 2009 and 2010.
1.1.2. Expand outfitter reporting to include information on caribou movements, health, diseases and environmental conditions.	A standardized reporting form should be prepared and issued to barren ground caribou outfitters to collect information on body condition and diseases in males and to establish a baseline of trophy size and age class.	A reporting form on body condition and diseases was developed and outfitters invited to participate. No form has been developed to establish a baseline on trophy size and age class.
1.1.3. Monitor calf survival every year.	Conduct composition counts in late March or early April. Classify caribou as calves, cows and bulls.	Spring composition surveys have been conducted on Bathurst herd every year since 2001.
1.1.4. Monitor for trends in the level of disease.	All hunters should be encouraged to report observations of diseases in harvested animals. A disease database should be created to track observations.	All hunters are encouraged to report observations of diseases in harvested animals. Records are maintained.
1.1.5. Obtain annual estimates of harvest levels and locations.	The resident harvest in the NWT should continue to be estimated using the resident hunter harvest questionnaire. Accuracy checks on the data should be conducted using information from winter road check stations.	Resident harvest survey is undertaken annually by ENR for all residents. Information has not been compared to winter road check station reports.

	<p>The commercial harvest should continue to be monitored using mandatory reporting on tag use.</p> <p>Aboriginal harvest from NWT communities should be estimated using harvest reports from community hunts and winter road check stations.</p>	<p>Outfitters report all harvest as condition of licence.</p> <p>Aboriginal harvest has been monitored annually by obtaining information from community hunts (Industry, Tourism and Investment provides reports) and winter road check stations.</p>
1.1.6. Compare herd distribution and harvest locations to accurately identify the proportion of the harvest that is from the Bathurst herd and the proportion that is from neighbouring herds.	<p>Information on location of harvest collected during harvest monitoring programs should be compared to the distribution of Bathurst caribou as documented by satellite collar location, aerial surveys and hunter reports. The use of DNA finger printing should be investigated for use when large harvests such as community harvests are conducted in areas where the herd identity cannot be determined conclusively.</p>	<p>Harvest locations are compared to herd distribution in the North Slave Region each fall and winter to assess harvest from Bathurst, Bluenose-East and Ahlak herds.</p>
1.1.7. Investigate local caribou die-offs.	<p>Upon notification of any local caribou die-offs, investigations into the cause should have to be conducted accordingly and timely with the appropriate samples and observations being recorded and collected. Sampling protocols should be established so that outfitters and hunters can collect the necessary information and samples.</p>	<p>No local caribou die-offs have been reported since 2005.</p>
1.1.8. Investigate cause of death for any deaths of collared cows.	<p>To be conducted as required when a collared caribou dies. Cause of death should be confirmed and observations of the area made if necessary to confirm any addition dead caribou.</p>	<p>When possible, cause of death of collared cows is investigated. However, in most cases, it is not possible to get to the site within one day as satellite data is not available on a daily basis.</p>
1.1.9. Monitor for trends in predator abundance.	<p>Wolf den site occupation rates should be monitored using a comprehensive and systematic survey of known densities on the Bathurst. This data should provide a quantitative index of den site occupation rates and trend. A winter wolf-sighting index should also be developed for use during caribou distribution and composition flights.</p> <p>Hunters, outfitters and researchers should be asked to provide sighting information on grizzly bears including location and number of cubs seen with females.</p>	<p>Wolf den site occupation rates have been monitored every summer.</p> <p>No reporting system has been established to collect sighting information. Some outfitters maintain their own records.</p>

	Hunters should be asked to bring in the carcass of all wolverine harvested and provide information on harvest date and location (hunters would be given financial compensation for the carcass). Carcasses would be necropsied and age, sex, condition, reproductive status, condition and stomach contents would be determined.	ENR provides \$50 for every wolverine carcass provided. Carcasses are necropsied annually.
1.1.10. Determine the size of the herd every 6 years.	To ensure repeatability compared to the previous surveys, herd size should be determined using the photo census methods developed and tested since the early 1980s and used most recently in June 2003.	Since 2003, herd size has been determined every 3 years as the herd has been declining.
1.1.11. Determine adult sex ratios every 6 years.	A sample of the herd should be classified as calves, cows and bulls (prime and younger). Timing should be toward the end of the rut when the caribou are starting to migrate. Local information and satellite-collared cows should be used determine the survey areas.	Adult sex ratio surveys were undertaken in 2004, 2005, 2006, 2007 and 2008.

