

Area of Inquiry	Key Findings and Recommendations	What Works Well	Opportunities to Improve	Recommendations	WRRB Response
To determine whether the WRRB process (including the Reasons for Decision Reports) for review of management proposals is efficient, effective, and gives equal consideration for science and traditional/community knowledge.	<ul style="list-style-type: none"><li>•The WRRB process has evolved over time to be effective and efficient by strengthening collaborative working relationships among Parties, including by adopting informal engagement mechanisms, such as the Technical Working Group. The process has considered traditional/community knowledge as it has become available over time.</li><li>•There are opportunities for Parties to improve the effectiveness and efficiency of the process by clarifying the roles of parties, increasing engagement with other Indigenous groups, communicating how input is used, using a central mechanism to track the completion of actions, reviewing timelines in the process, and validating recommendations prior to their finalization.</li></ul>	<ul style="list-style-type: none"><li>•Informal mechanisms and activities support an effective and efficient review process.</li><li>•Information sharing by Parties on caribou research and monitoring.</li><li>•The Board considers available traditional knowledge and scientific evidence to inform recommendations and determinations.</li></ul>	<ul style="list-style-type: none"><li>•Reducing the amount of written communications.</li><li>•Considering a suitable overall timeline for all the steps required to prepare high quality management proposals.</li><li>• Increasing consultation and engagement with other Indigenous groups on the management proposal review process.</li><li>•Designing and facilitating public hearings to enable collaboration.</li><li>•Using a central mechanism to track the completion of accepted actions.</li><li>•Directly communicating outcomes of management proposal review processes to interested members of the public.</li><li>•Communicating the roles of Parties in caribou management to Indigenous communities and the public.</li><li>•There is an opportunity to strengthen documentation of how traditional knowledge informs the Board's recommendations and determinations.</li></ul>	<ul style="list-style-type: none"><li>•The Board should continue to use a mix of both formal and informal mechanisms to lead an efficient and effective review process. Consider whether to communicate recommendations in draft form to the Working Group prior to finalizing the Reasons for Decision report to ensure understanding of the Board's intent.</li><li>•Establish and implement the adaptive co-management framework to track continuous improvement of accepted recommended actions and to support the assessment of the success or failure of management actions. Collectively track actions and determine roles and responsibilities of Parties in implementing the framework.</li><li>• Ensure that Reasons for Decision reports clearly describe how different knowledge informs recommendations, particularly when there are multiple information sources. Summarize input succinctly in one section of the Reasons for Decision report, including: who provided input, the nature of their input and how that was considered in the Board's determinations and recommendations. Complement existing mechanisms for communicating this information with direct outreach to improve information accessibility, maintain trust, and build relationships.</li><li>•Parties should develop a graphic that illustrates roles and responsibilities of different parties in caribou management.</li></ul>	<ul style="list-style-type: none"><li>•The Board will not provide recommendations in draft form to the Working Group prior to finalizing its Reasons for Decision report; however, they will commit to meeting with the WG after report submission to ensure understanding of the Board's intent.</li><li>• The Board will commit to tracking implementation of determinations and recommendations and to support the assessment of the success or failure of management actions, though this will not be done through the adaptive co-management framework.</li><li>• The Board will continue to ensure that Reasons for Decision reports clearly describe how different knowledge informs recommendations, including who provided input, the nature of their input, and how that was considered in the Board's determinations and recommendations.</li><li>• The Board will work with Parties to develop a graphic that illustrates roles and responsibilities of different parties in caribou management.</li></ul>

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To determine whether the WRRB's determinations and/or recommendations are appropriate for managing Kqk'èetì Ekwq.	<ul style="list-style-type: none"><li>•Recommendations and determinations have generally been appropriate for managing the herd in an evolving context. Developing short- and long-term recommendations particularly on habitat could support meeting management goals.</li><li>•The Board should work with Parties to monitor actions and validate recommendations in future Reasons for Decision reports. Implementing the Adaptive Co-management Framework is a key next step.</li></ul>	<ul style="list-style-type: none"><li>• The Board is making decisions as best they can given that many factors are out of their control.</li><li>• The Board identified communication with communities as important, which is appropriate given how important caribou are to community members.</li><li>• The Board addressed the issue of the Bathurst herd having overlap with the Bluenose-East and Beverly herds with the mobile protection zones. While there are differing views on the design of the zone, it is considered an effective management action, though there may be opportunities to enhance its design and implementation with input from more partners.