

Table 1: Summary of Review Board Measures for Bathurst caribou at Gahcho Kué, Ekati Sable Pigeon Beartooth, and Snap Lake

ID # (from report of EA)	Recommendation Type: Follow-up Program	Modified or rejected by Ministers	Original intent of the measure (GNWT analysis)	GNWT response (hyperlinks are shown in blue)
Gahcho Kue				
Page A-v	<p>The GNWT is the primary authority for wildlife, and therefore should ensure that the requirements for follow-up are met through existing licenses, permits, authorizations, or additional agreements, if necessary. As land managers, AANDC and associated regulators should ensure that monitoring and associated feedback to operations for modifying or adopting new mitigation designs, policies, and practices related to wildlife habitat are incorporated into the Land Use Permit and/or Water License where appropriate. The follow up program should include, but is not limited to:</p> <ul style="list-style-type: none">• monitoring the zone of influence and its likely causes (e.g. noise, dust, mine activity) (can be completed as part of the Wildlife Effects Monitoring Program);• using results from monitoring the extent of the zone of influence and likely causal mechanisms (completed as part of the Wildlife Effects Monitoring Program) to intensify or reduce mitigations that will minimize the zone of influence;• monitoring the presence of caribou along the winter access road and the effects of the road on caribou movement and behaviour;• describing action levels that will be used to determine when monitoring or mitigations or changes to existing mitigation are necessary; and demonstrating how existing baseline information (such as the caribou trails as a model for likely caribou approaches to the site) and Traditional Knowledge are incorporated in monitoring and management plans.	<p>The Responsible Ministers adopted the Panel's recommendation and approved all associated measures and follow-up programs, without modification.</p>	<p>The Panel requires a follow-up program to test the effectiveness of the measure below (Measure 1) and to test the effectiveness of De Beers' environmental design features and mitigations and impact predictions. The Panel acknowledges that De Beers has committed to developing a follow-up program and has submitted draft and conceptual monitoring plans during this EIR but that additional detail is required for the plans to be effective as a follow-up program. (EIR – page 90).</p>	<p>This recommendation has been implemented to the extent possible at this stage in the Gahcho Kue Project's life. GNWT believes the recommendation is effectively written as it links monitoring to a mitigation outcome and it identifies the proper authorities and considers process. Given the early phase of the project, it is too early to evaluate the effectiveness of the follow-up program itself.</p> <p>The Land Use permit for Gahcho Kue includes a condition (Section 26(1)(h) Wildlife and Fish Habitat, item 45) that the Board must approve the habitat protection measures in a WWHPP.</p> <p>In addition, GNWT-ENR and De Beers have signed a Wildlife MOU which stipulates that DeBeers shall develop and WWHPP and WEMP that is mutually agreeable with GNWT and articulates how the WWHPP and WEMP will be developed, reviewed and updated.</p> <p>WWHPP and WEMP are the follow-up programs for Wildlife and Species at risk. Specific sections relevant to Caribou: WWHPP: Sections 5.2, 5.3.1, 6, 1.5, 4 WEMP: Sections 1.5 and 3.4</p>