B: Additional monitoring actions when the herd is declining in size These monitoring actions should be applied in addition to the core monitoring actions when censuses or other indicators such as pregnancy rates, calf survival, or fall body condition suggest the herd has started to decline in size.		
<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
1.1.12. Determine pregnancy rates.	Information on pregnancy should be collected at winter road check stations for cows harvested during winter and spring. When hunter reports are insufficient, composition counts should be conducted in late June as cows are leaving the calving grounds to determine the proportion of cows with velvet buttons, no visible growth and conspicuous velvet growth.	Pregnancy rates have been obtained during late winter community hunts every winter. Composition counts have been conducted on the calving grounds in 2006, 2007, 2008 and 2009.
1.1.13. Increase the accuracy and rigor of harvest monitoring.	Conduct monthly interview harvest studies should be conducted in communities on or adjacent to the Bathurst range. Compulsory reporting should be established for resident hunters in the North Slave Region.	Ongoing
1.1.14. Monitor wolf and grizzly bear productivity.	Wolf pup survival should be monitored using summer surveys of den sites determined to be active during spring surveys.	Wolf pup survival has been monitored every summer.
1.1.15. Determine the size of the herd every 4 years.	To ensure repeatability compared to the previous surveys, herd size should be determined using the photo census methods developed and tested since the early 1980s and used most recently in June 2003.	Since 2003, herd size has been determined every 3 years as the herd has been declining.
1.1.16. Determine adult sex ratios every 4 years.	A sample of the herd should be classified as calves, cows and bulls (prime and younger). Timing should be toward the end of the rut when the caribou are starting to migrate. Local information and satellite-collared cows should be used determine the survey areas.	Adult sex ratio surveys were undertaken in 2004, 2005, 2006, 2007 and 2008.
C: Additional monitoring actions when the herd size is low These monitoring actions should be applied in addition to all actions listed above when herd size is at the low point in the cycle and indicators such as pregnancy rates, calf survival, trends in predator populations or fall body condition suggest the herd is unlikely to increase in size without intervention.		
<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
1.1.17 Investigate predation rates of grizzly bears and wolves on caribou.	Data from hunter reports, officer reports and various surveys should be compiled to provide information on caribou taken or consumed by predators. However, statistically valid approaches to determining	This action has not been implemented. A proposal is being developed to investigate predation rates of wolves.

	predation rates typically require very extensive and complex collaring studies.	
1.1.18 Obtain information on each animal harvested.	All hunters harvesting from the know distribution of Bathurst caribou should be required to provide the incisor bar of harvested caribou and provide information on sex, health and location of harvest.	Resident harvest survey is undertaken annually by ENR for all residents. Information has not been compared to winter road check station reports. Outfitters report all harvest as condition of licence. Aboriginal harvest has been monitored annually by obtaining information from community hunts (Industry, Tourism and Investment provides reports) and winter road check stations.
1.1.19. Determine the size of the herd every 3 years.	To ensure repeatability compared to the previous surveys, herd size should be determined using the photo census methods developed and tested since the early 1980s and used most recently in June 2003.	Since 2003, herd size has been determined every 3 years as the herd has been declining.
1.1.20. Determine adult sex ratios every 3 years.	A sample of the herd should be classified as calves, cows and bulls (prime and younger). Timing should be toward the end of the rut when the caribou are starting to migrate. Local information and satellite-collared cows should be used determine the survey areas.	Adult sex ratio surveys were undertaken in 2004, 2005, 2006, 2007 and 2008.

Management Actions: These management actions are necessary at all times during the herd's natural cycle of abundance and should be the minimum level of management for the herd.		
<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
1.2.1 Develop, publicize and implement community based hunting rules and territorial hunting regulations in order to avoid or minimize wounding and wastage.	Brochures or posters should be produced in co-operation with communities promoting local traditional practices along with information from the Territorial Wildlife Acts and Regulations.	This action has not been implemented in the North Slave Region. ENR has supported a three traditional knowledge study in the Sahtu and a report is being prepared.
1.2.2 Patrol and inspect caribou hunting areas, communities and dumps for evidence of	Caribou harvesting from and along winter roads should be monitored using check stations. All harvesters should report	All reports of caribou wastage at dumps are investigated. ENR and the Tlicho Government are

unacceptable handling and storage and evidence of wastage of caribou and report problems as appropriate.	number of caribou they harvested as well as any other observation made regarding numbers of caribou seen, additional wildlife sightings and any other items of concern.	supporting the Rae-Edzo Friendship Centre to initiate a program to bring together youth and elders to promote proper handling and storage of caribou.
1.2.3 Increase education and enforcement activity during peak harvesting periods.	Public relations methods should be developed and implemented for individual communities. Regular patrols should be conducted when caribou harvesting is taking place from and along winter roads. Patrol and hunter reports should be prepared and circulated.	Posters on respecting caribou were prepared in 2004. Public service announcements were released in 2007 and shown on television regularly. Caribou handouts for wallets were provided to all hunters. Regular patrols are undertaken weekly on all winter roads.
1.2.4 Develop caribou population computer models to predict the impact of harvesting activity on the herd and identify appropriate harvest levels.	Harvest impact models should be developed based on existing demographic and harvest data to help predict factors affecting long-term trends.	A caribou population model was developed for the Bathurst herd in May 2009 and workshops were held with communities in October 2009.
1.2.5 Adjust harvest levels and harvest activity in relation to the status of the herd in accordance with processes set out in land claim agreements and Territorial legislation.	The options identified in the Management Framework should be considered when institutions of public government or governments make a determination and/or allocation of total allowable harvest. Changes to territorial Wildlife Regulations should be made to implement options related to resident, non-resident and commercial harvesting as identified in the Management Framework.	Actions to reduce outfitter and resident harvest were undertaken in 2006 and 2007 and in 2009, all harvest was eliminated under the January 2010 interim emergency measures. Aboriginal harvest was also stopped under the January 2010 interim emergency measures

