

DE BEERS GROUP

Andrea Patenaude
Wildlife Biologist, Environmental Assessment and Habitat
Wildlife Division
Department of Environment and Natural Resources
Government of the Northwest Territories
Email transmittal via Andrea_Patenaude@gov.nt.ca

August 27, 2021

Dear Ms. Patenaude:

Re: Snap Lake Mine Wildlife Management and Monitoring Plan DBCI – Response to Comments

De Beers Canada Inc. (DBCI) is pleased to provide responses to the Snap Lake Mine Wildlife Management and Monitoring Plan (WMMP) comments received on July 5, 2021 (from SLEMA and ENR) and July 26, 2021 (from ECCC). The plan was originally submitted on March 28, 2021, as required by the letter issued by Deputy Minister Erin Kelly on September 18, 2020. The WMMP is to replace all previous submissions and authorized versions of the Wildlife Habitat Protection Plan and Wildlife Effects Monitoring Plans under the Snap Lake Environmental Agreement. It also addresses the requirement under the Wildlife Act for a Wildlife Management and Monitoring Plan, criteria (a) and (c) of subsection 95 (1), and was developed in accordance with the current version (July 2019) of ENR's WMMP Process and Content Guidelines (2019). Furthermore, as also indicated in the September 18, 2020 letter from ENR, this plan fully addresses the requirements of the Environmental Agreement for submission of a wildlife plan (Section 6.2 and 6.3).

Responses will be posted on the ENR WMMP website; if there are no further comments after the review period, De Beers will make the updates to the WMMP and re-submit the WMMP to ENR. De Beers is seeking approval of this plan via both the Environmental Agreement and the Wildlife Act. Should you have any questions or concerns, please feel free to contact me by phone at (867) 679-6392 or by email at Lisa.Tran@debeersgroup.com.

Sincerely,



Lisa Tran
Permitting Coordinator
De Beers Canada Inc.

Attachment(s): WMMP Comments Excel Sheet

Cc: Jacqueline Ho, MVLWB

De Beers Canada inc.

1601 Airport Road NE Suite 300 Calgary Alberta T2E 6Z8
Tel + 1 403 930 0991 | www.debeersgroup.com/canada | info.canada@debeersgroup.com
Incorporated in Canada | Registration number 889569596

A member of the Anglo American plc group

DE BEERS GROUP

Lee Ann Malley, GNWT
Loretta Ransom, GNWT
Grace Mackenzie, TG
Jessica Hurtubise, NSMA
Sarah Gillis, YKDFN
Glen Guthrie, LKDFN
Shin Shiga, SLEMA
Michael Roesch, CIRNAC
Sarah McLean, DBCI
Michelle Peters, DBCI