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3	<p>The GNWT and AANDC will:</p> <ul style="list-style-type: none">Develop and implement a cumulative effects framework that links project specific monitoring and mitigation (project specific wildlife effects monitoring program and wildlife and wildlife habitat protection plan) to cumulative effects monitoring and mitigation and ensure there is two-way feedback between the project and cumulative scales. The implementation of the cumulative effects framework should lead to effective management including best management practices that can be applied at the Project scale;Report annually on the development, implementation and results of the framework. <p>De Beers will:</p> <ul style="list-style-type: none">Monitor project specific effects (e.g. size of the Zone of influence, changes in habitat, effects of the Winter Access Road on caribou movement and behaviour) and will report to the GNWT and make the results public on how project specific effects contribute to cumulative effects for the duration of the Project.	<p>The Responsible Ministers adopted the Panel’s recommendation and all associated measures and follow-up programs, without modification .</p>	<p>Evidence provided for this review shows that governments have: relied on proponents to do cumulative effects assessments; do not monitor changes in combined footprint or habitat availability at the range-scale; focus management efforts on harvest management; and do not appear to have considered the need for additional measures to reduce ongoing direct and indirect habitat loss in the Bathurst range at a time when herd abundance is extremely low.</p> <p>To address the likely significant cumulative effects, the Panel requires De Beers to reduce its contribution to cumulative effects and for governments to develop cumulative effects monitoring and management that ensures that the effects of the Project, in combination with other developments and natural factors, do not adversely affect the sustainability of the herd, or the continued opportunity for traditional and non-traditional use of caribou, unless aboriginal parties, co-management boards, and governments accept the consequences. (EIR – page 100).</p>	<p>This measure has been implemented to the extent possible at this phase in the Project’s life.</p> <p>ENR has drafted a Cumulative Effects Assessment Monitoring and Management Framework (CEAMMF) which was finalized April 23, 2015. This document was previously provided it to the Review Board for posting on the public registry for the Jay Project (Registry #366),</p> <p>Reporting on the development, implementation and results of the framework will be tailored to the actions and processes that comprise the framework. Operators are responsible for reporting on monitoring and mitigation undertaken at the project level according to schedules outlined in their individual WWHPPs, WEMPs and other management plans. GNWT will report annually on the development, implementation and results of the framework as they apply to the regional, range wide scale through regional wildlife monitoring workshops, CIMP annual results workshops, and by occasional updates to the NWT Discovery Portal. Landscape disturbance metrics that are tracked as a component of the Bathurst Range Plan will be summarized and reported on annually by GNWT to facilitate an adaptive management approach to meeting landscape objectives.</p> <p>The Wildlife MOU signed by ENR and DeBeers, along with the current WWHPP & WEMP stipulates the reporting and review requirements. When DeBeers moves in to operations, opportunities to look at development of best management practices for application at Gahcho Kue and beyond, to support cumulative effects management, will be undertaken.</p> <p>Regarding DeBeers’ obligations under this Measure, please see response to row 1 of this Table (follow-up program recommendations for Gahcho Kue project).</p> <p>GNWT considers the implementation of this measure to date can be considered effective in that it directly addresses one of the key concerns for caribou: cumulative effects. It identifies the key authorities for addressing the issue beyond the project-scale while also considering a process for linking mitigations at the project and regional scales – something that is key for managing cumulative effects. This measure, along with similar Measure 8 for NICO, has been effective in prompting the GNWT-ENR to take a leadership role in collaboratively developing and implementing an approach to addressing cumulative effects on the range of the Bathurst herd.</p>
1	<p>De Beers will:</p> <ul style="list-style-type: none">Minimize impacts to caribou and the extent of the zone of influence around the mine site to the extent that is technically feasible. Prior to construction, develop a caribou protection plan that ensures protection of caribou and caribou habitat. The caribou protection plan should include an adaptive management framework demonstrating how the Wildlife Effects Monitoring Program and the Wildlife and Wildlife Habitat Protection Plan are linked.	<p>The Responsible Ministers adopted the Panel’s recommendation and all associated measures and follow-up programs,</p>	<p>The Panel recognizes that protecting habitat is important to the resilience of the herd. (EIR page 88)</p> <p>The Panel concludes that a time when caribou may be at or near the significance threshold and when the effects of development on the movement and distribution of caribou are not fully understood, all land users, including developers, should be required to minimize adverse impacts on caribou. The</p>	<p>This recommendation has been implemented to the extent possible at this stage in the Gahcho Kue Project’s life.</p> <p>The first part of this measure is directed at the developer. De Beers has committed to minimizing impacts to caribou and has addressed this in their WWHPP and WEMP (see row 1 of this table, response to Follow-up program recommendations). DeBeers incorporated its caribou protection plan into their WWHPP (Section 4.4, with adaptive management elements outlined in Section 6).</p> <p>De Beers and ENR also signed a Wildlife MOU that outlines the steps GNWT and De Beers will take to develop a mutually acceptable WEMP and WWHPP, as well as assurance on De Beers’ commitments with respect to Wildlife Plans.</p>

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	<p>Governments, land managers and regulators will:</p> <ul style="list-style-type: none">• Include conditions for habitat protection in the Land Use Permit.	<p>without modification .</p>	<p>Panel concludes the incremental effects of the Project are likely to be significant, and therefore recommends the measure below. (EIR page 90)</p>	<p>The Land Use permit for Gahcho Kue includes a condition that the Board must approve the habitat protection measures in a WWHPP.</p> <p>While this measure does identify where responsibilities lie, GNWT does not believe that this measure has proven to be effective for two reasons. First, given that the causes of zone of influence have yet to be completely understood, it leaves the impact pathways to be addressed in the stipulated plan open to interpretation. Secondly, by implicating what may be interpreted as the need for a third plan in addition to the WWHPP and WEMP, this measure was unnecessarily duplicative and bureaucratically cumbersome for the developer and the regulators. GNWT is of the view that the caribou protection intentions of the measure can be achieved with a combination of DeBeers’ WWHPP and WEMP and the Cumulative Effects Assessment Monitoring and Management Framework for the Bathurst herd.</p>
2	<p>De Beers will:</p> <ul style="list-style-type: none">• Construct and operate the Winter Access Road in a way that minimizes its adverse effects as a partial barrier to caribou movement and migration;• Monitor to determine the presence and behaviour of caribou along the winter access road using means in addition to satellite collar data, such as track counts and visual observations;• and ensure that the caribou protection plan, the wildlife effects monitoring program and the wildlife and wildlife habitat protection plan address the effects on caribou movement and behaviour along the winter access road.	<p>The Responsible Ministers adopted the Panel’s recommendation and all associated measures and follow-up programs, without modification .</p>	<p>The Panel agrees that the road access management plan is necessary to document the use and harvest on the winter access road. The Panel believes that the information collected from monitoring the road should be used for effective management of the herd at the regional scale and to reduce Project specific effects.</p> <p>The presence of caribou along the winter access road should be monitoring using other techniques in addition to satellite collar data, such as road surveys and tracks counts in the snow. Observations at the site-specific level can be used to apply site-specific mitigation (such as convoying trucks, road closures and reduced speed) in addition to contributing to regional monitoring efforts. The panel concludes the incremental effects of the access road are likely to be significant (EIR Page – 94)</p>	<p>This measure has been implemented to the extent possible at this point in the Project life.</p> <p>The MOU between GNWT and DeBeers specifically includes a requirement for the parties to work together to collaborate on the development and implementation of access monitoring along the Project access roads. Approaches to traffic management to minimize potential collisions and barrier effects and methods of access road monitoring, including reconnaissance surveys and behaviour monitoring are outlined in WWHPP Section 4, Section 5.3, and Appendix A as well as in the WEMP Section 3.4. In 2014 monitoring results were reported on at a Caribou Monitoring Workshop (September 23, 2014) and a subsequent report “Caribou Behaviour Monitoring 2014).</p> <p>This measure has proven to be is effective in that it clearly addresses reduction of a key impact, draws the link between project monitoring and operation and incorporates process considerations.</p>

