

Government of
Northwest Territories

DRAFT BATHURST CARIBOU RANGE PLAN

What We Heard

June 2019

Department of Environment
and Natural Resources



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1 Summary of comments

In January 2018, the Bathurst Caribou Range Plan (BCRP) Working Group (WG) released its Draft Bathurst Caribou Range Plan (Draft Range Plan). The Draft Range Plan presented broad management tools and approaches to address cumulative effects of land disturbance on the Bathurst herd. It was developed over several years with guidance from the WG, informed by a series of technical and traditional knowledge workshops and a first round of engagement. A second round of engagement on the Draft Range Plan was held January to April 2018. With support from WG members, Environment and Natural Resources (ENR) held engagement sessions in communities across the range (in the Northwest Territories, northern Saskatchewan and Nunavut) and met with 28 groups and agencies to consider the Draft Range Plan.

This document summarizes comments received during the engagement period and shows how they have been considered in development of the final Bathurst Caribou Range Plan (Range Plan). General perspectives and specific comments organized by the major themes are summarized and described below. In addition to discussions held during the engagement sessions, written submissions were received from one individual and 17 organizations representing Indigenous governments and organizations (IGOs), co-management boards, industry and non-governmental organizations.

1.1 General perspectives

In general, comments received on the Draft Range Plan related to how the plan might impact the economic, ecological and social/spiritual values of NWT. Some felt the Draft Range Plan was not restrictive enough, given the hardship experienced by Indigenous peoples unable to sustain their fundamental relationship with caribou and the present state of the herd. Others commented that the plan was too restrictive and may have unintended consequences on economic development. The Range Plan attempts to find a balance and common ground among the multiple interests and values.

1.2 Scope of the Range Plan

The purpose of the Range Plan is to manage human-caused and natural (primarily wildfire) disturbance on the Bathurst caribou range and the effects on caribou and caribou habitat. Reviewers suggested the front section of the Range Plan provide clearer context for overall herd management and the relative contribution of the Range Plan recommendations given other processes and possible management actions. Further, it was suggested that Range Plan recommendations be linked to herd status (i.e. population size and trend). Some reviewers requested all references to harvest in the Range Plan be removed, as harvest is dealt with in other processes. Lastly, it was suggested that references to the 2016 Draft Nunavut Land Use Plan may not be appropriate given the delay in that process.

After consideration of these comments, the front sections have been revised and a new text box was added to better show links to the overall herd management processes as well as herd status and trends. Figures in the Range Plan have also been adjusted to more adequately reflect the Draft nature of the Nunavut Land Use Plan.

1.3 Planning area

One reviewer suggested the current Planning boundary does not include all areas historically used by the herd and the boundary may be difficult to adjust if range use changes. While recognizing the Bathurst caribou range is always changing, a well-defined area within which the Range Plan would be implemented is required.

The Range Plan has adopted a planning boundary that incorporates the overlapping area based on traditional knowledge as well as the annual range of the Bathurst caribou herd derived from radio-collared female caribou from 1996-2014 and modified slightly to account for recent observations. This boundary allows the Range Plan to accommodate herd recovery and growth relative to its current status. The plan would be reviewed every five years, and at that time, proposals to change the planning boundary could be considered.

1.4 Principles, goals and objectives

Four principles have guided development of the Range Plan:

- Respect caribou
- Bring together traditional, local and scientific knowledge
- Practice guardianship, stewardship and management to care for caribou
- Achieve balance

Reviewers suggested additional principles be added about respecting Caribou People and another for non-Indigenous people on education related to the traditional relationships Indigenous peoples have with caribou. One reviewer emphasized non-Indigenous people can have a strong relationship with caribou as well. Other comments acknowledged the Range Plan generally meets the intent of the principles, but more work could be done. While no additional principles were added, the four existing principles of the Range Plan have been revised to incorporate these considerations.