1.3 Objective To monitor for changes in caribou behaviour in response to environmental changes and human activity and identify ways to manage or mitigate any changes. Monitoring and Management Actions		
<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
1.3.1. Monitor caribou exposure to environmental conditions (snow depths, levels of insect harassment, timing of plant green-up, lake freeze-up) and human activity (hunting camps, roads, exploration camps and mines).	Agencies should continue to collect information on environmental conditions affecting caribou including snow depth and condition, ice conditions and icing frequencies, seasonal temperatures (min/max), freeze-up and break-up, snow melt patterns and plant growth, green up, insect harassment and extreme events.	A study to investigate insect abundance and caribou response is being conducted by a graduate student since 2007. A study is underway to look at the pattern of plant green-up over the past 20 years by a graduate student. Diamond mines undertake annual caribou monitoring programs.
1.3.2. Assess levels and trends of environmental contaminants (e.g. heavy metals, radionuclides) in caribou every 5 years.	Environmental contaminants (primarily metals) should be monitored every five years in cooperation with the Northern Contaminants Program or contaminated sites projects.	Level of environmental contaminants is monitored annually through samples obtained from annual community hunts.
1.3.3. Prepare and implement site-specific monitoring and mitigation programs to detect and address impacts of industrial development projects on caribou behaviour and movements.	Site specific monitoring programs should be developed and implemented using standardized monitoring protocols linked to cumulative effects monitoring programs. Regulatory and enforcement agencies should continue to conduct site inspections and provide reports. Monitoring caribou behaviour and movement at development sites should be done in order to detect any long-term trends affecting health and condition, range and migration changes.	Diamond mines undertake annual caribou monitoring programs.
1.3.4. Develop a computer model to evaluate cumulative effects of all land uses on caribou movements and population size.	Computer models should be developed using available information and data to make predictions about cumulative effects of human activity on the Bathurst range.	A workshop was held in May 2008 with community, wildlife co-management boards, industry and government representatives to assess several approaches to develop a model to evaluate

		cumulative effects on caribou movements and population size. A model is being developed.
1.3.5. Implement the Slave Geological Province Plan of Action [CEAM] recommendations with respect to caribou.	All parties should support implementation of the SGP Regional Plan of Action regarding Bathurst caribou and Land Use Planning, Baseline Studies & Monitoring, Research, Audit & Reporting, Project-Specific Screening EA & Review, Regulations & Enforcement and Information Management. All of which are identified in the Slave Geological Province: Cumulative Effects Assessment & Management Framework Components.	More research is needed to assess impacts of cumulative effects on Bathurst Caribou.
1.3.6. Prepare and implement monitoring and mitigation plans to detect and address potential effects of tourism and recreational activities (e.g. hunting outfitters, camps and lodges) on caribou behaviour and movements.	Regular inspections of all facilities should continue to be conducted and activities resulting in inappropriate disturbance or risk to caribou should be identified. The guidelines recommended in Section 1.3.7 should be used as appropriate. Caribou movements and behaviour should be documented when around Tourism establishments.	Outfitter camps are inspected annually. Caribou movements and behavior around tourism establishments have not been assessed.
1.3.7. Prepare and publicize guidelines for exploration crews, tourism operators and others when around or observing caribou.	A workshop should be conducted to develop and promote guidelines to be used by industrial and recreational operations on or adjacent to the Bathurst range. These guidelines will recommend how these operators should conduct themselves when caribou are plentiful in their areas. This could include safe distances to remain from caribou, closure of roads and trails during high volume of caribou passing through, safe and passable construction of roads and embankments, construction of enclosures for contaminated sites, waste disposal and safe flight altitudes for aircraft to minimize disturbance.	A brochure (Flying Low) was developed in 2006 to alert airline operators and exploration companies on safe flight altitudes. ENR provides recommendations to minimize disturbance to caribou all land use permit applications on caribou range.

2.1 Objective

To maintain the integrity of caribou habitat and to remediate sites damaged through industrial activity, especially where calving grounds, post-calving and summering areas, migration routes, water crossings, and wintering areas are involved.

Management Actions

<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
2.1.1 Map the annual extent of calving, post-calving and summering areas, migration routes, water crossings, and wintering areas.	Movements of between 10 and 20 adult female Bathurst caribou should be tracked by fitting them with satellite collars. TK, IQ and hunter reports should be incorporated into mapping projects where possible.	Between 10 to 20 collars on adult female Bathurst caribou are maintained. Maps of calving, post-calving, summer and winter ranges are being prepared to post on ENR website.
2.1.2 Investigate the role of forest fires in maintaining caribou habitat and the effects of fire on the winter movement and distribution of caribou.	Annual fire history mapping should continue. Data on the movement and distribution of caribou on their winter range should be used to develop modelling capabilities and reports that will help to identify and predict shifts in the range that the caribou use. This modelling should be used to help identify areas of concern that may require protection until old burn areas become suitable habitat again for the caribou.	A study was initiated in 2008 to investigate effect on fire on caribou use of winter range in co-operation with the University of Northern BC. The study has several components including collecting information from traditional knowledge.
2.1.3 Investigate the implications of wood bison use of portions of the herd's winter range.	The current distribution and habitat use of bison in the North Slave region should be determined and compared with caribou distribution and use.	A survey on number of bison in the North Slave region was conducted in 2006. Under the January 2010 interim emergency measures, a hunting zone was created to reduce number of bison on barren-ground caribou winter range.
2.1.4 Apply the measures identified in the Draft West Kitikmeot Land Use Plan designed to minimize the extent and impact of development projects' footprints on calving and post calving areas.	Information from the satellite collars, aerial surveys and hunter reports should be used to determine when and where measures should be applied.	This action applies to Nunavut.
2.1.5 Develop remediation policies and approaches that will return areas	A workshop should be held to prepare policy and guidelines for the	This action has not been implemented.

damaged through industrial activity to caribou habitat.	remediation of disturbed sites on the Bathurst range. This policy should be publicized to ensure the expectations are clear when development activities are planned and permitted.	
2.1.6 Develop policy and measures to address the permanent loss of caribou habitat resulting from industrial activity whereby similar habitat is protected elsewhere, or protected areas are created that contain similar habitats.	A workshop should be held to identify options to deal with permanent habitat loss on the Bathurst range. These options should be put forward to government for consideration and policy development.	This action has not been implemented.
2.1.7 Provide information needed for the NWT Protected Areas Strategy to identify, assess and create protected areas that will protect portions of the Bathurst caribou range.	Reports and advice should be made available for use within the NWT Protected Areas Strategy to identify and assess potential protected areas on the Bathurst caribou range.	Information on caribou movements has been provided to the NWT Protected Areas Strategy and to the Tlicho Government Lands Department to assist in developing a land use plan for Tlicho Lands.
2.1.8 Establish guidelines for mitigation of habitat changes.	Lists of "best practices" should be developed and these should be used during screening, assessment and reviews of proposed projects by the responsible boards and authorizing agencies.	This action has not been implemented.