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43	Recommendation (not measure): That BHP limit traffic on the Sable access road from the Pigeon lease area, north to the Sable site during caribou migration periods to that described in the BHP EAR. That BHP establish a monitoring program for the road in collaboration with aboriginal organizations. Given the importance of caribou, it is essential that the study approach be scientifically sound, take advantage of traditional knowledge, and ensure adequate data collection for improving prediction confidence for future effects and cumulative effects assessments	The Responsible Ministers’ decision letter stated that: “With regard to the remaining 60 recommendations, the Board did not make a finding of significant adverse impacts regarding each of the matters addressed... Consequently, it is not open to the responsible Ministers to adopt these Board recommendations.” ¹	The Board determined that the operation of the Sable road is an important issue that warrants careful attention. However, the Board also concluded that the effects on wildlife would not cause a significant adverse impact. (p. 39, REA).	<p>This recommendation has been implemented.</p> <p>In their March 2, 2001 response to the REA, BHP agreed to accept this recommendation and comply with its interpretation.</p> <p>As outlined in the WEMP for Ekati caribou are given the right of way, and roads are closed when caribou are on the road or in the vicinity. Both the Misery Road and Sable Roads have been closed when caribou are migrating through (2012 EIR, p8-13),</p> <p>Ekati has a caribou monitoring program on site. The program includes mandatory reporting of all caribou sightings, documentation of annual timing of caribou use of the mine area, and tracking changes in the number of caribou moving through the mine site over the years. (2012 EIR, p5-13).</p> <p>Ekati has also implemented a comprehensive wildlife camera monitoring program along project roads, including the Sable Road.</p> <p>The Environmental Agreement for the Ekati Mine requires DDEC to provide an Environmental Impact Statement (EIS) every three years. One purpose of this document is to report on the longer term effects of the Project and the results of environmental monitoring programs and the actual performance of the Project in comparison to the results predicted in the EA. The next EIS will be provided in 2016.</p>

¹ Letter goes on to state that “In the spirit of fostering a sound environmental management, I have instructed Northwest Territories regional officials to provide you with comments on these recommendations, and to forward copies to the Mackenzie Valley Land and Water Board and other regulators for their consideration in the regulatory process.” Letter from Minister of AANDC to Review Board, dated April 12, 2001, posted to the Review Board public registry (www.reviewboard.ca).