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSED RESPONSE
Name/Organization	Be as specific as you think is appropriate. For example a section or page of the document, subject lines, appendices.	Comments should contain all the information needed for the ENR and the proponent to understand the rationale for the accompanying recommendation.	Recommendations should be as specific as possible, relating to the issues raised in the "Comment". Recommendations should inform decision, or direct ENR (or the proponent) to action something.	
REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSED RESPONSE
SELEMA	Replacement of aerial surveys with collared caribou for 20i monitoring (Tier 2 WMMP, Section 3.1.1.1) vs. De Beers' response to SELEMA recommendations 10 and 11 from 2019 Annual Report review	In SELEMA's review of the Snap Lake 2020 WEMP and WWMP annual reports, we requested clarification on trigger thresholds for conducting aerial caribou surveys. As the review comment included citing information from the 19 March 2021 Tier 2 WMMP, the comment and recommendations still apply and have been copied again here: Recommendations 10 and 11 from SELEMA's Comments on 2019 Annual Reports have not been adequately addressed. De Beers is responding that aerial/reconnaissance caribou surveys are not sufficient to monitor the RSA to trigger surveys, and that the trigger surveys and the updated WWMP (2020). SELEMA understands that the Snap Lake Mine Tier 2 WMMP (19 March 2021) is meant to combine the WEMP and WWMP, however, there is no information about triggers for aerial caribou surveys in this document. Section 3.1.1 of the Tier 2 WMMP states that "Aerial surveys have not been triggered since 2012. Instead of collecting aerial survey data during closure and post-closure, De Beers will use collared caribou to conduct 20i monitoring." If De Beers is not conducting aerial surveys with sufficient number of caribou groups, please clarify this plan/commitment in the Tier 2 WMMP and annual reports, and clearly explain what the trigger thresholds are. In addition, in Section 3.1.1.1.5 of the Tier 2 WMMP, De Beers states that they will complete analysis of collar data at the end of the closure (2096 to end of closure), and once during post-closure (1996 to post-closure), "Depending on availability of collar data in the Mine study area." If collar data are not available then the proposed caribou monitoring program for Snap Lake Mine closure and post-closure would not be able to meet the monitoring objectives (Sections 3.1 and 3.1.1.1) to determine whether caribou behaviour changes in relation to mining activities, and whether a caribou 20i changes in relation to mining activity. Adaptive management may be needed if collar data are not available, such as additional triggers for aerial surveys or other means of monitoring caribou (e.g., ground-based surveys and remote cameras). Regarding collar data analyses, how many years of post-closure data will be used to compare to pre-closure? To enable valid before-after comparisons, SELEMA recommends not to rely on a single year of post-closure data, but to look at patterns over several years post-closure for comparison to the many pre-closure years analyzed. Based on the Integrated Schedule of Closure Activities (ICPC, Section 8), post-closure environmental monitoring programs are planned for a minimum of 5 years and up to 20 years. Assuming the post-closure phase begins in 2026 (after a 4-year period for closure activities), there will be 30 years of pre-closure collar data available for comparison.	1) Please clarify whether aerial caribou surveys can still be conducted with a sufficient number of caribou groups observed, during closure and post-closure phases of the Mine. 2) Please clarify what the triggers are for aerial caribou surveys, if these are not indicated in the Tier 2 WMMP. 3) Please provide further information and rationale about collar data analyses that will allow for before-after comparisons of spatial caribou patterns pre- and post-closure phases. 4) Please explain what type(s) of collar monitoring and analysis will be conducted if GNWT-ENR collar data are not available in the Mine study area.	1) De Beers does not intend to continue aerial surveys during the closure and post-closure phases of the Mine. The GNWT-ENR supports using radio collar data for Zone of Influence monitoring. 2) Triggers for aerial surveys are not included in the Tier 2 WMMP. The aerial surveys have been replaced with 20i monitoring using collared caribou. 3) Collar data will be used to analyze whether caribou behaviour (distribution) changes in relation to mining activity through time (e.g., mining phases of baseline, construction, operation, closure, post-closure) after accounting for natural factors. Collared caribou location data provided by GNWT-ENR are preferred by De Beers because they are collected independently of Snap Lake Mine and represent the behaviour of individual caribou. The data can also be used to infer resource selection (Manley et al. 2002) including changes in the selection of habitat with proximity to Snap Lake Mine (Goldier 2016). Ideally the amount of data used for comparisons will be balanced but not exceed what is possible given that variation in length (time) of mine phases and numbers of collared caribou available are variable. While the results will be generally informative about caribou distribution and mine activity, they will not lead to changes in mitigation at Snap Lake Mine. 4) The GNWT-ENR uses collared caribou to track the distribution of collared caribou herds over time. Long-term results from aerial surveys at Snap Lake Mine show that few caribou have occurred near the study area including during baseline years and that the patterns over time are consistent with the distribution of collared Bathurst caribou (Goldier 2013). Aerial surveys were not completed in 2013 and 2014 because of insufficient numbers of caribou in the study area. The Mine went into care and maintenance in 2015 so Goldier (2016) are the most relevant reports. The WMMP also includes other types of wildlife monitoring at the Mine site during the closure phase such as Site Surveillance monitoring during periods of Mine site activity and remote camera monitoring during periods of inactivity (Section 2.1). Analyses of these data will focus on causes of incidents and whether additional mitigation can be applied. Remote camera monitoring may capture wildlife use of reclaimed areas or potentially wildlife injuries or mortalities should they occur. These ongoing methods for monitoring caribou will continue regardless of the number of collared caribou in the study area. References: Goldier, 2013. Snap Lake Mine: Analysis of Effects on Wildlife, 1999 to 2012. Prepared for De Beers Canada Inc. by Goldier Associates Ltd. Yellowknife, NWT. Goldier, 2016. Bathurst Caribou Winter Range Resource Selection: Patterns Related to Land Cover, Wildlife, Development and Traditional Knowledge. Prepared for the Cumulative Impact Monitoring Program, Government of the Northwest Territories by Goldier Associates Ltd. Yellowknife, NWT. Manly, B.F.J., McDonald, L.L., Thomas, D.L., McDonald, T.L., and Erickson, W.P. 2002. Resource Selection by Animals: Statistical Analysis and Design for Field Studies. 2nd edition. Kluwer Press, Boston, Massachusetts.
SELEMA	Species of concern for the Snap Lake Mine (Tier 2 WMMP, Section 1.5, Table 1-1) vs. species at risk shown in 2020 WEMP and WWMP annual reports	Section 1.5 of the Tier 2 WMMP states that there are currently six species of concern that may interact with the Mine, shown in Table 1-1 as barren-ground caribou, grizzly bear (western population), wolverine (note that the "western population" is a non-active status under the federal SARA), peregrine falcon (ontario/undrunk), rusty blackbird, and short-eared owl. In the 2020 WEMP and WWMP annual reports, these tables showing species at risk have been updated to include bank swallow (Threatened under SARA), barn swallow (Threatened under SARA), lesser yellowlegs (assessed as Threatened by COSEWIC, currently no SARA status), and red-necked phalarope (Special Concern under SARA). These species should be included in the Tier 2 WMMP and monitored like the other at-risk bird species - i.e., habitat loss and site monitoring (particularly for nesting activity). In particular, barn swallows have previously been observed nesting at the mine site on project infrastructure (2015 wildlife logs, Appendix A of 2019 WWMP Annual Report), and care must be taken to not destroy nests during decommissioning. In addition, the wolverine's Species at Risk (IWT) Act status should be "No Status" rather than Not at Risk in Table 1.1 and on page 1-2 in Section 1.1, in Section 2.2 (page 2-3), it is incorrectly stated that the peregrine falcon (ontario/undrunk) is designated as a species of Special Concern by COSEWIC but has no status federally or territorially. This species is currently listed as Special Concern under Schedule 1 of SARA (but under consideration for change) and was assessed as Not at Risk by COSEWIC in 2017.	1) Please include additional species at risk observed or expected in the wildlife regional study area into the Tier 2 WMMP, as identified in the 2020 WWMP and WEMP annual reports. 2) Please ensure that territorial and federal species at risk conservation statuses (including official listings under Acts and as assessed by COSEWIC and NWT SARA) are periodically reviewed and updated in the Tier 2 WMMP and other related project documents.	1) De Beers will add additional species at risk observed or expected in the wildlife regional study area to the Tier 2 WMMP, as identified in the 2020 WWMP and WEMP. 2) De Beers will review and update territorial and federal species at risk conservation statuses in the Tier 2 WMMP.
SELEMA	MVEIRB R13 (Caribou Protection Plan) for the Snap Lake EA and the limited mitigation measures for caribou and other wildlife in the Tier 2 WMMP	In Table 1.2 of the Tier 2 WMMP, the wildlife-related measure R13 from the MVEIRB's report on the EA for the Snap Lake Project states that "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." De Beers' response/outcome in Table 2-1 is that mitigation and monitoring to protect caribou was incorporated into the 2008 WMP. In the Tier 2 WMMP package, aside from OP 194 (Operating Procedure likely mislabeled as "Bear Deterrants"), but see further review comments below in 10-12) that briefly discusses herding of caribou away from hazardous areas, and Section 5.5 in OP 014 (Environmental Inspections) that involves checking for caribou within 100 m of the airstrip prior to inbound aircraft landing, there are no other mitigation measures for caribou. Overall, the Tier 2 WMMP focuses mostly on wildlife monitoring, while wildlife management and mitigation are lacking. It is unclear whether De Beers will continue to follow the WMP provided 13 years ago. We recommend that applicable management and mitigation measures, such as 2008 WMP, be incorporated into the Tier 2 WMMP. The level of disturbance during periods of closure are predicted to be higher than during operation and care and maintenance, and similar to construction due to an increased presence of people and machinery required for decommissioning/demolition and reclamation of Mine facilities and infrastructure (Tier 2 WMMP, Section 3, page 3-1). Hence, the mitigation actions listed in Section 1.8, pages 1-3 and 1-4, which were applied during construction and operation, should also be applied during the Mine closure phase. However, there are few details in the main body of the Tier 2 WMMP and in other OPs in Appendix B that explain how measures such as "wildlife will have the right-of-way on roads" will be undertaken. Clear protocols and decision frameworks for adaptive mitigation (i.e., increasingly stringent mitigation measures as disturbance increases) are needed to ensure that mitigation actions are properly implemented. In the case of wildlife having the right-of-way on roads, a decision framework could include distance triggers for slowing down and stopping, modified for the number of caribou and presence of calves observed and their direction of travel. SELEMA notes that Section 5.2.2 in EP-OP 001 (Operating Procedure - Winter Road Wildlife and Public Use Surveillance) includes enforcing wildlife-related rules of the road including "giving the right-of-way to wildlife, slowing to 30km/h when wildlife are present, and turning off bright headlights when stopped at night due to wildlife presence on the road." While these details are informative, it would be better to clarify when wildlife are considered to be "present" so trigger vehicles slow down to 30 km/h, would this only apply when animals are on the road? Do wildlife staff take a conservative approach? One of the mitigation actions previously implemented at the Snap Lake Mine during construction and operation (Tier 2 WMMP, Section 1.8, page 1-3) is that "20 m buffer zones are used to avoid active nests found at site." Please provide the rationale for this buffer zone/setback distance and whether larger distances are applied to more sensitive species (e.g., species that are less tolerant to human disturbance, those that have low annual reproductive output such as raptors). ECCC used to prescribe buffer zones for some species/groups, but they now recommend determining the setback distance on a case-by-case basis: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html#c5. Note also that in SELEMA's previous reports (2019/2020 Snap Lake Mine project documents, we requested that any mitigation applied for active nests (e.g., setback distance, monitoring duration/frequency, confirmation of nesting success/failure) be included in the WWMP annual report. Without reporting on this information, it is not possible to fully assess whether/mitigation measures applied at the Mine site for active nests were sufficient. Regarding wildlife surveys that will be conducted immediately prior to closure activities involving decommissioning/demolition of infrastructure or areas where mobile equipment will be used for reclamation or rehabilitation, Section 5.1 of OP 014 (Operating Procedure - Environmental Inspections) states that "activities will not commence until the survey inspections are complete and the facilities or areas are deemed not to contain wildlife, nests, eggs, or young", and this OP is accompanied by the Bird Nesting Data Sheet (CL 117). However, the data fields on CL 117 would not be sufficient to meet the policy noted above for when activities may commence or resume. For example, there should be additional fields to document the presence of eggs or young, a prediction field for when the nest is likely to fledge based on the stage of the nest and known species-specific schedules (e.g., published accounts from the Cornell Lab of Ornithology's Birds of the World database), and space for daily/weekly monitoring updates until the nest is empty. The form could also include reporting information and actions taken, such as notifying the Environmental Coordinator/GNWT-ENR/ECCC, establishing buffer zone distance and notifying relevant Mine staff to avoid activity in this area, etc. It is also important to accurately identify the species and understand bird behaviour (especially for species at risk and if setback distances are to be established on a case-by-case basis, as per ECCC recommendations). As such, data fields for the species and	1) Please incorporate wildlife mitigation and management measures (including/especially for caribou) that may have been outlined in the Snap Lake Mine 2008 WMP into the Tier 2 WMMP, and any additional mitigation measures anticipated as needed due to learning that has occurred between 2008 and 2021. It is expected that these measures will address the MVEIRB's recommendation for increasingly stringent mitigation measures for caribou as potential disturbance impacts increase. 2) Please ensure that policy-type statements such as "wildlife will have the right-of-way on roads" are accompanied by sufficient procedural information to allow all Mine staff to undertake appropriate mitigation to avoid and minimize both direct and indirect effects, following the mitigation hierarchy.	1) De Beers will revise the Tier 2 WMMP to clarify that mitigation related to reducing wildlife incidents and sensory disturbances during construction and operations will continue to be implemented during closure. In addition, De Beers will incorporate caribou protection measures outlined in the 2008 WMP for the closure phase. This includes: • All sightings of caribou will be reported to the on-site Environment Department, and will be communicated to all vehicle operators. • Caribou will not be blocked from crossing Mine-related roads or the airstrip. If caribou are crossing or attempting to cross the winter or site roads, then traffic will stop and wait for them to cross. Aircrafts will be notified to enter a holding pattern until the caribou have completed their crossing of the airstrip. • Caribou within 100 m of the airstrip, site service roads, or winter access roads will be monitored. • Caribou will only be herded away from roads or the airstrip in specific circumstances, such as an emergency. • All caribou management actions will be reported in the annual report of the WMMP. 2) De Beers will add additional procedural information to EP-OP001 related to wildlife having the right-of-way on roads. Vehicle-related mortalities have been extremely rare at Snap Lake Mine, which De Beers attributes to effective mitigation such as slow speed limits, the existing right-of-way policy and diligent drivers. Reference De Beers, 2010. Snap Lake Mine: Wildlife Effect Monitoring Program 2009 Annual Report. Prepared for De Beers Canada Inc. by Goldier Associates Ltd. Yellowknife, NWT.
SELEMA	Rationale for 20 m buffer zones around active nests found at site (Tier 2 WMMP, Section 1.8, page 1-3) and Bird Nesting Data Sheet (CL 117)	One of the mitigation actions previously implemented at the Snap Lake Mine during construction and operation (Tier 2 WMMP, Section 1.8, page 1-3) is that "20 m buffer zones are used to avoid active nests found at site." Please provide the rationale for this buffer zone/setback distance and whether larger distances are applied to more sensitive species (e.g., species that are less tolerant to human disturbance, those that have low annual reproductive output such as raptors). ECCC used to prescribe buffer zones for some species/groups, but they now recommend determining the setback distance on a case-by-case basis: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html#c5. Note also that in SELEMA's previous reports (2019/2020 Snap Lake Mine project documents, we requested that any mitigation applied for active nests (e.g., setback distance, monitoring duration/frequency, confirmation of nesting success/failure) be included in the WWMP annual report. Without reporting on this information, it is not possible to fully assess whether/mitigation measures applied at the Mine site for active nests were sufficient. Regarding wildlife surveys that will be conducted immediately prior to closure activities involving decommissioning/demolition of infrastructure or areas where mobile equipment will be used for reclamation or rehabilitation, Section 5.1 of OP 014 (Operating Procedure - Environmental Inspections) states that "activities will not commence until the survey inspections are complete and the facilities or areas are deemed not to contain wildlife, nests, eggs, or young", and this OP is accompanied by the Bird Nesting Data Sheet (CL 117). However, the data fields on CL 117 would not be sufficient to meet the policy noted above for when activities may commence or resume. For example, there should be additional fields to document the presence of eggs or young, a prediction field for when the nest is likely to fledge based on the stage of the nest and known species-specific schedules (e.g., published accounts from the Cornell Lab of Ornithology's Birds of the World database), and space for daily/weekly monitoring updates until the nest is empty. The form could also include reporting information and actions taken, such as notifying the Environmental Coordinator/GNWT-ENR/ECCC, establishing buffer zone distance and notifying relevant Mine staff to avoid activity in this area, etc. It is also important to accurately identify the species and understand bird behaviour (especially for species at risk and if setback distances are to be established on a case-by-case basis, as per ECCC recommendations). As such, data fields for the species and	1) Please provide rationale for the generic 20 m buffer zone to be applied to active bird nests found at site, and whether updated ECCC recommendations regarding buffer zones and setback distances were considered. 2) Please modify the Bird Nesting Data Sheet (CL 117) as requested in the Comments column to ensure that all pertinent data are recorded to inform mitigation/management measures, and to allow for transparency of reporting for active bird nests found on site.	1) De Beers will engage with ECCC on potential variations from the recommendations if required for the species encountered. Based on most recent guidance from ECCC, buffer zones are expected to vary between 5 m to 100 m depending on the species and tolerance to disturbance. 2) De Beers agrees to modifying the Bird Nesting Data Sheet as requested. De Beers does not agree that there is a need to predict nest age or hatch date since the nest activity will continue to be monitored so that closure activities can commence when a nest is no longer active. Reference ECCC, 2019. Guidelines to reduce risk to migratory birds: establishing buffer zones and setback distances. Available at: Guidelines to reduce risk to migratory birds - Canada.ca. Accessed August 2021.
SELEMA	Wildlife Sightings Log (CL 013) and usage for Environmental Inspections (OP 014), Remote Camera Monitoring (OP 201), Wildlife/Bear Deterrants (OP 194), and Responding to Bears or Aggressive Animals At or Near SLM (Emergency Situation) (OP 078)	The use of a wildlife log for monitoring is mentioned in various sections of the Tier 2 WMMP; however, the only log form that is included is on page 6 of OP 014 (Environmental Inspections). As this log form is unutilized and unnumbered, it is unclear whether this is the "Wildlife Sightings Log (CL 013)" as noted in Section 5.3 of OP 014 for recording bird use of the water management ponds. It is also unclear if this is a standard form that will be or has been used for other monitoring programs/surveys, such as Remote Camera Monitoring (OP 201). If this is the standard wildlife sightings log for systematic and incidental wildlife observations at the Mine, it is insufficient for capturing all of the intended data as described in the Tier 2 WMMP. For example, it is noted in Section 2.2.3.2 (Monitoring of Wildlife Presence within the Mine Site) of the Tier 2 WMMP that observers will record the location, survey time and duration, species, the number of animals, sex and age (if possible), approximate distance from site infrastructure, and GPS coordinates. Observers will also record any other details that could be considered important (e.g., injured wildlife, wildlife consuming waste). Similarly, in Section 2.2 of OP 201, for every incidental observation during camera deployment and retrieval, observers will record the species, number of individuals, date, time, sex and age (if possible), location, and vegetation or disturbance types using the wildlife sightings log. However, the log form on page 6 of OP 014 does not include data fields for sex/age, distance from infrastructure, or vegetation/disturbance. Furthermore, in Section 5.1 of OP 194 ("Bear Deterrants"), reported wildlife presence to be documented in the "Wildlife log" includes information such as who is calling the report in, where is the animal spotted, what direction is the animal moving, and whether there are people working in that general area. Section 3.3.1 in OP 078 (Responding to Bears or Aggressive Animals At or Near SLM (Emergency Situation)) mentions that the Environmental Superintendent or Designate is responsible for recording the sighting on the "Wildlife Monitoring Log". It is likely that these aggressive animal sightings are recorded on a different form; however, this assumption could not be confirmed during review since a wildlife (monitoring) log was not attached to either OP 194 or OP 178.	1) Please clarify whether wildlife sightings form included on page 6 of OP 014 is meant for only Environmental Inspections or some (or all) wildlife monitoring program components. If different forms will be used, please attach these to the other OPs, as appropriate. 2) Please ensure that wildlife log form(s) include space/fields for all information and data that need to be collected to meet the objectives of the Tier 2 WMMP.	1) De Beers will add a title to the wildlife sightings form on page 6 of OP 014. The form is generic to all wildlife sightings at site including incidental observations and observations collected during the systematic environmental inspections. 2) De Beers will revise wildlife log form(s) to add space/fields for all the information needed to collect to meet the objectives of the Tier 2 WMMP.