3.1 Objective

To increase public and community understanding and appreciation of the Bathurst caribou herd through information and educational programs based on the different bodies of knowledge – Traditional Knowledge, Inuit Qaujimajatuqangit and science.

Management Actions

<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
3.1.1. Involve elders and youth in the monitoring and management actions set out in this plan and ensure appropriate translation is available for elders.	All research projects and monitoring programs should be designed to maximize the participation of Aboriginal elders and youth and to provide training opportunities for youth.	The Tlicho Agreement requires that involvement is maximized. Community members from all North Slave region have been involved in most monitoring actions.
3.1.2. Ensure that information on the herd and research findings are effectively communicated in the communities.	Community meetings should be held at least annually. The number of community meetings would increase during times of declining or low caribou numbers or when monitoring or research actions require community input. Other approaches to providing information to communities such as radio shows, posters, and community TV spots should also be used when appropriate.	Annual Bathurst Caribou Management Plan workshops were held in 2006, 2007 and 2008 to share information on monitoring results. Workshops were held in October 2009 to share information and investigate impacts of various management actions based on projections from a caribou population model.
3.1.3. Establish trans-boundary and interagency cooperation agreements between Nunavut and the Northwest Territories to ensure consistency in managing the herd, particularly with governments and institutions of public government.	Transboundary agreements should be prepared and signed off by the responsible Ministers and Boards so that responsibilities will be clearly defined.	In July 2009, Deputy Ministers from Nunavut, NWT and Yukon agreed to develop inter-jurisdictional transboundary agreements to further co-operation on monitoring and management of shared barren-ground caribou herds. These agreements will require review by wildlife co-management boards and the Tlicho Government.
3.1.4. Develop community capacity to undertake monitoring programs	All research and monitoring programs and initiatives should include activities to develop community capacity whenever feasible. Workshops	Ongoing.

and to share and use data.	should be held to provide necessary training.	
3.1.5. Promote the use of existing curriculum-based caribou lessons, activities and kits in local schools.	Existing educational lessons developed by the Beverly Qamanirjuaq Caribou Management Board can be adopted for use by schools in communities on or near the range of the Bathurst herd. Hunter Education and elder / youth science activities should be promoted at camps and in community schools.	ENR received funding through World Wildlife Fund, the Walter and Gordon Duncan Foundation and the University of Calgary to develop an inter-active caribou program called Caribou and People – A Shared Future. This was released and provided to schools in fall 2009. It contains traditional knowledge and scientific information and has modules on all aspects of caribou ecology, management and habitat.

3.2 Objective

To ensure that the plan is implemented and information about progress on management actions is shared with all stakeholders and users.

Management Actions

<i>Actions</i>	<i>Method Identified in Plan</i>	<i>Status</i>
3.2.1. Prepare a 10-year Implementation Schedule for the monitoring and management actions identified in this plan including roles and responsibilities, budget estimates, and criteria for measuring progress and update this Schedule annually.	The initial implementation schedule should be prepared within six months of the release of the plan and based upon input from the parties on the plan.	This action was not implemented as the plan was not ratified by all parties. ENR has been using the draft plan as a basis for the North Slave Caribou Monitoring Program.
3.2.2. Establish a secretariat to oversee implementation of the plan, to support, track and report on monitoring and management actions, to support an annual	A position should be established within RWED, North Slave Region that should coordinate the collection of monitoring data and provide analysis and reports. This position should also serve as a Secretariat as identified in this plan. Terms of reference for the duties of the Secretariat should be prepared in consultation with the Parties.	This action was not implemented as the plan was not ratified by all parties.

meeting and to support future reviews of the plan.		
3.2.3. Ensure that proposed development activities are consistent with this plan.	All parties should be encouraged to participate fully in the review of land use applications, environmental assessments, land use planning, and development of site specific monitoring plans. The plan should be available to the public and to regulatory agencies to ensure that they can assess if activities are consistent with the plan.	ENR provides recommendations to minimize disturbance to caribou all land use permit applications on caribou range.
3.2.4. Hold meetings of the partners on the Bathurst Caribou Management Planning Committee and other users of the herd at least once a year to monitor and discuss the plan's implementation, to assess the status of the herd and to prepare an annual report on the implementation of the plan.	An annual meeting should be held in a community on the Bathurst caribou range. The meeting should be open to the public. Recent information on the herd should be provided and input should be obtained on existing and planned programs.	Annual Bathurst Caribou Management Plan workshops were held in 2006, 2007 and 2008 to share information on monitoring results. Workshops were held in October 2009 to share information and investigate impacts of various management actions based on projections from a caribou population model.
3.2.5. Review and update the Plan at least every 5 years, or more frequently if required.	The plan should be review by requesting written comments on the document followed up by conference/workshop to discuss the major issues.	This action was not implemented as the plan was not ratified by all parties.
3.2.6. Ensure that information on the status of the Bathurst herd and monitoring and management actions is available to all interested parties.	A web site should be created for the Bathurst Herd with links to all relevant information sources. Material should be kept up to date and reports should be prepared and posted in a timely manner.	Annual Bathurst Caribou Management Plan workshops were held in 2006, 2007 and 2008 to share information on monitoring results. Workshops were held in October 2009 to share information and investigate impacts of various management actions based on projections from a caribou population model.