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R19	De Beers shall design and implement a pre-construction baseline data collection program for caribou within the RSA, in cooperation with the GNWT, Aboriginal groups, and renewable resource users. This program shall be designed such that it can contribute to regional monitoring initiatives.	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	De Beers should have provided quality baseline information supported by TK, to increase the precision of impact predictions and improve adaptive management efforts during project development. A more robust analysis of various development and environmental scenarios using several lines of inquiry to make a more conservative estimate of indirect habitat impacts (i.e., use of EKATI data to make predictions using the ENERGETICS and POPULATION models, use of the GLOBIO or other zone of influence methods), as well as more extensive use of TK and academic research and literature would have increased the Board's confidence in De Beers' Conclusions. (EAR - Page 158).	<p>This measure was implemented. De Beers conducted base line data collection from 1999 to 2004. As a result, three reports were produced:</p> <ul style="list-style-type: none">- De Beers, 2002b. Baseline Wildlife Monitoring: Snap Lake Diamond Project 1999-2000- De Beers, 2003. Baseline and Interim Wildlife Monitoring, Snap Lake Diamond Project 2002.- De Beers, 2005. Snap Lake Project – Wildlife Baseline Studies – 1999-2004. <p>The results of this program formed the basis of the first Wildlife Effects Monitoring Program (WEMP) in 2007.</p> <p>While data collection is important for developing baseline information against which to test impact predictions data collection cannot strictly be considered a measure for the control, reduction, or elimination of an adverse impact of a development. We assume that this measure was to be considered alongside measures R20, R15, R14 in particular. While the measure was effective in prompting DeBeers to collect <i>more</i> baseline data, the lack of clear objective to guide the baseline data collection in the measure makes it difficult to assess the effectiveness of the measure. For instance, the explanation of the intent of the measure makes reference to broad impact predictions and a suite of tools and sources apparent intended to help with predictions of project impacts, whereas the measure requires collecting baseline data to support regional initiatives. It is unclear from the record which regional initiatives were in place to which DeBeers could contribute. Monitoring programs to get at site specific objectives would need to be designed differently than programs to feed into regional programs; therefore the lack of clarity of the objective(s) of this measure may have impacted the quality of the baseline data.</p>
R20	De Beers shall design and implement a specific monitoring program to detect effects of the SLDP and the Snap Lake winter access road on caribou behaviour. The requirement for this program shall be included in the Environmental Agreement.	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	However, the evidence from this proceeding does not convince the Board that the SLDP in itself will cause a significant adverse cumulative impact on caribou movement at this point. The Board agrees with De Beers and GNWT that the incremental change in movement caused by the SLDP in combination with other projects listed in the Terms of Reference, is anticipated to be within the range of natural variation exhibited by caribou. In summary, the Board concluded that De Beers has not provided sufficient evidence to adequately demonstrate that a significant adverse impact of the SLDP in combination with other developments on caribou population and movement will not occur. The Board also concludes that significant adverse cumulative effects on caribou population and movement are possible in the future. Given the available evidence, the Board concludes that precautionary measures must be implemented to prevent such a significant adverse impacts from occurring. (EAR - Pages 159-160)	<p>This measure was partially implemented.</p> <p>The need for caribou behaviour monitoring was generally included in the Environmental Agreement under Articles 6(b) Article 7.3 and an objective related to caribou behaviour has been listed in annual and comprehensive WEMPS over the years.</p> <p>The main approach to looking at caribou behaviour in the baseline studies (see references in response to R19) included aerial surveys during which caribou distributions and group composition in the study area were monitored and some course behaviour information (i.e. feeding/moving versus resting) was recorded. The comprehensive 2007 WEMP provided information on caribou avoidance derived from aerial surveys in the SLDP area; however, it is not clear that an approach to activity monitoring such as scan or focal surveys similar to those used at other mines on the winter access road or elsewhere on-site was included during baseline and construction monitoring studies. While there is evidence that inclusion of dedicated behaviour studies were contemplated at one point, it is unclear that there have been enough caribou around the mine to trigger these after 2007. Very few caribou have been observed through aerial surveys since 2007, and while there do appear to have been incidental caribou observations onsite, annual WEMPs do not include caribou presence thresholds that might have been used to guide when such surveys would be conducted.</p> <p>While monitoring is important for developing baseline information against which to test impact predictions, monitoring cannot strictly be considered a measure for the control, reduction, or elimination of an adverse impact of a development. ENR assumes that this measure was to be considered alongside measures R15 and R13 in particular.</p>

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R15	De Beers shall evaluate and incorporate the results of the project-specific monitoring into the Wildlife Management Plan (see recommendation 2.5.3.3.2) to minimize impacts on grizzly bear, wolverine, and caribou behaviour and movement.	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	De Beers did not convince the Board that significant impacts on wildlife movement and behavior were unlikely. The GNWT and the communities presented evidence that suggested that impacts could be moderate to high. In the Board's view, this information was as convincing as the case presented by DeBeers. Consequently, the Board concludes that significant impacts on caribou movement and behavior could result from the development of the SLDP. (EAR - page 124)	<p>This measure does not appear to have been implemented.</p> <p>It is presumed that data collected during the baseline and construction monitoring programs were used to develop a 2006 Wildlife Safety Plan, which was then reviewed by SLEMA and other parties and revised to become the 2007 Wildlife Management Plan (WMP). There does not appear to be documentation of clear instances where monitoring results informed the development of or changes to the mitigations approaches that were included in the 2007 WMP, nor do there appear to have been any revisions made to the 2007 WMP since its development. Even the most current annual Wildlife and Wildlife Habitat Protection Plan and the Wildlife Effects Monitoring Program reports (2014) continue to refer to the 2007 WMP as the one guiding operation. Furthermore, the extent to which monitoring results have been informing mitigation practices has not been clearly spelled out in annual reports since then, nor in the 2012 comprehensive WEMP. This highlights the need for clear documentation to link monitoring results with mitigation actions to provide assurance that adaptive management taking place.</p>
R13	De Beers shall, in consultation with the GNWT, develop a Caribou Protection Plan that imposes increasingly stringent mitigation measures as the number of animals potentially exposed to disturbance from the site increases. This plan could be modeled on the caribou protection measures included as terms and conditions of land use permits by INAC in the past.	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	During the November-December 2002 Technical Sessions held in late 2002, De Beers suggested that it would work with GNWT to develop thresholds for the implementation of specific mitigation measures. This approach would ensure that more stringent mitigation was enacted with increasing numbers of caribou, limiting the number of animals exposed to significant impacts on movement and behavior. As of the closing of the Public Record, however, no such detailed mitigation plan had been submitted by DeBeers. (EAR - page 124)	<p>This measure has been partially implemented.</p> <p>Caribou protection actions related to herding and deterrent actions are captured in Section 4.1.2 of the 2007 Wildlife Management Plan (Section 4.1.2), the source of detailed information on mitigation practices cited in the 2014 Annual WWHPP (Section 2.1). While this section does link the number of caribou to when deterrent actions will be taken, it is not clear how other types of mitigations related to obvious sources of disturbance (i.e. vehicle traffic) are related to numbers of caribou present. Additional and more general mitigations related to vehicle and air traffic, are also included in Section 4.2 of the Wildlife Management Plan, though unrelated to the number of animals present. There do not appear to have been any revisions made to the 2007 Wildlife Management Plan on the record.</p> <p>In GNWT's view, it is not clear if the implementation of this measure has been effective. It seeks to ensure that there is an effective mechanism to link monitoring of caribou onsite with mitigation actions taken. However, lack of clarity as to which pathways were considered the most effective ones to focus on so as to control, reduce or eliminate the potential significant impact to caribou movement or behaviour weakened the link to the significant adverse impact thereby contributing to a result that was perhaps off the mark.</p>
R14	De Beers shall, in consultation with the GNWT, develop a monitoring program to test the predictions of the EAR for grizzly bears, wolverines, and caribou and to further the scientific understanding of behavioral responses of these species to mine-related disturbance.	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	In summary, the Board concludes that DeBeers has not provided sufficient evidence to demonstrate that a significant adverse impact on caribou, grizzly bear and wolverine movement and behavior will not occur as a result of the SLDP. Without further evidence or monitoring and mitigation details, the Board concludes that precautionary measures must be implemented to prevent significant adverse impacts from occurring. (EAR - page 124)	<p>This measure has been implemented.</p> <p>A requirement for development of a monitoring program for wildlife was included in the Environmental Agreement (Section 7.2c), and wildlife monitoring approaches have been reported in the annual WEMPs, two comprehensive reports (2007 WEMP and 2012 WEMP) and most recently in the 2014 WWHPP (focus on surveillance monitoring and incidental monitoring) and 2014 WEMP: 2014 WEMP Section 2.1 – caribou 2014 WEMP Section 2.2 – grizzly bear 2014 WEMP Section 2.3 – wolverine</p> <p>Annual Reports have included a table called “Environmental Assessment Report Prediction and Accuracy of the Prediction” that presented DeBeers’ analysis of how the monitoring results have helped to test the impact</p>