</li><li>• The Board identified biology and policy research priorities to better understand the herd decline, highlighting the need to collect traditional knowledge and science on research questions.</li></ul>	<ul style="list-style-type: none"><li>• More information and communication from the Board and governments implementing management actions.</li><li>• More information about how the Board considers different inputs to inform their recommendations and determinations for specific management approaches.</li><li>• Consider providing a regular newsletter be provided to community members.</li><li>• Improve communication of WRRB mandate and authority, i.e., there is a need to provide more information on what the Board can and cannot do and why.</li><li>•Track completion of and ensure accountability and/or follow-up of recommendations.</li><li>• Improve clarity on the Board's intent with recommendations, i.e. elaborate on recommendations by providing more detail and how propose a Party could implement recommendations.</li><li>• Ensure that Parties indicated for each determination and recommendation are appropriate, as GNWT and TG specialize in the roles they plan and in the activities they conduct.</li></ul>	<ul style="list-style-type: none"><li>• Consider the whole system of caribou management and monitoring to develop a suite of recommendations that would support the short- and long-term objectives. Discuss the broader management approach for caribou in the Working Group to align on short- and long-term recommendations. Ensure recommendations build on ongoing work of Parties and other partners.</li><li>• Strengthen engagement and communications on the current approach for the mobile zone, predator management, and monitoring measures to build understanding of these approaches. Conduct regular bilateral engagement with partners to develop stronger relationships among wildlife managers which will ultimately support a more efficient review process.</li><li>• Consider the feasibility of determinations and recommendations to support effective implementation. A validation session with Parties through the WG will provide the Board an opportunity to refine recommendations prior to finalizing, which may lead to less recommendations being rejected. The Board may consider developing a prioritization method that considers feasibility of implementation of recommendations to acknowledge the capacity of Parties to implement them.</li><li>• Track and enforce actions to strengthen the Board's recommendations in response to future management proposals. Tracking and enforcing actions will support the Board in identifying whether actions have been effective to adjust future recommendations and determinations.</li></ul>	<ul style="list-style-type: none"><li>• The Board will commit to discussions about the broader management approach for caribou with the Working Group to align on short and long-term recommendations.</li><li>• The Board will commit to ensuring that recommendations build on ongoing work of Parties and other partners.</li><li>• The Board will work with Parties to improve communications on the current approach for the mobile zone, predator management, and monitoring measures to build understanding of these approaches. The Board will participate in engagement meetings with partners hosted by GNWT and/or TG.</li><li>• The Board will commit to prioritizing the feasibility of implementation of recommendations to acknowledge the capacity of Parties to implement them.</li><li>• The Board will commit to tracking and enforcing actions to strengthen the Board's recommendations as this will support identifying whether actions have been effective to adjust future recommendations and determinations.</li></ul>

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To determine whether the management proposals that have been submitted to the WRRB from Parties to the Tłı̨chǫ Agreement have proposed effective management and monitoring actions for Kòk'èetì Ekwò.	<ul style="list-style-type: none"><li>•Proposed management and monitoring actions have been effective in responding to the state of the herd and are known to work for other caribou and ungulate populations, however, the herd has continued to decline.</li><li>•Parties should incorporate more habitat-based measures and low disturbance monitoring and track the outcomes over time to determine if actions are effective in meeting the short-term objective.</li></ul>	<ul style="list-style-type: none"><li>•Management proposals have resulted in some consistent monitoring activities which is important for caribou monitoring. The population and composition are conducted consistently over time using the same methods for each survey, which is effective as it allows for accurate monitoring of the herd.</li></ul>	<ul style="list-style-type: none"><li>•Proposed monitoring actions are considered effective in gathering information needed to support management of the herd, but the cumulative effects of disturbance from multiple aerial surveys is not effective. Consider strategies to combine surveys to reduce frequency and reduce variation will increase effectiveness and have the potential to reduce stress caused by multiple surveys.</li><li>• The proposed actions in 2010 and 2016 are based on tested methodology but it is challenging to assess their effectiveness given the continued decline of the herd. While the Bathurst herd continued to decline from 2016 to 2022, more novel actions were presented in 2022, which were considered to be more effective such as adaptive co-management strategies and coordinated survey efforts between jurisdictions and herds.</li><li>•Proposed actions do not address habitat protection, habitat quantity and quality, or climate change, which are critical factors for caribou management.