1.5 Technical analyses

The range planning process considered and utilized traditional knowledge and scientific sources in its technical work and development of management approaches. Comments received on the technical analyses are presented below under the following headings:

- Knowledge sources
- Scientific evidence
- Seasonal range sensitivity
- Modelling
- Zone of Influence
- Centre of habitation
- Range assessment areas

1.5.1 Knowledge sources

One of the four foundational principles of the Range Plan is to bring together and consider equally the multiple sources of knowledge that inform our collective understanding of and decisions regarding caribou, caribou habitat, and the various factors affecting caribou, other wildlife and the land. One reviewer stressed the importance of using traditional knowledge and science in testing

the accuracy and consistency of information used to inform and build the Range Plan. The Range Plan acknowledges and emphasizes the need to prioritize and conduct collaborative research (based on traditional knowledge and science) to address key knowledge gaps regarding the impacts of disturbance to the land and to caribou themselves.

1.5.2 Scientific evidence

Many reviewers commented that the cause of the decline in caribou numbers is not fully understood and in the absence of full knowledge we cannot take action to help the herd recover. Reviewers requested more research in this area.

While it is understood that environmental factors interact in many complex and cumulative ways to influence caribou populations, analyses undertaken as part of the range planning process suggest the incremental effects of land disturbance are important, especially when caribou numbers are low and show a declining trend, such as in recent years. The Range Plan complements actions already in place such as zero harvest in the NWT, a Total Allowable Harvest (TAH) of 30 bulls in Nunavut and considerations for predator management. The Range Plan acknowledges and emphasizes the need to prioritize and conduct collaborative research (TK and science) to address key knowledge gaps regarding the impacts of disturbance to the land and to caribou themselves.

1.5.3 Seasonal range sensitivity and utilization

The Caribou Range Assessment and Technical Information Report defines important areas as those portions of the annual range that have been used most frequently by caribou and where caribou and their range have higher sensitivities (i.e. lower tolerances) to disturbance. This approach is consistent with similar processes undertaken by the Beverly Qamanirjuaq Caribou Management Board and the Porcupine Caribou Management Board.

Some reviewers suggested doing more detailed vegetation mapping to characterize habitat quality, use, sensitivity and changes that might occur over time. In addition, reviewers suggested the sensitivity rankings used to adjust threshold levels be re-evaluated.

Upon evaluation, changing the sensitivity rating of the fall season (from low to moderate) changed the calculated areas of weighted sensitivity within a range assessment area (RAA). However, it had little effect on the benchmarked values for Total Disturbance in RAA1 (i.e. a net difference of 1,000 km²), and no effect on changing benchmarked values in RAA3 and RAA5.

The Range Plan acknowledges and emphasizes identifying important habitat as a research priority.

1.5.4 Modelling

To learn about the caribou system while developing the Range Plan, the WG used a computer model developed by the CircumArctic Rangifer Monitoring and Assessment (CARMA) network to examine linkages between habitat disturbance, land use activity and caribou population based on future land use scenarios. Many suggested the model was not appropriate, had too many uncertainties and assumptions, and was not validated or tested.

The CARMA model was used as a tool to explore and understand the relative effects of different natural and human-caused disturbances that may influence the population health of Bathurst caribou. The CARMA model was not used to estimate or determine disturbance management thresholds in the Range Plan.

The Range Plan recommends further research to test the hypothesized relationship between human disturbance and caribou, which was defined through scenario analyses using the CARMA integrated model. Key assumptions of the disturbance hypothesis, including behavioral impacts and energetic consequences to caribou at the scale of individuals, groups and populations, should be evaluated further based on field study and simulation modelling.

1.5.5 Zone of influence

Human disturbance on the Bathurst caribou range results in direct habitat loss from land use features (e.g. roads, settlements, exploration sites and operational mines). There is also an associated area around the direct footprint – a zone of influence (ZOI) – that corresponds to an avoidance response where caribou shift their distribution away from a land use feature. Reviewers suggested presenting more discussion on the uncertainty associated with ZOI, its measurability and variability, and whether the effect is of similar magnitude throughout. Additionally, there were requests to include direct disturbance – that is, the direct footprint of the development – separate from the total disturbance, which includes ZOI.