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				<p>prediction (i.e. Table 3-1 in 2014 Report).</p> <p>Modifications to the monitoring programs have been made over the years through the review process stipulated in the EA and through coordination with other mines and GNWT. For instance, at one of the first regional wildlife monitoring workshops for the diamond mines in the region (Handley, J. 2010), it was acknowledged that methods such as snow track surveys and sign surveys were not conducive to detecting the impacts of a single mine for wide-ranging species and adjustments were made to coordinate monitoring among the mines, and in the case of wolverine, GNWT, to conduct regional monitoring for grizzly-bear and wolverine.</p> <p>While a well-designed, targeted monitoring program is critical to measuring potential impacts, monitoring in and of itself cannot strictly be considered a measure for the control, reduction, or elimination of an adverse impact of a development. It is ENR’s understanding, however, that this measure was likely meant to be paired with Measure R-15 in particular, to close the adaptive management loop.</p>
R26	The Board recommends that the Government of Canada take the lead in implementing a regionalized, multi-party response to the monitoring for and management of cumulative effects in the Slave Geological Province preferably under the umbrella of the CEAM Strategy and Framework.	The Responsible Ministers adopted the Board’s recommendation, and all associated measures, without modification.	There is an overall lack of coordinated environmental baseline information for developments in the Slave Geological Province and access to information is also currently a challenge in NWT. The current levels of baseline information collection by government agencies does not appear to the Review Board, to be sufficient to support environmental impact assessment decisions of resource development projects within the Slave Geological Province. The Board concludes that alternative delivery mechanisms need to be considered for the collection and management of environmental baseline information. (EAR – page 169)	<p>This measure was initially implemented by AANDC (then INAC/DIAND), and currently is being implemented by the GNWT.</p> <p>GNWT records indicate that on November 2004, AANDC (then INAC/DIAND) responded to the Review Board regarding the status of this measure: “In December 2002, a multi-stakeholder project group (the Slave Geological Province Project Group) with support from the CEAM Steering Committee, released a working draft of <i>A Regional Plan of Action for the Slave Geological Province (NWT and Nunavut)</i>. The plan describes recommendations and actions that will facilitate the management of cumulative effects in the SGP, using the CEAM Framework as a model. The SGP Project Group is currently being consulted on whether the plan needs to be finalized in order to be implemented, or whether it can remain a working draft while being implemented.” Records indicate While it appears that while this project group, which included the GNWT, met several years later to re-evaluate gaps and assess progress, support was never identified to move the plan, as developed, forward.</p> <p>Since devolution, the GNWT would be considered the appropriate authority to lead such an initiative, and does have a number of programs and processes in place that, together, can be considered appropriate to meet the intent of this measure. One example is the Cumulative Effects Assessment, Monitoring and Management Framework for the Bathurst Herd, including the Bathurst Range Planning Process and the Slave Geological Province Cumulative Effects Monitoring Program for Wildlife. The CEAMMF document was submitted to the Jay registry here. While the focus of this Framework is on the Bathurst herd to address the priority that several parties have identified for this valued species, it can be applied to other valued components. Similarly, the Cumulative Impacts Monitoring Program (CIMP), while having an NWT-wide focus on monitoring of priority values components including fish, water and caribou, does support a focus on the Bathurst herd through its Caribou Blueprint and hotspots. Finally, the GNWT is working towards an overarching, multi-VEC Framework for Cumulative Effects.</p> <p>The rationale in the Board’s report supporting this measure clearly establishes this as an action to broadly address generalized cumulative effects in the Slave Geological Province region, but because it was not directly related to reducing, controlling or eliminating a significant adverse impact to any particular VC assessed for the</p>