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSED RESPONSE
SLEMA	Tier 2 WMMMP monitoring schedule, wildlife log, and relationship to Wildlife Site Surveillance Monitoring for the WMMMP	Related to SLEMA's previous comment about the wildlife sightings logs used for Snop Lake Mine (Line 8), the Form on page 6 of OP 014 (Environmental Inspections) is similar to the wildlife log summary provided in Appendix 4 of the WMMMP annual report. Therefore, it may be more similar if the wildlife log has been used for wildlife sightings during previous years (and project phases) of monitoring. Thus, information such as the animals' sex and age do not appear to have been collected during previous years of wildlife monitoring, and the wildlife sightings log form needs to be modified to include fields for pertinent information. It would also be useful to separate observations made during systematic surveys conducted by qualified environmental personnel (e.g., Environmental Inspections) or part of OP 014, Wildlife Site Surveillance Monitoring for the WMMMP from purely incidental observations made by any Mine staff. SLEMA understands that the 2019 and 2020 WMMMP annual reports (the only ones we have reviewed) were completed during the extended care and maintenance (ECM) phase, and therefore systematic wildlife surveys had not been conducted in those years. However, we expect to see separate reporting for systematic vs. incidental observations as the mine moves into the closure and post-closure phases, including reporting on any temporal trends for wildlife incidents (as noted in Sections 2.2.3.2 and 2.2.6 of the Tier 2 WMMMP). It is unclear whether some of the Environmental Inspections described in OP 014 have already been in place during ECM, and whether they are related to the Wildlife Site Surveillance Monitoring conducted as part of the WMMMP. If these inspection/site surveillance tasks and schedule are the same, then we would expect monitoring results for each Mine facility, work area, and waste storage area to be available every two weeks (as per Sections 5.2 and 5.3 of OP 014). However, the number of surveys at Mine facilities ranges from 2 to the power plant/water treatment plant to 5 in "other areas" (e.g., truck shop, fuel storage area, domestic waste treatment plant) over the course of 15 weeks in 2020 (May 1 to Aug 16), as described in the 2020 WMMMP Annual Report. In SLEMA's review of the annual report, submitted in May 2021, we requested	1) Please clarify whether Environmental Inspections (OP 014) is related to the Wildlife Site Surveillance Monitoring part of the WMMMP. If so, please explain the survey schedule and allocation of effort to different Mine facilities and areas. 2) For future reporting of the Tier 2 WMMMP, please separate systematic vs. incidental wildlife observations such that survey effort and temporal trends can be assessed using systematic survey results.	1) Environmental Inspections (OP 014) is related to wildlife Site Surveillance monitoring as part of the former WMMMP and now the WMMMP. OP 014 provides details about the frequency of inspections at specific parts of the Mine facilities; any wildlife observed during those surveys will be recorded on the appropriate data sheet. The surface Mine Components that will be surveyed systematically are described in Section 2.2.3.2 and include the North Fill and associated Water Management System and Surface Infrastructure areas. Survey effort will be largely consistent in all areas (Section 2.2.4), however, situations may arise where staff need to prioritize effort and respond to emergencies (e.g., spill, bear on site) over completion of the survey. 2) De Beers will separate systematic vs. incidental wildlife observations in future reporting of the Tier 2 WMMMP.
SLEMA	Action levels for vegetation loss will not be considered (Tier 2 WMMMP, Section 4) despite their inclusion in the Vegetation Monitoring Program and Final Closure and Reclamation Plan	In Section 4 of the Tier 2 WMMMP, De Beers states that "action levels [for adaptive management] for vegetation loss will not be considered given that the Snop Lake Mine footprint and layout are ultimately governed by the required land use permits and leases for the mine. Although the final Mine footprint may have some variance from that presented in the EAR, these changes should be minor, and reclamation is expected to result in positive changes to vegetation communities and associated wildlife habitat in the long term (during and beyond post-closure)". This statement is inconsistent with the adaptive management proposed in the Vegetation Monitoring Program (VMP v3, Mar 2019) and in the Final Closure and Reclamation Plan (FCRP v1.1, Mar 2021). In the VMP, Table 2-5 shows action levels for both annual/intermittent monitoring and triggered monitoring programs, so it is unclear why De Beers has only included action levels for triggered dustfall monitoring in Section 4 of the Tier 2 WMMMP. Of relevance to vegetation loss and habitat disturbance, the following action levels are proposed in the VMP: - Area of impact - 10% change in total disturbance area above EAR predictions - ELC Area - 10% change in area of ELC units above disturbance predicted in the EAR The VMP provides further information about the Detailed ELC Monitoring Program that may be triggered (and appropriate mitigation identified and recommended) should these action levels be exceeded. In Section 5.5.3, page 5-57, of the FCRP, De Beers states that reclamation activities associated with establishing the OP "spillways may generate new land disturbance; therefore, the area of impact and ELC area programs of the VMP will continue into closure and post-closure. If further mitigation and changes to the VMP are needed, such as additional active revegetation pilots due to greater-than-predicted land disturbance, the Tier 2 WMMMP may also need to be revised for appropriate monitoring for wildlife habitat and wildlife use of habitat (e.g., additional remote camera targeting new revegetation pilots). Regardless, De Beers should ensure that their in the last paragraph of Section 4 of the Tier 2 WMMMP, De Beers states that action levels will not be considered in monitoring for disturbance mechanisms (i.e., causing changes to caribou behaviour outside of the Mine footprint are uncertain and likely related to many sources (e.g., lights, smells, noise, loud operating simultaneously). Therefore, ZOI monitoring does not directly inform on mitigation but is used to fit an information gap on associated ZOI magnitude, extent and duration during closure and post-closure". SLEMA would argue that 1) it may be possible to use ZOI monitoring results to inform mitigation, but that 2) the limited usefulness of ZOI monitoring for informing mitigation suggests that this approach is not sufficient for caribou monitoring. With respect to point 1, if GSWT/ENR collar data show caribou turning away from the Mine area during times/days when closure activities involving blasting or demolition/heavy industrial activity were occurring, these results may suggest that nearby caribou were being disturbed. That being said, annual review and analysis of collar data (Section 3.1.1.3) would not enable timely adaptive management to inform immediate mitigation actions, though it may allow for spatial or temporal changes to planned activities for the next year (the closure phase is anticipated to be a year, FCRP, Section 8.1). Therefore, regarding point 2, additional on-the-ground caribou monitoring and adaptive management is needed, especially during closure activities that produce greater sensory disturbance. Although OP 194 includes deterring/herding caribou away from areas that may be considered hazardous, including the airstrip, high traffic areas, where heavy equipment is in use, and where blasting or demolition activities are taking place, this OP appears to apply to situations when caribou are already in or very close to the hazardous area (though the distance is not defined except for the airstrip, where caribou within 100 m will be reported, OP 014, Section 5.5). It is acknowledged in OP 194, Section 5.2.2, that inappropriate/aggressive herding may cause animals to "run or exhibit a "Very Alarmed-Panic Escape Response". As an alternative to causing caribou stress by herding, De Beers should employ an Environmental Monitor to survey the area prior to commencing and during closure activities, and animals within the ZOI should be reported (Section 1.8 of the Tier 2 WMMMP, bottom of page 1-12, states that De Beers has completed ZOI monitoring analysis). Depending on caribou behaviour, direction of movement, number of individuals, and presence of calves, proactive and increasingly stringent mitigation measures (as per MEWH R13 in Table 2-2; see also SLEMA's comments in Line 6), including temporary cessation of Mine closure activities, can be done instead of last minute herding of caribou. Establishing setback distance and suspending activities for caribou would be similar to De Beers' planned mitigation for active bird nests in Section 2.2.3.1 of the Tier 2 WMMMP, and may be perceived as "less risky" to the project schedule since activities may resume once caribou leave the area (e.g., perhaps within an hour rather than weeks).	1) Please modify Section 4 (Action Levels for Adaptive Management) of the Tier 2 WMMMP to include actions levels for vegetation loss and habitat disturbance as noted in the VMP. 2) If revisions to the VMP are needed due to triggering of higher action levels (e.g., Level III change), ensure that revisions to the Tier 2 WMMMP are also made, as appropriate.	1) The trigger for operations loss is the footprint extent approved by permitting and leases. Exceedance of this would require approval of an amendment to the Mine plan and new lease (i.e., the management actions). At the end of operations, habitat disturbance by Snop Lake Mine was 89% of the EAR prediction (De Beers 2018). Closure activities are not predicted to increase habitat loss. In contrast, reclamation activities are predicted to decrease habitat loss during the post-closure phase. 2) De Beers policies and procedures are consistent among the project documents, including the VMP and WMMMP. De Beers does not see the need to adjust the WMMMP at this time but remains committed to adaptive management and will make changes in the future in consultation with GWMT if warranted. Reference De Beers. 2018. 2017 Annual Wildlife and Wildlife Habitat Protection Plan Report. Yellowknife, NWT.