Attachment 2 - 2006 Barren-ground Caribou Management Strategy

NWT Barren-ground Caribou Management Strategy - Summary of Activities 2006-2010

STRATEGY:	Summary of Activities
<p>#1 Work with co-management and other public processes to effectively identify caribou conservation issues and options for caribou conservation.</p>	<ul style="list-style-type: none"> - Consultation sessions were held in all Inuvialuit, Gwich'in, and Sahtu communities. Communities on the Bathurst caribou range and in the South Slave Region participated in the Bathurst Caribou Management Workshops in 2006, 2007, 2008 and 2009. - ENR made presentations annually and met with the Wildlife Management Advisory Board (NWT), Sahtu Renewable Resources Board, Gwich'in Renewable Resources Board, Porcupine Caribou Management Board, Beverly and Qamanirjuaq Caribou Management Board and Wek' eezhii Renewable Resources Board. - A Caribou Summit was held in Inuvik in January 2007 with representation from across the NWT and northern Canada. - Wek' eezhii Renewable Resources Board held a public hearing in March 2007 on ENR proposal for caribou management actions for Bathurst herd and in March 2010 on joint ENR/Tlicho Government proposal for caribou management actions for herds in the North Slave region. - Sahtu Renewable Resources Board held a public hearing to review proposed caribou management actions in November 2007 for the Bluenose West herd. - Updates to Dene Nation leadership meetings have been provided annually and a caribou workshop was held in Yellowknife in December 2007.
<p>#2 Track the implementation of existing management plans, update management plans where needed and develop management plans for herds where they do not exist.</p>	<ul style="list-style-type: none"> - Workshops have been held to discuss implementation of the draft Bathurst Caribou Management Plan in 2006, 2007, 2008 and 2009. - In December 2007, ENR assisted wildlife co-management boards in Nunavut and Inuvialuit, Gwich'in, Sahtu and Tlicho settlement regions to initiate process to update management plan for Bluenose herds - In 2007 and 2008, Wek' eezhii Renewable Resources Board met with Tlicho Government and ENR to set up a process to develop comprehensive management proposal for Bathurst herd. This process continues.

	<ul style="list-style-type: none"> - In 2010, the Porcupine Caribou Management Board's Harvest Management Plan was approved by all parties (including the Yukon NWT governments) with some modifications.
#3 Establish inter-jurisdictional agreements, where needed, to enhance coordination and cooperation	<ul style="list-style-type: none"> - The Governments of Nunavut, Saskatchewan and NWT collaborated in supporting a survey of the Beverly caribou herd in 2007. - Representatives from the Governments of Yukon, NWT, Nunavut, Saskatchewan and Quebec participated in the Caribou Summit in Inuvik in 2007. - ENR attended Nunavut caribou planning session in November 2007. - In December 2007, the Minister of ENR met with the Nunavut Minister of Environment and agreed that ENR would lead development of an inter-jurisdictional management agreement. A further meeting with Yukon and Nunavut was held in July 2009. - In February 2007, ENR, Saskatchewan and the Prince Albert Grand Council began a process to jointly fund a position to monitor health and harvest of the Beverly/Ahiak herds. This program has been in place for more than a year.
#4 Enhance and promote the exchange of information on the status and use of caribou across the circumpolar north.	<ul style="list-style-type: none"> - Meetings have been held with the Barren-ground caribou outfitters association annually, often twice a year. - Public meetings were held in Inuvik and Norman Wells in 2007 to address caribou declines and hardships. Public interest groups attended the Bathurst Caribou Management Workshops in 2006, 2007 and 2008 and the Caribou Summit in January 2007. - ENR participated in the Circum Arctic Rangifer Monitoring and Assessment (CARMA) Network, including meetings in Vancouver in 2007, 2008 and 2009. CARMA was successful in securing International Polar Year funding to increase monitoring activities around the arctic and ENR accessed funding in 2007-08.
#5 Implement monitoring actions necessary to determine the status of all NWT caribou herds and to understand factors driving changes in herd status.	<ul style="list-style-type: none"> - Sixty VHF collars were deployed on the Cape Bathurst, Bluenose West and Bluenose East herds in March 2006. These collars ensured that a very high proportion of the animals in the herds were located during the post calving photo censuses conducted in July 2006. A similar effort was made for the surveys in July 2009. - A calving ground photographic census of the Bathurst caribou herd was conducted in June 2006 and 2009. - A reconnaissance survey of the Ahiak calving ground was conducted in