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				Snap Lake project, it might not be considered effective for supporting targeted approaches. ENR believes being clear in cumulative effects assessment, monitoring and management approaches which VC's are being targeted is critical to implementation.
R21	The GNWT shall, within 24 to 36 months, develop a model that detects and evaluates the effects of development on caribou movements and populations in the Slave Geological Province. This model shall enable the setting of thresholds of allowable caribou disturbance for use in future EAs in the Slave Geological Province	The Responsible Ministers adopted the Board's recommendation, and all associated measures, without modification.	Impacts on foraging behavior may influence the energetic balance of individual caribou, and consequently overall population dynamics, if the duration and number of affected individuals is great. During the Public Hearing, the GNWT alluded to limitations of the existing scientific data for examining the potential impact of individual projects on caribou movement. (EAR pages 158 and 159)	<p>This measure has been partially implemented, though not in the timeline stipulated in the measure. Challenges to the timely implementation of this measure included the heavy data requirements needed to support such an exercise, development of internal expertise and fact that processes to conduct modeling and set threshold have inherently needed to be collaborative in the co-management context.</p> <p>In 2012, ENR conducted a cumulative effects modeling demonstration project for the summer range of the Bathurst caribou herd. The purpose of the exercise was to integrate three different modeling approaches and incorporate Traditional Knowledge to inform how modeling could be used for CE assessment, and to support management initiatives. In 2013, ENR hired a Cumulative Effects Biologist to lead the evaluation and selection of a CE model to support ENR's cumulative effects initiatives and to initiate the Bathurst Range Planning process, a collaborative process which will, in part, lead to the identification of disturbance thresholds by 2017.</p> <p>While this measure outlines an important and useful direction for research, research cannot strictly be considered a measure for the control, reduction, or elimination of an adverse impact of a development. This measure only generally connects to potential impacts to caribou, it fails to incorporate important process considerations (such as the need for such an exercise to be collaborative) and it lacks the link to mitigation and operations to be considered an effective measure.</p> <p>Furthermore, while this measure may have helped set the stage for the development of approaches to this type of modeling and has paved the way for investigating how modeling can inform CE initiatives; measures which place timelines on complex, collaborative research questions are not likely to be effective.</p>
R35	The Government of Canada and GNWT should consider the feasibility of establishing a research based institute devoted to improving the scientific understanding of baseline conditions and environmental responses to renewable and non-renewable developments within the Slave Geological Province.	The Responsible Ministers accepted the Board's recommendation, and all associated measures, without modification.	There is an overall lack of coordinated environmental baseline information for developments in the Slave Geological Province and access to information is also currently a challenge in NWT. Moreover, the lack of long term, stable funding for the implementation of the blueprint is disturbing. (EAR page – 169) The Board has been critical of the level of environmental baseline data collected by De Beers for their assessment of the SLDP. However in the area of cumulative effects assessment, it is the Board's view that the information required is not the sole responsibility of the developer and that a joint industry-government partnership should be established for the collection of cumulative effects data for the whole of the Slave	<p>This measure was implemented in that the feasibility of establishing a research based-instituted was considered. Canada and GNWT partnered with the City of Yellowknife on this initiative. With support from Canada and GNWT, in 2008, the Nexus Group Ltd., FSC Architects & Engineers, and Malcolm & Associates prepared the NWT Science and Technology Park Yellowknife Facility Business Case Analysis, available online here. One of the goals of the proposed NWT Science and Tech Park – Yellowknife facility was to address this measure. A feasibility study was done; however, to date the institute itself has not actually been established.</p> <p>While a formal institute has not been established, several GNWT programs and initiatives are currently in place to support coordinated approaches to improving our understanding of baseline conditions and responses of wildlife to development and environmental conditions. These include:</p> <ul style="list-style-type: none">• The GNWT Science Agenda which identifies priorities related to developing baseline information to support environmental and cumulative effects assessment.• The Cumulative Impact Monitoring Program which supports CE monitoring projects for caribou, fish and water and which had developed an Inventory of Landscape Change to document human disturbance in the NWT, including the SGP,• The Cumulative Effects Monitoring Program for Wildlife in the Slave Geological Province which in part

Table 1: Summary of Review Board Measures for Bathurst caribou at Gahcho Kué, Ekati Sable Pigeon Beartooth, and Snap Lake