SLEMA	Action levels for sensory disturbance will not be considered (Tier 2 WMMMP, Section 4) and the usefulness of ZOI monitoring for caribou	With respect to point 1, if GSWT/ENR collar data show caribou turning away from the Mine area during times/days when closure activities involving blasting or demolition/heavy industrial activity were occurring, these results may suggest that nearby caribou were being disturbed. That being said, annual review and analysis of collar data (Section 3.1.1.3) would not enable timely adaptive management to inform immediate mitigation actions, though it may allow for spatial or temporal changes to planned activities for the next year (the closure phase is anticipated to be a year, FCRP, Section 8.1). Therefore, regarding point 2, additional on-the-ground caribou monitoring and adaptive management is needed, especially during closure activities that produce greater sensory disturbance. Although OP 194 includes deterring/herding caribou away from areas that may be considered hazardous, including the airstrip, high traffic areas, where heavy equipment is in use, and where blasting or demolition activities are taking place, this OP appears to apply to situations when caribou are already in or very close to the hazardous area (though the distance is not defined except for the airstrip, where caribou within 100 m will be reported, OP 014, Section 5.5). It is acknowledged in OP 194, Section 5.2.2, that inappropriate/aggressive herding may cause animals to "run or exhibit a "Very Alarmed-Panic Escape Response". As an alternative to causing caribou stress by herding, De Beers should employ an Environmental Monitor to survey the area prior to commencing and during closure activities, and animals within the ZOI should be reported (Section 1.8 of the Tier 2 WMMMP, bottom of page 1-12, states that De Beers has completed ZOI monitoring analysis). Depending on caribou behaviour, direction of movement, number of individuals, and presence of calves, proactive and increasingly stringent mitigation measures (as per MEWH R13 in Table 2-2; see also SLEMA's comments in Line 6), including temporary cessation of Mine closure activities, can be done instead of last minute herding of caribou. Establishing setback distance and suspending activities for caribou would be similar to De Beers' planned mitigation for active bird nests in Section 2.2.3.1 of the Tier 2 WMMMP, and may be perceived as "less risky" to the project schedule since activities may resume once caribou leave the area (e.g., perhaps within an hour rather than weeks).	1) Please provide rationale for why caribou ZOI monitoring was selected as the preferred approach if it is not expected to inform mitigation, which is part of the purpose of a WMMMP. 2) Please clarify whether any ground-based caribou monitoring is planned prior to and during disruptive closure activities, such that mitigation measures can be applied prior to the need for herding caribou away from hazardous areas.	1) The impetus for ZOI monitoring comes from feedback from GWMT, in particular feedback received during the 2021 diamond mine wildlife monitoring meeting held in Yellowknife. Collar data will be used to analyze whether caribou behaviour (distribution) changes in relation to mining activities through time / Mine phase. This analysis can be used to test predictions of the Snop Lake EAR (which is one of the objectives of the WMMMP, Section 1.3) and will contribute information for future environmental assessments and for ongoing assessment and management of cumulative effects under different development scenarios (Handley 2010). 2) Incidental and Site Surveillance monitoring includes ground-based methods to identify the need for mitigation activities related to wildlife presence at site and their protection during the closure phase. The monitoring will be completed by Environmental Monitors. Section 2.2 of the WMMMP includes wildlife surveys prior to decommissioning/demolition activities which represent hazardous areas/activities. Reference Handley J. 2010. Report on Diamond Mine Wildlife Monitoring Technical Workshop, Yellowknife, NWT, Canada.
SLEMA	OP 194 is entitled "Bear Deterrents" and is lacking in details about caribou mitigation aside from herding	OP 194 is first referenced in Section 1.8 (Mitigation) of the Tier 2 WMMMP as a document with details on deterring wildlife from hazardous areas. However, OP 194 itself is entitled "Bear Deterrents" and mostly focuses on bears, although the Purpose (Section 1.0), Scope (2.0), and Procedural steps 1 and 5.1 are focused on caribou. This OP also refers to a separate OP 193 on Bear Deterrents that either does not exist or has not been provided with the Tier 2 WMMMP package. Overall, OP 194 appears to be a high-level amalgamation of procedures and needs to be revised. Given the ecological, cultural, and economic importance of caribou, their territorial and federal (CDSWIC) status as a species at risk, and their sensitivity to Mine-related stressors, procedures for caribou monitoring and provisions for mitigation and management should entail more than three brief points about wildlife observation reporting and herding. Please see SLEMA's comments in Lines 6 and 11. Regarding the caribou-related information that is contained in OP 194, Section 5.1 states that only personnel trained in deterrent actions should respond and attempt to move animals away from hazardous areas. SLEMA recommends that personnel responsible for deterring caribou should also be trained/have an understanding of caribou behaviour to assess alarm responses and cues for proceeding with deterrents. As noted in Section 5.2.2, "herding should never stimulate a Very Alarmed-Panic Escape Response". The capitalization of this term would suggest that further information is available that defines/depicts this alarm response (i.e., for training purposes), but none is provided within this or other OP included with the Tier 2 WMMMP package.	1) Please rewrite OP 194 if it is intended to provide procedures for caribou and other wildlife deterrents, and clarify whether there is still a separate OP 193 for Bear Deterrents. 2) Please include further details about caribou mitigation and management measures, either in OP 194 or a caribou-specific management document.	1) De Beers will revise OP 194 to clearly indicate it applies to the use of deterrents with respect to a range of species including caribou, foxes, Wolverines, and bears. The focus of this OP is on encouraging animals to move away from areas that are considered hazardous, not on responding to an aggressive animal. OP 193 will remain in place as the OP to address the response to aggressive animals such as bears or wolverines. 2) De Beers will add additional information about caribou mitigation and management in OP 194; also note that some measures are outlined in EP-DQP-001 "Winter Road Wildlife and Public Use"
SLEMA	OP 201 "Remote Camera Monitoring" - insufficient details about camera setup/maintenance and settings	Section 2.2.3.2 of the Tier 2 WMMMP states that wildlife cameras will be used at Mine Components to monitor and contribute to the progress of achieving closure objectives related to safe passage and use by wildlife during post-closure when the site is unoccupied by staff and contractors; and that cameras may record species presence or moving through revegetated and reclaimed areas, thus providing a secondary line of evidence on reclamation success. Unfortunately, OP 201 is lacking the detailed procedures needed to ensure that these objectives can be met. Without further details in this and other OPs, and within the WMMMP itself (see SLEMA's review comments about caribou mitigation/management; Lines 6, 11, 12), it will also be difficult to ensure that De Beers' DA/QC Procedures (Section 5.0 of the Tier 2 WMMMP) are properly conducted; namely, review of "study designs, field methods, and data collection techniques" by De Beers, their environmental consultants, SLEMA, government biologists, and regulators, to enable continuous evaluation and adaptive environmental management. Section 1.0 (Purpose) of OP 201 states that remote cameras will be used during the closure phase as well as post-closure, which is inconsistent with the plan for only post-closure camera monitoring (as described in Section 2.2.3.2, noted above; also the Section 2.1 heading in OP 201: "Camera Placement (Post-Closure)"). Section 1.1, page 1-2, of the Tier 2 WMMMP states that during closure the Mine site will be occupied by staff full-time and the completion of closure activities. If there are seasonal periods during closure when staff are not on site, remote cameras should also be deployed. De Beers should confirm if this may be the case, or amend the Purpose of OP 201 to only focus on post-closure. Section 2.2 (Camera Deployment and Retrieval) states that incidental wildlife sightings must be recorded the first time a species is observed; that some species must always be recorded, and to refer to the specific work instructions for details. No work instructions have been included as part of the Tier 2 WMMMP package that may explain the rationale for these steps or provide the instructions needed to complete the Remote Camera Monitoring Database - Deployment and Retrieval forms (note: neither of these forms have been given an ID). For example, the Deployment form has data fields for some camera setup and settings, such as Camera Facing (Deg), Camera Sensitivity, Height of Camera (cm), UTM coordinates, and pilot habitat characteristics, and the Retrieval form has fields for battery and memory card checks. However, there are no procedures in OP 201 explaining what to do to ensure that the camera setup is optimized for capturing caribou (or other wildlife), that Arctic light conditions are accounted for and settings are calibrated and standardized between units, that the setup is stable enough to prevent bears from knocking it over, that the units are weather-proofed against snow accumulation and the setup deters bear nesting in front of the lens, etc. What are the daily image capture settings - motion triggered and/or timed? How often 24 hour a day or only during certain periods/intervals to save battery life? When cameras are deployed during post-closure, will staff be available to make the periodic battery and memory card checks needed to ensure continual function? These are all details that are needed to ensure that the remote camera monitoring program will be successful.	1) Please clarify whether there may be periods during the Mine closure phase when staff will not be on site and remote cameras should be deployed. 2) Please consider placing additional remote cameras at the main laydown area where active revegetation plots will be located, to assist with monitoring wildlife use of restored habitat. 3) Please provide the Work Instructions referenced in Section 2.2 and/or rationale about incidental wildlife observations recording. 4) Please provide numbers and specific locations of cameras to establish an independent review of the program's ability to achieve its objectives. 5) Please provide details for camera setup and settings, and address SLEMA's concerns about optimization for Arctic conditions and standardization between units.	1) Remote cameras will be deployed during both closure and post-closure phase. De Beers will revise the WMMMP and OP to be consistent in the description of the camera program. 2) De Beers will place cameras at the main laydown area to monitor wildlife use of restored habitat. 3) De Beers will revise OP 201 to provide more detailed procedures about capturing wildlife presence with remote cameras. Exact camera locations and details around the frequency of image capture will be provided in the annual reports following installation. 4) De Beers will deploy about 30 cameras at the Mine, which would provide about 2 cameras for each of the different surface infrastructure. 5) Section 2.2.3.2 of the WMMMP indicates that remote cameras will be placed at the surface Mine Component areas identified in the IOP. The Mine Components identified include the North Fill and associated Water Management System, Infrastructure Areas (e.g., airstrip, buildings, waste management area). De Beers will include a map of remote camera locations in a revision of the WMMMP. Decisions around the precise location of cameras will be made at the time of installation by qualified personnel. Camera locations may be adjusted over time.