The assumptions and rationale for the ZOI buffers used in the human disturbance mapping are provided in the Range Plan's Caribou Range Assessment and Technical Information report. They are based on published literature and recent environmental assessment reports submitted to the Mackenzie Valley Environmental Impact Review Board and Nunavut Impact Review Board. The area covered by the direct human development footprint has been added to the Range Plan. In addition, the cumulative land disturbance framework (CLDF) thresholds are provided as direct footprint amounts as well as total disturbance amounts.

The Range Plan acknowledges the need to address key knowledge gaps, with ZOI identified as a priority area of research. The Range Plan states the ZOI values should be regularly reviewed and updated based on the best available information.

1.5.6 Centre of habitation

There were differing opinions on the usefulness of the concept of centre of habitation (COH) to range planning. One reviewer thought it was very useful; another thought it shouldn't be used because it was untested. Further comments suggested determining the COH based on a different time frame might be more appropriate (5-6 years vs. 3 years of the most recent collar data) and also that perhaps collar data from when the herd was larger might take a more conservative approach.

The rationale for defining a COH is to establish a core use area that is prioritized in the Range Plan for enhanced mitigation and range management. The usefulness for range planning is based on the caribou herd's use of space and that COH represents a herd's core use area. In 2017, the Ungava Peninsula Caribou Aboriginal Round Table (UPCART) recommended COH as an area of high

conservation value. As a first step in identifying critical habitat, UPCART adopted “Caribou House” – long known as the refuge of George River Caribou during times of scarcity – as a central concept in all land use planning.

The concept, technical details and rationale for determining the centre of habitation are provided in the Caribou Range Assessment and Technical Information supporting report. The Range Plan recommends caribou collar data be reviewed to assess annual range use and to evaluate and update the initially defined COH within five years of implementing the BCRP.

1.5.7 Range assessment areas

Five range assessment areas (RAAs) are proposed in the Range Plan as spatial units to assess, monitor and manage cumulative disturbance on the Bathurst caribou range. Reviewers questioned the rationale for placement of the boundaries. The RAAs were created by considering Bathurst caribou range use and habitat conditions and levels of habitat disturbance, human land use patterns and administrative boundaries.

1.6 Range-scale management tools and approaches

1.6.1 Cumulative land disturbance framework

Comments on the cumulative land disturbance framework (CLDF) were primarily related to the threshold levels: specifically, how they were set and what was included as a disturbance. Concern was expressed that there is no irrefutable evidence that human/industrial disturbance has a population level effect on Bathurst caribou and, without this evidence, the rationale for implementing disturbance thresholds is weak. Further, reviewers commented that the absence of scientific evidence and a clear link to population effects limits the ability to monitor and test the effectiveness of the thresholds. Lastly, there was a suggestion that disturbance related to wildfire be incorporated into the disturbance threshold so that human disturbance doesn't use up all the available “disturbance room.”

The Range Plan has been revised to present differing perspectives on the CLDF. Text Box 1 of the Range Plan describes the rationale for establishing disturbance thresholds. The CLDF proposes management thresholds informed by TK, caribou biology and societal risk tolerance, and reflective of the low population status of the Bathurst caribou herd. The CLDF is considered to be a useful way to manage the cumulative and incremental impacts from land use at the range scale and provides management direction on acceptable levels of range disturbance. The adaptive management, monitoring and review phases of implementation allow for continued assessment of natural and human disturbance levels.

The Range Plan provides more clarity as to how wildfire and area burned is considered in the establishment of thresholds and in the adaptive management process. Total amounts of disturbance, including human and fire-caused, is provided in Table 5. The discussion of fire, the fire cycle and changes that might be expected in a changing climate has been enhanced in the Range Plan and also identified as an area of ongoing research.

1.6.2 Guardian programs

The Range Plan recommends an integrated community Guardian program be implemented across the Bathurst range. Similar to individual programs already in place for Bathurst caribou, an integrated program could support Indigenous people across the entire Bathurst range to monitor condition, abundance and distribution of Bathurst caribou alongside socio-cultural and environmental conditions.