	<p>June 2006, 2007, 2008 and 2009. A reconnaissance survey of the Beverly calving ground was conducted in June 2007, 2008 and 2009.</p> <ul style="list-style-type: none"> - Late winter composition counts were conducted on the Cape Bathurst, Bluenose-West, Bluenose-East and Bathurst herds in March and April 2006, 2007, 2008 and 2009 and 2010. - Adult sex ratios for the Bathurst herd were determined in fall 2006, 2007 and 2008, and for the Bluenose West and Bluenose East herds in 2009. - Satellite collars were deployed on the Cape Bathurst, Bluenose-West, Bluenose-East and Bathurst herds in March 2006 and March 2007. A total of twenty collars were deployed on the Beverly and Ahiak herds in March 2006. Eighteen collars were deployed on Beverly and Ahiak caribou in July 2007. An additional 30 collars were placed on Beverly and Ahiak Caribou were deployed in April 2008. Replacement collars for most herds were deployed in March 2008 and 2009.
#6 Identify and implement studies necessary to understand caribou ecology, including the role of predators.	<ul style="list-style-type: none"> - Wolf den occupancy surveys and pup survival surveys were conducted on the Bathurst caribou range in 2006, 2007, 2008 and 2009. - The carcasses of over 100 harvested wolves were examined to determine age and sex of the harvest and breeding success of female wolves in spring 2006. Very few wolves (less than 25) were harvested in 2007, 2008 and 2009. - A research project was initiated in summer 2007 with the University of Northern British Columbia to look at the influence of range condition and insects on caribou summer ranges.
#7 Develop population models that incorporate key demographic data, traditional knowledge and community-based knowledge to evaluate proposed management options.	<ul style="list-style-type: none"> - Two models were used to assess declines in the Bathurst and Bluenose West herds in 2009. A workshop with wildlife co-management boards to demonstrate the uses of the models was held in May 2009. Workshop sessions were held with community representatives from the North Slave Region in October 2009 to review the Bathurst herd's decline and consider management actions needed for recovery.
#8 Evaluate the impacts of harvesting (including predation) on herd declines and recovery and implement strategies to reduce harvest impacts.	<ul style="list-style-type: none"> - Workshops on population modeling were conducted in May 2009 and October 2009 to understand caribou declines and the likely impacts of various harvest management strategies on the Porcupine, Bluenose West and Bathurst caribou herds. Further modeling was carried out in late 2009 and early 2010 to assess likely effects of various harvest rates and sex ratios of the harvest on the Bathurst herd population and to determine what actions would assist recovery.

	<ul style="list-style-type: none"> - Based on recommendations from co-management boards, commercial and resident harvesting was curtailed in the Inuvialuit, Gwich'in and Sahtu settlement areas. - Based on recommendations contained in the Bathurst Caribou Management Plan, in 2006 the number of tags available to each resident hunter in the remainder of the NWT was reduced from 5 to 2 and limited to bulls only. - In response to request from Sahtu Renewable Resources Board in November 2007, a workshop was held in May 2009 to assess harvest rates using two different population models. - Check stations operated on the Tibbett to Contwoyto winter road and Tlicho winter roads in 2006, 2007, 2008, 2009 and 2010. In 2008 and 2009 a check station was set up on Discovery Road. - Release of the locations of collared caribou to the public was delayed by two weeks and following the Inuvik Summit, removed from the ENR website. In 2008, collar locations were no longer reported to the public as a conservation measure, annual movement maps will be prepared instead.
#9 Identify, monitor and mitigate impacts of exploration and development activities and improve understanding of the mechanisms for any impacts.	<ul style="list-style-type: none"> - ENR has worked with monitoring agencies to review current wildlife effects monitoring and mitigation programs established for diamond exploration and mining activities. A workshop was held with the diamond mines in September 2009 to review monitoring programs. - ENR has reviewed proposed wildlife effects monitoring and mitigation programs for oil and gas exploration and development activities in the Parsons Lake area and the proposed road to Tuktoyaktuk. - ENR reviews land use applications and provides recommendations to minimize impacts to caribou.
#10 Develop models to assess the cumulative effects of human and natural impacts	<ul style="list-style-type: none"> - A workshop was held in February 2008 with Indian and Northern Affairs Canada, Aboriginal organizations, management boards, industry and others to examine 3 models for assessing cumulative effects on caribou. A demonstration project using the 3 models and focused on the Bathurst summer range and the diamond mines was carried out in 2008-2009 and will be reported in 2010..
#11 Develop and implement a public information and education program.	<ul style="list-style-type: none"> - A communications strategy to improve hunter ethics and practices has been prepared and communication products have been released including updated web materials, information on identification of bull caribou,

	<p>television spots, and community information pamphlets. This includes Public Service Announcements (PSA's) on responsible hunting and announcements in spring to prevent meat wastage.</p> <ul style="list-style-type: none"> - With assistance from World Wildlife Fund, Walter and Duncan Gordon Foundation and University of Calgary an interactive program titled "Caribou and People – A Shared Future" was developed and provided to schools in fall 2009. This contains modules on all aspects of caribou ecology and management.
#12 Promote hunting excellence.	<ul style="list-style-type: none"> - Public Service Announcements have highlighted the need for hunting excellence. - This message has been re-enforced at winter road check stations and in community meetings. - The Inuvik region undertook programs to improve marksmanship and reduce wounding loss in 2008 and 2009.
#13 Document and publicize community based hunting rules.	<ul style="list-style-type: none"> - Community, RRC and HTC meetings were organized across the NWT and included lengthy discussions of how hunting needs to be conducted and the need for respect for the caribou. - Discussions at the Bathurst caribou workshops and the Caribou Summit highlighted and publicized proper caribou harvesting methods and rules. - In 2007-08, funding was provided for 3 years to the Sahtu Renewable Resources Board to document traditional hunting rules. Funding was also provided through West Kitikmeot Slave Study to the Tlicho for a similar project.
#14 Enhance compliance programs.	<ul style="list-style-type: none"> - Compliance activity was enhanced on all herd ranges with increased patrols in 2006, 2007, 2008, 2009 and 2010.
#15 Work with the Department of Industry, Tourism and Investment and impacted communities to identify hardships and identify possible solutions including alternate meat sources and alternate harvesting opportunities.	<ul style="list-style-type: none"> - The availability of reindeer in the Inuvialuit Settlement Region was investigated as a possible alternate source of country foods by the Department of Industry, Tourism and Investment. A workshop on dealing with the hardships resulting from low caribou numbers was held in Inuvik in November 2006. ITI has developed tourism programs to assist outfitting industry.
#16 Work with the Department of Industry, Tourism and Investment, outfitters and other commercial ventures to identify ways to maintain viability of businesses through changes in	<ul style="list-style-type: none"> - ITI has developed tourism programs to assist outfitting industry. - The mining and oil and gas industries have been made aware of the current status of the caribou herds and provided copies of the caribou management strategy. - Discussions on caribou management have been held with oil and gas