</li></ul>	<ul style="list-style-type: none"><li>• Leverage technology and artificial intelligence for surveys that require low level flight, which would support low disturbance monitoring.</li><li>• Incorporate caribou habitat quantity and quality in monitoring and management actions proposed by the Tłı̨chǫ Government and GNWT. Actions that track cumulative effects on landscape change, climate change, predator behaviour, and harvest and using other similar tools would support better understanding of the herd to inform monitoring and management actions. Work collaboratively with land use planners and habitat or landscape managers to build alignment between regional landscape conservation approaches and caribou management in the Wek'èezhìi.</li><li>•Communicate the outcomes of actions on an ongoing basis to improve effectiveness of future proposed actions. Communicate the evaluation of the predator management program. Report on the mobile conservation zone publicly in an accessible way to support better understanding of effectiveness of actions and to inform more effective actions in the future. Consider a newsletter to communicate the results and next steps.</li></ul>	<ul style="list-style-type: none"><li>• The Board will support research into determining applicability of using technology and artificial intelligence for surveys that require low level flight, which would support low disturbance monitoring.</li><li>• The Board will commit to follow up with GNWT and TG to suggest incorporating caribou habitat quantity and quality in proposed monitoring and management actions as well as tracking cumulative effects on landscape change, climate change, predator behaviour, and harvest, and using other similar tools would support better understanding of the herd to inform monitoring and management actions.</li><li>• The Board will commit to improving communication about the outcomes of actions on an ongoing basis to improve effectiveness of future proposed actions, including using its quarterly newsletter to communicate results and next steps.</li></ul>

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To determine whether traditional/community knowledge has been adequately used in Kqk'èeti Ekwq management proposal submissions.	<ul style="list-style-type: none"><li>•As capacity of Indigenous governments and organizations (namely Tłı̨chǫ Government) has increased over time, so has the availability and consideration of traditional knowledge in management proposals, though dialogue in the Technical Working Group is still science-heavy.</li><li>•Parties should better document how they consider traditional knowledge from all Indigenous groups and how traditional knowledge informs Bathurst caribou management and monitoring.</li></ul>	<ul style="list-style-type: none"><li>• Traditional knowledge on Bathurst caribou has been more accessible since 2009 to better inform management actions, particularly given to the establishment of the Boots on the Ground program in 2016 and increased capacity to obtain traditional and community knowledge.</li></ul>	<ul style="list-style-type: none"><li>•While dialogue about traditional knowledge among Parties has increased, the technical Working Group discussions and expertise are science-heavy. The GNWT is not seen to be effectively fulfilling its consultation and engagement responsibilities, which creates a perception that traditional knowledge is not adequately considered. It was felt that WRRB expertise is also science-heavy and that the Board could encourage more conversation about traditional knowledge in the technical Working Group.</li><li>•Traditional knowledge from the Tłı̨chǫ Government seems to be most available and therefore most heavily relied upon in management proposals. Knowledge differs among Indigenous groups, and it is important to ensure that the knowledge of all groups that are within or impacted by actions in the Wek'èezhìi can be included in management proposals. Without this transparency on how input is used, it can lead to the perception that Parties weigh certain knowledges differently which may not be appropriate.</li></ul>	<ul style="list-style-type: none"><li>• Ensure management proposals consider and reflect all best available traditional knowledge from other Indigenous group (in addition to the Tłı̨chǫ) and document how it informed Bathurst caribou management and monitoring. It is best practice to consider all Indigenous knowledges in the context of Bathurst caribou management given their wide geographic range and interactions. The GNWT should also have an appropriate approach to considering traditional knowledge beyond relying on the Tłı̨chǫ Government.</li><li>• Parties could collaboratively evaluate the best way forward for increasing the incorporation of traditional and community knowledge. Options Include: 1) The GNWT may want to consider increasing their capacity to engage with traditional knowledge alongside western science by connecting their learnings from other Indigenous groups about caribou to management proposals more directly, 2) Parties can document from whom traditional knowledge was collected or shared and how it was used to inform management actions to demonstrate it is adequately considered, 3) The Technical Working Group has supported increased dialogue on traditional knowledge. There is an opportunity to expand the scope of this WG that includes traditional knowledge holders and western scientists and explores how to bring together traditional knowledge with western science for caribou monitoring and management.</li></ul>	<ul style="list-style-type: none"><li>• The Board will continue to request that management proposals consider and reflect all best available traditional knowledge from all relevant Indigenous groups.</li><li>• The Board will commit to ensuring that they will document from whom traditional knowledge was shared and how it was used to inform determinations and recommendations to demonstrate it was adequately considered.<ul style="list-style-type: none"><li>• The Board will commit to supporting the increased dialogue of traditional knowledge at the technical working group table.</li></ul></li></ul>