Snap Lake				
ID # (from report of EA)	Recommendation Type: Measures	Modified or rejected by Ministers	Original intent of the measure (GNWT analysis)	GNWT Response (hyperlinks are shown in blue)
			Geological Province. There are models available to government for addressing these challenges. (EAR Page – 168)	<p>coordinates monitoring conducted by the mines and GNWT in the Slave Geological Province (including regional collaborative monitoring for grizzly bears, wolverines and raptors) and identifies monitoring and research gaps.</p> <ul style="list-style-type: none">• The Barren-ground Caribou Management Strategy identifies and supports key caribou demographic monitoring, research and monitoring to support management planning.• The Bathurst Range Planning process is working to collate and analyze several information sources to look specifically at responses of caribou to development in support of the collaborative development of disturbance thresholds for Bathurst caribou. <p>While “examining the feasibility” of a establishing a program is not likely to be viewed as an action that in and of itself would be effective at addressing significant adverse effects, the measure was effective at highlighting the need for more coordinated and collaborative approaches to research.</p>
R34	The Government of Canada and the GNWT in consultation with the REVIEW BOARD shall within 12 months undertake an analysis of the role of Environmental Agreements in the evolution and operation of the environmental regulatory regime in the NWT.	The Responsible Ministers adopted the Board’s recommendation, and all associated measures, without modification.	The Board is also of the opinion that effective environmental management in the NWT requires a comprehensive and mature environmental regulatory regime. Environmental agreements provide a useful mechanism to ensure that commitments to environmental monitoring and adaptive management made by De Beers, that cannot be included in regulatory instruments, are implemented and effective over the life of the project. However, in the opinion of the Board, reliance by Government and industry on Environmental Agreements negotiated with individual developers does not provide for comprehensive environmental management, particularly for cumulative effects management in the Slave Geological Province. (EAR - Page 167).	<p>This measure was partially implemented. In November 2004, AANDC (then INAC/DIAND) responded to a letter from the Review Board concerning the status of various environmental assessment measures. With respect to Measure 34, GNWT’s records indicate that AANDC responded as follows: “It is DIAND's view that its Draft Policy Framework for Environmental Agreements will satisfy many of the outstanding questions surrounding the use of Environmental Agreements in the North. Specifically, the Framework document addresses the triggers that often assist to determine when an Agreement might be required, the components that can be included, and a description of how parties might be determined. An information meeting to present DIAND's Draft Framework to the Board and NWT Responsible Ministers was held September 22, 2004, and received positive response.” GNWT staff attended the September 22, 2004 meeting mentioned in AANDC’s response, as did MVEIRB representatives. As far as GNWT is aware, AANDC did not produce or implement a final policy framework for environmental agreements.</p> <p>Since devolution (April 1, 2014) the GNWT has taken over administrative responsibilities for the Environmental Agreements and is committed to fully implementing the Environmental Agreements within the current environmental regulatory regime, which the GNWT notes has evolved since the Snap Lake Environmental Assessment due to updated knowledge, policies, procedures, and legislation.</p> <p>Overall, while the measure was partially implemented to the extent that an initial analysis of the role of EA’s was undertaken, further detail on the concerns that the Board was attempting to address in this measure would have been helpful for the purpose of focusing the analysis of how the Environmental Agreements could be utilized to address the concerns. The measure does not include a clear path for how the results of the recommended analysis were to be implemented, making effective implementation of the measure difficult.</p>
R32	The Government of Canada, along with all other interested Parties, shall take immediate action to implement the Blueprint for the	The Responsible Ministers’ decision letter stated that: “government	The Board agrees with the concerns expressed by several Parties to the EA, regarding the status of decision-making, communication, and coordination among stakeholders in the Mackenzie Valley regarding cumulative effects monitoring and management. The development	The Cumulative Effects Assessment and Management Strategy and Framework was renamed the Environmental Stewardship Framework (ESF) in 2008 and the Blueprint itself no longer exists in the form it did in 2003. Although the Blueprint itself did not receive long-term, stable funding, the Responsible Ministers’ decision letter contains an important qualification to the implementation of this measure. GNWT does not have specific information about the efforts Canada expended to meet the intent of the measure, but does note that when the Ministers made their decision, a number of the Blueprint’s recommendations and actions had been,