One reviewer was in support of the Guardian program recommendation and suggested the program be designed to feed information back to decision-makers. Other comments suggested Guardian programs should not explicitly be designed to deal with harvesting issues, as this is outside the scope of the Range Plan.

Revisions to the Range Plan have been made to remove unnecessary references to harvest management. Initial steps towards developing an Indigenous-led Guardian program focusing on Bathurst caribou and its range have been identified in Table 7.

1.6.3 Conservation areas

The Range Plan proposes conservation areas be established around key habitat areas, including calving/post-calving grounds, as well as key water and land crossings. Some reviewers asked for clarification that conservation areas would not be used to restrict Indigenous harvesting rights. One reviewer asked for stronger wording with respect to protection of calving grounds. Some comments suggested the level of protection offered to water and land crossings should be specified and Government of the Northwest Territories (GNWT) legislative opportunities should be clearly identified. Reviewers also highlighted the importance of migratory routes and habitat connectivity.

Conservation areas discussed in the Range Plan refer to managing human disturbance, not harvest. The recommendations in the Range Plan are advisory and non-binding and are worded in a manner to be respectful of the authority of neighbouring jurisdictions. The GNWT will work with partners to identify opportunities to use habitat protection provisions under the *Wildlife Act* and *Species at Risk (NWT) Act* to provide habitat conservation for identified high priority habitat areas. New legislation in the NWT will offer the flexibility to designate the types of activities that would be allowed or excluded and the timeframe within which the restrictions would apply.

1.6.4 Mobile Caribou Conservation Measures

The Range Plan recommends Mobile Caribou Conservation Measures (MCCM) be implemented within the COH to protect caribou from disturbance. Reviewers commented that MCCM were just a way to allow business as usual without taking more stringent measures, that more research is required to determine and characterize the ZOI, and that MCCM should be tested.

Given the large geographic areas and dynamic range use patterns of caribou, MCCM appear to offer the best balance between minimizing disturbance to caribou while continuing to offer operational flexibility for industry. MCCM are meant to trigger mitigations to reduce disturbance to caribou as they approach and enter a project's ZOI. Table 7 of the Range Plan discusses key implementation

steps to develop guidance on MCCM, test them in a pilot project and convene a technical workshop to develop operational protocols.

1.6.5 Road management and planning

Reviewers expressed concern over future road development and potential impacts to caribou, especially in areas of important habitat. While some suggested harvest management should be removed from discussion of roads, as it is outside the scope of habitat management, others wanted the role of roads in facilitating harvest acknowledged.

The recommendation in the Range Plan is for roads to be planned and managed with consideration given to routing, design, consolidation of users and timing of construction in order to minimize and manage impacts to caribou. Revisions have been made to the Range Plan to remove unnecessary references to harvest. All proposed road developments are subject to the requirements for Wildlife Management and Monitoring Plans laid out in the *Wildlife Act* and further articulated in associated regulations and guidelines.

1.6.6 Offsetting/Compensatory mitigation

One reviewer stated that population level measures should not be considered part of a compensatory mitigation plan, as it would do nothing for habitat conservation, and that any funds directed towards research should be specifically habitat related. Another said habitat compensation through restoration would be most appropriate.

The offsetting examples presented in the Range Plan are not meant to be exhaustive, but rather are left to be decided upon during project-specific assessment and review processes. Population management actions have been removed from the Range Plan as examples of offsetting, and language clarifying the difference between formal offsetting and other compensatory approaches has been added.

1.6.7 Online staking

A reviewer commented that consideration of “unintended consequences” of online staking is outside the scope of the Range Plan and should be removed. While consideration and discussion of ecological, cultural and socio-economic values shaped all recommendations, as well as the underlying approach to the Range Plan, the section on the online staking recommendation has been revised.

1.6.8 Access management

Some reviewers expressed concern over access management being removed from the Draft Range Plan after being included in the Interim Discussion Document. Issues related to harvest management are being dealt with by the Bathurst Caribou Advisory Committee. Interdepartmental discussions related to access are underway outside of the range planning process.