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To determine whether there are any redundancies in current Kqk'èeti Ekwq monitoring actions, and if there are any alternatives or improvements to current monitoring actions that could be made.	<ul style="list-style-type: none"><li>•The GNWT is following a standard approach for aerial survey techniques as they are similar across jurisdictions, with most following the same six steps that the GNWT uses.</li><li>•There is a balance between collecting data more frequently and disturbance to the herd. There are some redundancies in conducting photo censuses and composition counts through using two fixed wing and helicopters on the calving ground.</li><li>•The WRRB may wish to discuss with the GNWT whether a reduced frequency of monitoring (e.g., every 3 years) would provide enough data for herd management, and whether using fewer aircraft over a longer period would result in less disturbance to caribou and cost for similar data quality.</li></ul>	<ul style="list-style-type: none"><li>•The GNWT is following a standard approach for aerial survey techniques as they are similar across jurisdictions, with most following the same six steps that the GNWT uses: 1) Identify calving ground from collars, 2) Conduct an aerial reconnaissance to stratify the survey area, 3) Aerial photo surveys, 4) Aerial visual surveys, 5) Composition counts, 6) Statistical estimations.</li></ul>	<ul style="list-style-type: none"><li>•There are some redundancies in conducting photo censuses with multiple aircraft and multiple composition counts. The GNWT use two aircraft for photo census on the Bathurst calving ground, which may be redundant. In addition, visual surveys with rear-seat observers in fixed-wing aircraft are frequently employed, particularly in lower density survey blocks or environments.</li><li>• There are redundancies in conducting composition counts. There may be trade-offs to consider when selecting a methodology. For example, the availability of data and the cost and disturbance to animals for composition counts. There are some redundancies in conducting photo censuses with multiple aircraft and multiple composition counts.</li><li>•The GNWT uses a series of semi-custom statistical analyses which may be redundant but further review is needed. The GNWT's statistical methods are advancements on traditional methods to estimate and control various sources of variation – from observer bias to error in composition data and error due to emigration.</li></ul>	<ul style="list-style-type: none"><li>• Consider whether population survey frequency needs to be changed using scientific and traditional knowledge lenses. Survey frequency is a balance between the need for data and the costs and disturbances to the animals. <ul style="list-style-type: none"><li>• Reduce the number of aircraft. Using one fixed wing aircraft would result in less disturbance to caribou and costs to GNWT while maintaining similar data quality.</li></ul></li><li>• Consider eliminating composition counts. Composition counts offer a good way to estimate if the population is growing or declining without having to do a full population count. Values of calves:100 cows do not vary considerably from year to year, so this is a survey that may not be required every year.</li><li>• Consider a review of statistical analysis approaches for estimating populations. The WRRB or GNWT may wish to consider a separate statistical review of current statistical methods.</li></ul>	<ul style="list-style-type: none"><li>• The Board commits to discussions with the technical WG about population survey frequency needs, aircraft needs, and annual monitoring needs using the adaptive management framework.</li><li>• The Board commits to discussions with the technical WG to consider a review of statistical analysis approaches for estimating populations.</li></ul>
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To determine whether the potential impacts of emigration have been accurately described and used to inform management and monitoring actions.	<ul style="list-style-type: none"><li>•Emigration is not directly reported by the GNWT to inform management and monitoring actions but is accounted for in population counts.</li><li>•The potential impacts of emigration have been accurately described and used to inform management and monitoring actions and ERM does not have any recommendations at this time.</li></ul>	<ul style="list-style-type: none"><li>•Emigration is not directly reported by the GNWT to inform management and monitoring actions but is accounted for in population counts. Where studies have been conducted, herd switching appears to be a relatively common occurrence between adjacent herds, perhaps particularly those with a high level of seasonal range overlap, and particularly between small herds or from small herds to large herds. The statistical tools to define switching also appear to be well developed. The GNWT does not appear to report separately the rate of emigration but accounts for emigration and herd switching in their population counts.</li></ul>		<ul style="list-style-type: none"><li>•ERM determines that the potential impacts of emigration have been accurately described and used to inform management and monitoring actions and does not have any recommendations at this time.</li></ul>	<ul style="list-style-type: none"><li>• The Board commits to supporting research that builds on previous work conducted with GNWT collaring data, and addresses key concerns previously identified by the Board, including uncertainty around ekwq̄ (caribou) winter distribution and the complexity of managing overlapping herds.</li></ul>