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Snap Lake				
ID # (from report of EA)	Recommendation Type: Measures	Modified or rejected by Ministers	Original intent of the measure (GNWT analysis)	GNWT Response (hyperlinks are shown in blue)
	Cumulative Effects Assessment and Management Strategy and Framework in the NWT and its Regions. The Board further recommends that the Government of Canada allocate long-term, stable funding to this initiative for a term of no less than ten years.	funding decisions are subject to the annual appropriation of funds by the Parliament of Canada or the Legislative Assembly of the Northwest Territories...T hat said, we will commit to expending reasonable efforts to meet the intent of this measure.” ²	of the <i>Blueprint for the Cumulative Effects Assessment and Management Strategy and Framework in the NWT and its Regions</i> approved after the Diavik comprehensive study in 2000 has not been timely given the pace of development in the NWT. Moreover, the lack of long term, stable funding for the implementation of the blueprint is disturbing. The Board is confident that the CEAM Strategy and Framework for the NWT and related monitoring programs are sufficiently broad in scope, to deal with the full range of cumulative effects issues. Given the evidence presented during this EA, the Board is of the opinion that the immediate implementation of the Framework and completion of an audit under Part 6 of the MVRMA is essential. (EAR – page 168)	<p>or were being, implemented by Canada and by other members of the then CEAM Strategy and Framework Steering Committee.</p> <p>GNWT believes that it expended reasonable efforts to meet the intent of the measure; most of the actions discussed in this table are within the scope of the Blueprint and further examples are provided in the following paragraph. However, the Blueprint itself no longer exists in that form and it did not receive long-term, stable funding.</p> <p>Current Status: The Cumulative Effects Assessment and Management Strategy and Framework was renamed the Environmental Stewardship Framework (ESF) in 2008. Although the ESF as such has not been active since 2010, is not currently active, many of the actions identified in the most recent Blueprint (2009-2010) are funded and in place, including an approved Sahtu Land Use Plan, an approved land use plan for Tẖcẖo settlement lands (Tẖcẖo Weneke'e), the Cumulative Impact Monitoring Program (CIMP), and improved spatial data sharing (e.g. the NWT Discovery Portal). Many of the former CEAM/ESF Steering Committee members continue to work on initiatives relevant to the spirit and intent of the ESF. Some examples of GNWT efforts, in addition to the wildlife work discussed elsewhere in this table, are includes but is not limited to CIMP, the Water Stewardship Strategy, the Barren-ground Caribou Strategy, the Land Use and Sustainability Framework, enhanced resources for land use planning and enhanced resources for land and water compliance and inspection activities.</p> <p>The rationale supporting this measure clearly establishes this as an action to address concerns around “the full range of cumulative effects issues” in the NWT. Although GNWT recognizes that cumulative effects were a concern related to particular valued components in the Snap Lake mine EA, the scope of this measure may have been too broad to support targeted approaches to reduce, control or eliminate significant adverse cumulative effects on any particular VC in the project region (i.e. Slave Geological Province). ENR believes being clear in cumulative effects assessment, monitoring and management approaches which VCs and regions are being targeted is critical to effective implementation.</p>

² Letter of from Minister of AANDC to Review Board, dated October 10, 2003, posted to the Review Board public registry (www.reviewboard.ca).

Table 1: Summary of Review Board Measures for Bathurst caribou at Gahcho Kué, Ekati Sable Pigeon Beartooth, and Snap Lake

ID # (from report of EA)	Recommendation Type: Suggestions	GNWT response
S21	De Beers should design a project-specific monitoring protocol to test for behaviorally-induced habitat avoidance effects as a result of the project, and include this in an Adaptive Management Plan. There is a need to develop scientifically sound research projects to address this issue and to examine the relationship between project activities and a reduction in habitat effectiveness. This protocol should apply to grizzly bear, wolverine and caribou and should be developed in consultation with the GNWT and TK holders.	This suggestion is addressed in content of DeBeers Wildlife and Wildlife Habitat Protection Plans and Wildlife Effects Monitoring program. Over the years, approaches to monitoring project level impacts have evolved. For caribou, Snap Lake has conducted aerial surveys and reported on avoidance impacts in its comprehensive 2007 WEMP report. Few caribou appear to have approached the site in interim years. At the Slave Geological Province Regional Wildlife Monitoring Workshop hosted by GNWT in March 2015, better coordination of behaviour monitoring approaches among the mines was specifically identified as a key area for further collaboration. For other species, please see the response to Snap Lake Measure R-14. It should be noted that it is unlikely that a single protocol could meet the behaviour monitoring needs of all of the mentioned species in this recommendation.
S22	The GNWT, using results gained from the monitoring undertaken in the above suggestion and information from the other mines, should evaluate whether there is a population level avoidance response to the SLDP.	The GNWT has and is currently looking at population level implications of mine avoidance by caribou as identified through monitoring results in part of Snap Lake, but also Ekati and Diavik mines through modeling work that is being conducted to support the Bathurst Range Planning Process. The results of these analyses will be used to inform the recommendations in the Bathurst Range Plan to address disturbance on the Range of the Bathurst Herd.
S29	The GNWT should develop cumulative effects thresholds relating to direct and indirect habitat loss for various wildlife species of management concern (e.g., caribou, grizzly bear, wolf, wolverine) as a wildlife management tool for use in responding to development in the Slave Geological Province.	Developing thresholds of acceptable limits of change is an involved exercise that requires explicit consideration of a range of values. As such the current priority has been to develop such thresholds for the Bathurst caribou herd through the Bathurst Range Planning process. The lessons learned in that process can be applied in future when addressing thresholds for other species.
S30	The GNWT should within 24 to 36 months develop a standard methodology or model for quantifying direct and indirect wildlife habitat loss. The GNWT should encourage developers of future developments to utilize these models for purposes of impact assessment.	A standard methodology for quantifying direct and indirect habitat loss has not been developed; however CIMP has developed the Inventory of Landscape Change, a helpful tool for supporting efforts to quantify and track direct habitat loss and support a number of applications including environmental impact assessment and cumulative impact assessment.