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSITION RESPONSE
SLEMA	OP 078 "Responding to Bears or Aggressive Animals At or Near SLM (Emergency Situation)"	<p>OP 078 is focused on bears but the Scope (Section 2.0) notes that aggressive animals include Wolverines, bears, and wolves, and that foves and large birds may also act aggressively. The Beers states that aggressive animals shall be managed in a similar manner to bears. However, some procedures noted in OP 078 may not apply to all species, such as helicopter pushing and shotgun slugs, and different standards may apply for treatment of carcasses and distance triggers (e.g., as shown on the flowchart on page 5, responding to a bear begins when the animal is <1 km from camp perimeter or <100 m from area of human activity). Therefore, any specific instructions for the other potentially aggressive species should be noted in the OP to provide clarity for Mine staff if an incident occurs.</p> <p>Section 5.2.4 of OP 078 states that deterring animals at closer range may include the use of 15 mm bangers and screamers; however, Section 5.3 only lists bear bangers as an option. De Beers should confirm whether screamers are also acceptable deterrents at the Snap Lake Mine, as screamers have an erratic and unpredictable flight pattern.</p> <p>Regarding acceptable bear bangers, Section 5.3.1 states that if an employee is unsure whether or not a particular style of bear banger launcher is allowed, check with the Environmental Coordinator. This statement is confusing because bear deterrents are controlled and need to be signed out (Sections 4.0, 5.8); as such, one would expect that only allowable launcher styles would be present on site, unless staff are allowed to bring their own. It would be helpful if the sections 5.3, 5.4, 5.5, 5.12) appeared before the action flowchart and were arranged in a hierarchy of use, as the flowchart discusses appropriate initial deterrents and increasing deterrent efforts and it was unclear what this meant upon review. It also appears that the flowchart pages 5-8 may be organized incorrectly or partially cut off as there are discontinuous arrows and box borders - please fix and clarify the linkages.</p> <p>Procedure 5.1.6 states that the landfill operator shall be the sole judge as to what types of wastes are acceptable for disposal at the landfill. It is unclear how this policy relates to emergency aggressive animal situations. It is likely that improper food waste management may lead to habituated and potentially aggressive bears, but as landfills are not mentioned anywhere else in the OP, there is no explicit linkage between this procedure and grizzly bear aggression. For this reason, it would help the reader to have the linkage provided to make sense of how the stated policy related to aggressive animal situations. In response to this point, we would expect that there is another OP that clearly outlines what is or is not acceptable for the landfill, open burning, incineration, and off-site disposal; and that judgement should not rest solely with the waste management operators.</p>	<ol style="list-style-type: none"> 1) Please include any relevant species-specific instructions needed in OP 078 to ensure that potentially aggressive species other than bears are dealt with appropriately. 2) Please clarify what types of bear deterrents and associated equipment are acceptable at the Snap Lake Mine. 3) Please rearrange OP 078 to present bear deterrents in order of typical use (e.g., by action level) and present the list of deterrents before the flowchart. 4) Please explain how landfill waste acceptance is related to this OP 078 about emergency aggressive animal situations. Ensure that proper disposal of food waste to minimize bear attractants is outlined in waste management procedures, and that all Mine staff are properly and continually trained. 	<ol style="list-style-type: none"> 1) De Beers will revise OP 078 to include species-specific instructions for potentially aggressive, non-bear species. 2) De Beers will revise OP 078 to clarify types of acceptable bear deterrents and associated equipment. 3) De Beers will rearrange the flowchart and list of deterrents in OP 078 as recommended. 4) De Beers will revise procedure 5.1.6 to identify the link between waste acceptance at the landfill and emergency aggressive animal situations.
SLEMA	EP-DOP 001 "Winter Road Wildlife and Public Use Surveillance"	<p>In EP-DOP 001, the Scope (Section 2.0) states that security personnel will patrol the length of the winter road in pick-up trucks once every two weeks during the haul season (Feb-Mar) so long as weather permits. However, Section 3.1 mentions the Security Contractor's "daily surveillance" of the Snap Lake Mine winter access road. Do these statements imply that only a portion of the 35 km winter road will be surveyed daily, such that the entire length will only be completed once every two weeks? Further confusion arises from the text in Section 3.2, which states that the Security Contractor will provide daily surveillance data sheets to the Environment Department on a weekly basis at the end of each survey. This implies that a "survey" would take one week to complete and presumably make the entire length of the winter road. It would be helpful if De Beers can provide further information and clarity about how surveillance will actually be conducted. One of the Procedures is Public Use Surveys (Section 5.3.1), which seems to involve stopping recreational users of the winter access road, as well as enforcing the rules of the road as they relate to wildlife (Section 5.3.2). Will the Security Contractor be setting up checkpoints at different locations along the winter road during the one-week survey? When will the Security Contractor record wildlife observations, at the checkpoints or by actively patrolling along the road?</p> <p>For Incident Reporting (Section 5.3.3), one of the relevant observations to record is Potential Causes/contributing factors. Regarding collisions with wildlife, have snow berms been a problem for wildlife crossing the winter access road, such as caribou? Please report on any stretches of road of 20.5 m or 1.6 m. If there are snow depth data exceeding these values, mitigation for wildlife passage will be needed. Barren-ground caribou are unimpeded by snow depths up to 0.5 m but are deflected from roads when snow berms exceed 1.6 m in depth (Rescan 2011). Ensure that road maintenance for Snap Lake Mine follow best practices in the NWT and create breaks in snowbanks at regular intervals to allow wildlife passage (GNWT Lands 2015). Since the Snap Lake Mine winter access road intersects Bathurst caribou winter migration routes identified through Traditional Knowledge (TK) from the Tlcho Government (Figure 12 in the Bathurst Caribou Range Plan, GNWT 2019), SLEMA recommends creating escape gaps every 200 m and that snow within these gaps are maintained at heights of 1 m or less. As part of EP-DOP 001, the Security Contractor could assist with monitoring snow depths and wildlife crossings.</p> <p>The field map (Section 6.1.1) provided by De Beers for the Security Contractor does not seem particularly useful. The Winter Road Wildlife Sightings Form on page 4 includes fields for Lake Name and Portage Number; however, there are no landmarks indicated on the field map to assist the Security Contractor with this data recording. It may also be useful to show approximately where TK identified winter caribou migration routes occur, such that the Security Contractor could focus efforts on wildlife observations and enforcing wildlife-related road rules around these areas of potentially higher importance. The wildlife sightings form should include space for Comments to note caribou/wildlife behaviour, direction of movement, and mitigation measures needed (to help prevent incidents), etc. Finally, De Beers needs to fill in the contact numbers for the Environmental Superintendent, Environmental Coordinator, and Environmental Technician in Section 6.1 when available.</p> <p>References: Rescan, 2011. EKAT Diamond Mine: Wildlife Effects Monitoring Program. Prepared for BHP Billiton Canada Inc., Yellowknife, NT. GNWT Lands, 2015. Northern Land Use Guidelines - Access, Roads and Trails. Department of Lands, Government of the Northwest Territories, Yellowknife, NT. GNWT, 2019. Bathurst Caribou Range Plan. Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. 86 + ii pp.</p>	<ol style="list-style-type: none"> 1) Please clarify the procedure to be followed by the Security Contractor for winter road surveillance, including whether checkpoints/stations will be set up, whether only segments of the road will be surveyed each day, if the effort is systematic or random, etc. 2) Please provide a field map that includes pertinent information such as landmarks to assist the Security Contractor with data recording and survey effort allocation (as applicable). 3) Please confirm whether there are winter road management plans and procedures that enable safe wildlife crossing, and provide details about these mitigation measures. Please also provide snow depth data that would inform the mitigation measures needed for caribou crossing. 4) Ensure that contact information for listed Environment personnel are provided to the Security Contractor. 	<ol style="list-style-type: none"> 1) De Beers will clarify the procedures for the winter road surveillance. 2) De Beers will revise the field map to identify landmarks (e.g., portage locations) for the survey. 3) De Beers is committed to winter road management that enable safe wildlife crossings. This includes keeping snow berms below 1.6m in height to facilitate caribou crossing along the full length of the road, turning off wildlife high berms that are stopped on roads at night due to wildlife presence, and adding caribou crossing features to site roads at key locations as identified by Indigenous communities. These requirements will be included in the instructions to the winter road construction and maintenance crew and added to the bulleted list of mitigation measures already provided in Section 1.8 of the W MMP. 4) De Beers will provide contact information for Environment personnel to the Security Contractor, when available.