caribou numbers and distribution.	<p>representatives in conjunction with the review of the Mackenzie Gas Project.</p> <ul style="list-style-type: none"> - Industry participated in the Caribou Summit in January. - Discussions of caribou management are held with the Diamond Mines during the annual reviews of their Wildlife Effects Monitoring Programs.
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Attachment 3 - 2007 Caribou Summit

ENR has undertaken following actions to respond to the priorities (recommended by co-management boards, Aboriginal governments, other agencies and delegates) that are GNWT responsibilities and built the longer term priorities into departmental business plans and sought partnerships to move ahead on the priorities.

IMMEDIATE (as per closing remarks at Summit)			
<i>Actions (in order of priority)</i>	<i>Next Steps over next Four Years</i>	<i>Agency</i>	<i>Timeline</i>
Meet with Nunavut to begin discussion about protecting calving grounds	ENR Minister met with Nunavut Environment Minister in 2007 and further meetings with Deputy Ministers from Nunavut, NWT and Yukon were held in July 2009 (Strategy 1)	ENR	Summer 2007 Discussions ongoing
Improve the way ENR shares information on caribou	ENR has had staff who speak Aboriginal languages participate on radio programs to provide information on and annually reviews and updates information on the website, including survey methods and trend information, (Strategy 11)	ENR	Summer 2007 Delayed to 2009.
No longer post data from satellite collars on the internet	ENR removed collar location data from internet in 2007 and will replace with annual movement summaries in 2010	ENR	Spring 2007 - done
Continue to implement recommendations from wildlife co-management boards on harvest levels and seasons	ENR continues to work with co-management partners to implement and strengthen processes set out in land claim agreements and inter-jurisdictional management agreements (Strategy 1)	ENR	Ongoing

Help communities and regions work with their neighbours to cooperate on management issues	ENR provides assistance for meetings to develop management plans for herds. For example, ENR provided \$125,000 to support management planning for Bluenose herds in 2009-10 (Strategy 2)	ENR	Ongoing
Expand and improve public education about the status of herds and hunting ethics	<p>ENR will prepare Fact Sheets for public in 2010.</p> <p>ENR increased distribution of hunter video/DVD and increased patrols (Strategy 11)</p> <p>Longer term - ENR will complete the interactive web-based educational program on resource management using caribou as case study.</p>	<p>ENR</p> <p>ENR and partners</p>	<p>Fall 2007</p> <p>Most done in 2007. Fact Sheets delayed to 2010.</p> <p>Spring 2008</p> <p>Completed in fall 2009.</p>
Develop a closer relationship with industry and share more information and collaborate on caribou and other wildlife monitoring	<p>ENR continues to meet with industry (oil and gas and mining) to develop common approaches. A workshop was held in September 2009 with diamond mines to review caribou monitoring programs.</p> <p>(Strategy 9)</p>	ENR	Ongoing

SESSION 1 - Information for Management			
<i>Actions (in order of priority)</i>	<i>Next Steps over next Four Years</i>	<i>Agency</i>	<i>Timeline</i>
Bring traditional knowledge into decision-making	<p>ENR participated in Dene Cultural Institute workshop in March 2007 to improve use of traditional knowledge in environmental impacts assessment and, work with co-management boards and communities to enhance traditional knowledge studies.</p> <p>ENR works with wildlife co-management boards to support use of traditional knowledge.</p> <p>(Strategy 6)</p>	ENR, Co-management Boards	<p>Fall 2007</p> <p>Ongoing</p>
Do all population surveys at the same time.	<p>ENR acquired additional resources to conduct calving distribution surveys at the same time in June 2007 and 2008 on all herds monitored by ENR. Areas between calving grounds were also flown to ensure that no large groups of calving caribou were missed.</p> <p>(Strategy 5)</p>	ENR	Ongoing
Determine impacts of insects, climate change and change in caribou behaviour to human activity	<p>ENR initiated a study of the implications of biting insects and forage availability on Bathurst herd productivity (Strategy 6) and worked with industry and monitoring agencies on monitoring caribou behaviour near development activities (Strategy 10)</p>	ENR, UNBC, Industry, Monitoring Agencies	Ongoing