1.6.9 Wildfire and fuels management

One reviewer emphasized the valuable contribution TK can play in identifying unburned areas of winter habitat for consideration for wildfire management and suggested the remaining unburned portions of the COH be recommended as conservation areas. The Range Plan specifies that

identifying large, strategically located patches of forest for consideration in the GNWT fire management Values at Risk database would be done in collaboration with Indigenous governments and organizations, communities and ENR's Forest Management Division.

1.7 Research, monitoring and adaptive management

An adaptive management framework described in the Range Plan provides a link between a) annual activities focused on tracking and assessing disturbance levels and range use, and b) longer term activities that occur at 5-year intervals that comprise an approach to regular assessment, review and renewal of Range Plan elements.

Comments suggest this section should more clearly state the process for review and revision of the Plan as new information becomes available, and that linkages between mitigation, monitoring assessment and revision should be strengthened. Several reviewers commented that monitoring the effectiveness of the Plan is difficult, if not impossible, and therefore it is not possible to establish whether or not the Range Plan is achieving its goal. Several submissions requested habitat quality and fire – including effects of climate change – be better characterized, monitored and factored into adaptation.

The adaptive management and monitoring sections of the Range Plan have been revised to provide more clarity. Monitoring the effectiveness of mitigation actions requires integrating project-specific scale monitoring with monitoring conducted at the range scale in an attempt to further our understanding of impact pathways. As we prepare to implement the Range Plan, indicators for specific management responses will be developed. The Range Plan provides more clarity on how fire and burned areas are considered in the establishment of thresholds and the adaptive management process. Areas related to habitat and climate change influences on wildfire are highlighted as requiring further research.

1.8 Implementation

Reviewers raised concerns with the level of GNWT commitment and financial support for Range Plan implementation, support and commitment from other partners/jurisdictions, and the lack of specific details on the implementation of each management approach.

Support and commitment from all parties of the Range Plan is important, especially with respect to implementation in neighbouring jurisdictions. The GNWT has a Memorandum of Understanding with the Government of Nunavut to cooperate and collaborate on the management of shared wildlife populations. The GNWT will continue government-to-government discussions to build on this agreement to ensure consistent management approaches. In the interim, implementation in the NWT is fully within the mandate of the GNWT and fulfills recommendations from the Wek'èezhì Renewable Resources Board and the Mackenzie Valley Environmental Impact Review Board that the GNWT take a leadership role in managing cumulative effects on the Bathurst caribou herd.

Work has been completed on policy, regulatory and legislative implementation options for the management approaches under consideration. In addition, separate reports on implementation of

Offsetting, Mobile Caribou Conservation Measures and Guardian programs have been produced. ENR intends to keep the WG informed on implementation progress through distribution of materials and annual meetings.

2 Key Directions from Working Group

The WG met in May 2018 to discuss the comments received on the Draft Range Plan during the public engagement phase from January to March 2018. The project team presented summaries based on major themes, as in the above sections. The final Range Plan was presented to the WG in August 2018, providing another opportunity for input.

Following discussions at these two meetings, the WG provided the following key direction for the BCRP:

- Form stronger linkages to overall herd management approaches, including reference to cycles of caribou abundance
- Raise the prominence of wildfire in the document and present disturbance due to fire alongside human disturbance on the range
- Acknowledge uncertainty with respect to ZOI and how it impacts caribou
- Examine how different sizes of ZOI affect disturbance calculations and threshold levels
- Add direct footprint thresholds in the CLDF alongside the total disturbance thresholds that include ZOI
- Examine how different ratings on habitat sensitivity affect threshold levels
- Present the range of perspectives on key issues in diagram form to acknowledge the diversity within the WG
- Pull in more community and TK perspectives, especially as they relate to understanding impacts on caribou, caribou responses and habitat changes due to recent and historic wildfire

3 Next Steps

A final Bathurst Caribou Range Plan was developed based on the Draft Range Plan and comments received during meetings, formal submissions and workshops. While the WG generally agreed with all the recommendations presented in the Range Plan, differing perspectives for some key areas are presented. Overall, the Range Plan will achieve its goal of a resilient range through implementation of all management approaches.