SLEMA	Procedures and mitigation measures for mammal denning activity at waste storage areas (OP 014)	<p>The Waste Inspection Checklist (CL 071) attached to OP 014 includes a field for Denning Activity under Wildlife Observation. However, there are no instructions in OP 014, Section 5.3, about what the Environmental Technician should do if denning activity is observed at waste storage areas. De Beers should clarify whether active dens will be left alone until they are unoccupied, if the actions are species dependent (e.g., ground squirrels vs. carnivores), if corrective actions will be taken to prevent further denning activities, etc. Note that the NWT Wildlife Act s.51(2) prohibits breaking into, destroying, or damaging a den (wildlife above) unless authorized by a license or permit to do so.</p>	<ol style="list-style-type: none"> 1) Please clarify what management actions would occur if mammal denning activity were observed at waste storage areas. 	<ol style="list-style-type: none"> 1) De Beers will clarify the management actions that would occur if mammal denning activity was observed, including following the NWT Wildlife Act s. 51(2).
SLEMA	Unclear roles and responsibilities in Operating Procedures (OPs 194, 014, 078)	<p>The OPs included as part of the Tier 2 W MMP package sometimes use differing titles for environmental personnel in the Responsibilities section vs. the Procedure and other sections. For example, Section 5.1 of OP 194 mentions "Environment Technicians", "Environment personnel" conducting inspections, and "Environment staff" communicating with contractors and staff; and Section 5.4.2 mentions how Near Hit reporting cards must be given to the "SHR Coordinator or Environmental Coordinator" (Env. Coord. is also mentioned in Section 5.7.1). However, the Responsibilities section 5.0 does not list or define roles and responsibilities for Environment personnel aside from "Environmental Superintendent, or Designates". Do these "Designates" encompass the Environmental Coordinator and other roles?</p> <p>The Responsibilities section of OP 014 includes additional subsections for "Environmental Coordinator or Designate" and "Environmental Technician or Designate", which are informative and should be incorporated into all environment-related OPs. There is one ambiguity in OP 014: "Environmental Manager" is mentioned in Sections 3.2.3 and 5.7. Is this role the same as Environmental Coordinator? Regarding the context of Section 5.7, the Environmental Technician will inspect soil stockpiles, excavations, water bodies and protection measures every two weeks looking for signs of soil erosion, contamination or other problems (e.g., dead vegetation, discoloured runoff, etc.) and will report problems to the Environmental Manager as per OP 007: Vegetation Management. This OP 007 was not included in the Tier 2 W MMP package; however, SLEMA expects that appropriate mitigation and corrective action measures are described either in the OP(s), Vegetation Monitoring Program, Aquatic Effects Monitoring Program, or other project management plans, should dead vegetation and impacts to wildlife habitat, or contamination that could impact animal health, be observed.</p> <p>The Responsibilities section of OP 078 includes additional subsections for "Safety, Health, Risk and Environmental (SHR/E) Superintendent or Designate" and "SHR/E Coordinator" (there is a typo), which is also helpful and should be incorporated into environment-related OPs as appropriate. On page 8 of OP 078 (last page of the emergency bear situation flowchart), the reporting box for completing a Wildlife Deterrent Report and sending a copy of the ENR Wildlife Officer does not list the responsible person, unlike on page 5 (Environmental Technician) and page 6 (Environmental Superintendent). It is also not fully clear when a situation has escalated enough that the Env. Supr. is now responsible for reporting - is it because "increased deterrent efforts" were applied in general, or does it relate to the type of deterrent being used in the hierarchy (e.g., proceeding to rubber slugs beyond air horns and bear bangers)?</p>	<ol style="list-style-type: none"> 1) Please use consistent terminology/titles for Environment personnel within and among Operating Procedures, and ensure that all roles and responsibilities are listed and defined in each OP's respective Section 3.0. 2) Please clarify when and why different Environment personnel are responsible for completing the Wildlife Deterrent Report for aggressive animal situations. 3) Please clarify whether mitigation and corrective action measures for potential impacts to vegetation (wildlife habitat) and water bodies (wildlife health), as identified during Environmental inspections, are detailed in other Snap Lake Mine project documents. 	<ol style="list-style-type: none"> 1) De Beers will revise the OPs to ensure as much consistency as possible in titles for environmental personnel. As the site moves into Active Closure, titles may change. 2) De Beers will clarify OP 078 to specify in which situations the Environment Supt. is now responsible for wildlife deterrent reports. 3) If issues are detected during environmental inspections, they will be addressed as appropriate and with consideration for requirements in other Plans such as the AEMP or the North Pole Management Plan.
SLEMA	Other comments about Operating Procedures, including inconsistent or missing information, organization, and typos	<p>In addition to review comments already noted above, such as inconsistencies with Roles and Responsibilities, SLEMA has some general comments and suggestions about the provided OPs:</p> <ul style="list-style-type: none"> - Sections 5.8 and 5.10 of OP 014 refer to OP 201: Petroleum Products but the OP 201 included in the Tier 2 W MMP package is for Remote Camera Monitoring. Ensure that all OPs have unique document IDs. - Section 3.6.2 of OP 078 states that Supervisors are responsible for recording the use of wildlife deterrents on the SLM Isometric incident reporting database, and Section 3.7.3 indicates that All Employees that use bear deterrents should report their use on a SLM Near Hit reporting card. However, OP 0194 ("Bear Deterrents") does not include mention of the SLM Isometric incident reporting database, only the Near Hit reporting card. Please confirm reporting requirements for the use of wildlife/bear deterrents and ensure that all relevant OPs have the most up-to-date information. - OP 078 is not mentioned anywhere in the Tier 2 W MMP package. It should be linked to the Bear Deterrents OP (whether 194 or 193). In general, it would be helpful if the OPs had a section showing "Related Documents". - OP 001 is referenced several times throughout the main Tier 2 W MMP; however, it appears to have been re-coded as EP-DOP 001 on the actual Operating Procedure. Update citations and rename other OPs if needed. - In OP 194 and OP 078, the requirement to report use of wildlife deterrents on a SLM Near Hit Reporting Card (CL 003) is nested under the Air Horn section, when this requirement should also apply to other deterrents such as bear bangers and bear spray. Please reorganize for clarity. - Section 4.0 (Critical Controls) of OP 194 refers to a completed Job Risk Analysis that can be found in Section 10.0 that lists hazards, unwanted events and controls in place for the tasks/activities related to bear deterrents. However, there is no Section 10.0 in this OP. It would be informative to see a completed Job Risk Analysis. 	<ol style="list-style-type: none"> 1) Please make the suggested corrections and edits noted in the Comments column to ensure consistency and completeness, and to enhance linkages between Operating Procedures, Tier 2 W MMP, and any other related Snap Lake Mine project documents. 	<ol style="list-style-type: none"> 1) De Beers will incorporate the suggested corrections and edits related to consistency and completeness of the OPs into the W MMP.