Central database for information on herds	ENR continues to enter historic data into Wildlife Management Information System (WMIS) and continues to collaborate with CARMA to enhance availability of all caribou herd data (Strategy 4)	ENR	Fall 2009 Data Entry in WMIS to be completed in 2010
What is impact of predators?	ENR continues to monitor wolf abundance in the Bathurst range (Strategy 6) and develop incentives to increase wolf harvest as per the Bathurst Caribou Management Plan	ENR, ITI	Ongoing
SESSION 2 - Engaging Partners			
<i>Actions (in order of priority)</i>	<i>Next Steps over next Four Years</i>	<i>Agency</i>	<i>Timeline</i>
Bring youth into conferences, HTC/RRC meetings and board meetings	ENR will forward action to management agencies and councils	All agencies, boards and councils	Ongoing
Develop management plan for each herd that includes management actions for difference population levels	ENR works with co-management boards, the Government of Nunavut and communities to develop current plans for Cape Bathurst, Bluenose-West, Bluenose-East and Ahiak herds (Strategy 2)	ENR, Government of Nunavut, co-management boards	Spring 2010 – Ongoing
Ask elders to help teach youth and southerners about hunting and handling meat	ENR works with co-management boards and communities to hold more first time hunting courses (Strategy 11)	ENR, co-management boards	Ongoing Implemented in Inuvik and Sahtu regions

Don't make decisions without partners.	ENR will continue to work with co-management partners to implement and strengthen processes set out in land claim agreements and inter-jurisdictional management agreements. ENR will work with Aboriginal Governments to identify ways of enhancing participation in area without land claims agreements (Strategy 1)	ENR, co-management boards	Ongoing
Hold Aboriginal conference on caribou.	Dene Nation workshop on caribou held in December 2007 (Strategy 1)	ENR	Spring 2008 Done
SESSION 3 - Managing Human Impacts			
<i>Actions (in order of priority)</i>	<i>Next Steps over next Four Years</i>	<i>Agency</i>	<i>Timeline</i>
Protect calving grounds in NWT and Nunavut	ENR Minister met with Nunavut Environment Minister (Strategy 1) and works with co-management partners to protect the Cape Bathurst calving ground. Discussions continue.	ENR, Government of Nunavut	Spring 2007 Meeting held. Discussions on-going

Reduce all harvest	ENR and co-management boards have implemented Total Allowable Harvest levels in the Inuvialuit, Gwich'in and Sahtu Settlement areas and eliminated resident and commercial harvest as set out in land claim agreements. In 2006, ENR submitted a proposal to Wek'eezhii Renewable Resources Board (WRRB) as per the Tlicho Agreement to eliminate commercial harvest, reduce outfitting in North Slave region and take other management actions to reduce harvesting (Strategy 8). In 2009, ENR and Tlicho Government submitted joint proposal to WRRB on management actions for herds in the North Slave Region. In January 2010, ENR implemented interim emergency measures to protect the Bathurst herd. (Strategy 8)	ENR, co-management boards	Ongoing
Mandatory reporting of harvest	ENR will work with co-management boards and communities to identify and implement processes to record Aboriginal harvest (Strategy 8). ENR will work with resident hunters and outfitters to identify and implement processes to record their harvests. Annual surveys of resident hunters are completed and outfitters must report harvest as condition of licence. (Strategy 8)	ENR, co-management boards	In place for some herds; planning underway for others.

Provide information on disease to public	ENR has prepared posters for public on diseases and a booklet (Strategy 11).	ENR	Fall 2007 Done
SESSION 4 - Addressing Hardships			
<i>Actions (in order of priority)</i>	<i>Next Steps over next Four Years</i>	<i>Agency</i>	<i>Timeline</i>
Develop codes of conduct for harvest	ENR continues to work with wildlife co-management boards to develop codes of conduct appropriate to culture (Strategy 13)	ENR	Fall 2008 Delayed
Hold regional harvester workshops	ENR held regional wildlife workshops in the Dehcho (November 2006 and 2008) and North Slave (2006, 2007, 2008 and 2009) and held workshop in Sahtu in February 2007 and in South Slave in October 2009. ENR will work with co-management boards and Aboriginal governments to hold regular workshops in all regions (Strategy 1)	ENR, co-management boards	Ongoing
Use DeneKede program to teach about traditional laws	ENR will work with ECE to review Dene Kede program (Strategy 11)	ECE, ENR	Delayed
Use outfitter camps to teach youth about hunting	ENR will make communities and co-management boards aware of this opportunity and work with ITI to facilitate this where necessary (Strategy 16)	ENR/ITI	On-going
Use and educate people about alternative food sources to caribou	ENR is working with co-management boards, ITI and H&SS to identify alternate meat sources and harvesting opportunities (Strategy 15)	H&SS, ENR, ITI, co-management boards	Ongoing

Undertaking 2 (Environment and Natural Resources): To provide information on the proportion of Bathurst winter range that has been burned in the past 40 to 50 years.

Methods:

The total area of Bathurst winter range was calculated using the movements of satellite collared Bathurst cows between December and April for the years 1995 - 2007. This area is the same as the area used in the draft paper on environmental trends in the Bathurst winter range by Chen et al. (supplied to WRRB). The area burned was determined from forest fires recorded between 1965 and 2009.

Results:

The total area of the Bathurst winter range = 19,753,067.5 hectares.

The total area of winter range burned since 1965 = 4,728,436.2 hectares (24% of the winter range). This suggests that, over the last 45 years, less than 1% of the range has burned each year. The amount of area burned varies each year.

Five Year Fire Interval	Hectares Burned	Percent of Bathurst Winter Range Burned (over 5 years)
1965-69	115,149	0.58%
1970-74	527,456	2.67%
1975-79	1,037,330	5.25%
1980-84	264,500	1.34%
1985-89	260,193	1.32%
1990-94	1,048,888	5.31%
1995-99	766,866	3.88%
2000-04	317,378	1.61%
2005-09	380,812	1.93%