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSED RESPONSE
SLEMA	Community Wildlife Monitor (Table A1, Section 1.7)	On Table A1, De Beers states that a description about Community Wildlife Monitor, a required content under Section 95 of the Wildlife Act for Tier 2 WMPM, is included in section 1.7. SLEMA found no description of the role of Community Wildlife Monitors in section 1.7 of the WMPM. Wildlife, especially caribou, is an important affected species to the communities. There is a growing interest and initiatives to involve community on the land monitors for wildlife, as is the case at the Gahcho Kue mine. For that reason, it is important to reviewers, such as SLEMA, to understand how De Beers is planning to involve Community Wildlife Monitors in the implementation of the WMPM, and how it came to their conclusion in collaboration with the affected communities.	1) Please provide description of the role of Community Wildlife Monitors in the implementation of the WMPM. 2) If it has not done so already, SLEMA recommends that De Beers engage with affected communities on the role of Community Wildlife Monitors during closure and post-closure periods as part of the WMPM. If it has done so, please include the record of engagement and rationale for arriving at the plan provided for 1) above.	1) A description of the role of Community Wildlife Monitors will be added to the WMPM. 2) De Beers has engaged all parties in the planning of monitoring during closure and post-closure. Engagement has occurred through site visits, community visits, multiple workshops on closure, and public review processes for various documents associated with closure including the current process of review of the WMPM. Monitoring during closure and post closure, including the participation of SLEMA representatives, was discussed at length throughout the planning and regulatory review of the Final Closure and Reclamation Plan (FCRP). The FCRP describes how SLEMA will participate in site inspections to provide input into the achievement of most of the site wide objectives (SW1, SW2, SW3, SW5, SW6, SW7) in addition to many of the component specific objectives (UG2, 11, 13). Many of these objectives address wildlife specifically and it is envisioned that SLEMA will provide input regarding the effectiveness of closure activities in achieving closure objectives as it relates to wildlife. This process of active involvement of SLEMA in closure and post-closure monitoring will be provided within the WMPM in Section 1.7. In addition, De Beers will seek to hire Indigenous personnel when opportunities arise within the Environment Department and will encourage sub-contractors to do the same. Wildlife Monitors will be included in the field programs as required to ensure safe implementation of programs on the land and inclusion of Indigenous personnel in the monitoring of the closure and reclamation of Snap Lake Mine.
ENR	Executive Summary - Page #	DeBeers states: "The Snap Lake WMPM document was prepared in accordance with the GWN's guidelines and the September 18, 2020 letter to De Beers from the GWN. The Caribou, wolverine, grizzly bear hair snagging, and wolverine hair snagging programs were removed from the WMPM, as an outcome of the 2021 Slave Geological Province Wildlife Workshop." Please note that the meeting being referred to was not a "Slave Geological Province Regional Monitoring Workshop", as ENR has previously hosted. It was a meeting of the diamond mines, government, their consultants and monitoring agencies. In recent years, the SGP workshops have grown to have a larger scope than just the diamond mines, and have included more academic research and community monitoring initiatives. This meeting stayed more focused due to COVID and the online platform. There was no Slave Geological Wildlife Workshop in 2021. There was a diamond mine wildlife monitoring meeting. While the partners in the regional DNA monitoring for wolverine and grizzly bears agree not to pursue these programs on a continual basis, this was not a clear outcome for the behaviour monitoring. Rather, it was discussed that given the limited value of the behaviour monitoring data collected for informing mitigation or detecting effects, consideration could be given to removal of annual activity monitoring in favor of either less frequent but more intense effort, or an alternate approach for addressing caribou behaviour questions.	1) Revise "2021 Slave Geological Province Wildlife Workshop" to read "at a diamond mine wildlife monitoring meeting in February 2021," here and elsewhere in the document. 2) Given the limited behaviour monitoring data available for Snap Lake during operations, ENR believes that continuation of the behaviour monitoring program during the closure and post-closure phase is not warranted; however, it is DeBeers' responsibility to ensure that other parties to the environmental agreement would support this.	1) The statement "2021 Slave Geological Province Wildlife Workshop" will be revised to read "at a diamond mine wildlife monitoring meeting in February 2021," throughout the document. 2) De Beers agrees with ENR that the continuation of the behaviour monitoring program during the closure and post-closure phase is not warranted. De Beers has given all parties the opportunity to review and provide feedback on the proposed wildlife monitoring program within the WMPM review process herein. In particular, SLEMA has provided several comments and De Beers has tried to address all concerns raised and De Beers will continue to monitor caribou that occur at a site as described in response to SLEMA 7 and will report these occurrences in the annual report.
ENR	Executive Summary - Page #	"Replacement of surveys for bear sign with a regional hair snagging program to monitor grizzly and black bears."	Remove "and black bears," that was never one of the monitoring objectives.	The Snap Lake and Gahcho Kue mines are near the treeline and black bears have been observed in both study areas including during hair snagging studies (Golder 2011, 2012; Jessen et al. 2014). While black bears may be less relevant to the (Kue) and Davik mine bear hair snagging programs given their more northern location, black bears are relevant to the study area for De Beers' bear hair snagging program. De Beers believes removing reference to black bears would exclude this content. References Golder (Golder Associates Ltd.). 2011. De Beers Snap Lake Mine Wildlife Effects Monitoring Program 2010 Annual Report. Prepared for De Beers Canada Inc., by Golder Associates Ltd. Yellowknife, NWT. Jessen T, Diprestrato R, Musiani M, Masso A, Galpern P, McDermid G. 2014. Summary Report 2014: Joint Regional Grizzly Bear DNA Project, University of Calgary, Calgary AB.
ENR	Section 1.1, page 1-3 - Objectives of Regional Monitoring	In Paragraph 3, with respect to the collaborative regional grizzly bear and wolverine monitoring programs, DeBeers states "No effects of mining operations on grizzly bear populations were reported through this program (Jessen 2017)." In addition, a presentation on the analysis of wolverine hair snagging data showed no evidence of mine-related effects on wolverine populations during the more than 10-year study period (Efford and Boulanger 2018)." These statements are misleading because determining mine impacts was not the objective of the program. The objective of the hair-snagging programs was to determine wolverine abundance and distribution in the study area over time. ENR is unaware of a specific study that tested whether the mine have had little or no effect on the wolverine population. Based on the DNA program findings that the structure of the population is bigger and wider ranging than originally thought, evidence of decreasing or low wolverine mortalities associated with the mines over time (Efford and Boulanger 2018).	Remove the statements "No effects of mining operations on grizzly bear populations were reported through this program (Jessen 2017)." In addition, a presentation on the analysis of wolverine hair snagging data showed no evidence of mine-related effects on wolverine populations during the more than 10-year study period (Efford and Boulanger 2018)."	De Beers will revise to note that infrequent and limited mine-related mortalities of grizzly bear and wolverine have had a negligible influence on regional populations. Of note is that the regional grizzly bear hair snagging program does have a mine-related objective (Jessen 2010). To determine if mine-related activities influence the relative abundance and distribution of grizzly bears in the study area over time. Reference Hanley J. 2010. Report on Diamond Mine Wildlife Technical Workshop, June 28, 2010. Prepared for the Department of Environment and Natural Resources, Government of the Northwest Territories. Yellowknife, NWT.
ENR	Activities	ENR notes that there is not a comprehensive list of the most common activities that may cause disturbance and the relative period of time and likely seasonality of these activities (if relevant). This information is helpful in determining appropriate ways to scale mitigations in the event that caribou begin to once again visit the site during the active closure phase. For instance, is blasting something that is expected to be used during decommissioning? How might aircraft visits to/from site and helicopter traffic change? Etc.	Please add a brief section that provides a qualitative description of the nature of the disturbances (activity / frequency / magnitude) associated with the closure and reclamation phase. A description of the frequency and duration of the disturbances on-site to the most affected areas.	De Beers will revise to add a brief qualitative description of the nature of disturbances associated with the closure and reclamation phase.
ENR	Section 1.6, page 1-10; Table 1-2; Wildlife Reclamation Measures	The Snap Lake Mine outcomes column does not appear to have been updated and does not reflect current versions of relevant plans and agreements, (i.e. a reference to version 5.1 of the Waste Management Plan etc.) or relevant Sections of Operating Procedures in the WMPM to demonstrate how the CURRENT PLAN addresses the Measures.	Under reclaim, add the words "on-site" prior to effects. This is to separate more clearly from the concept of offsetting which could also involve reclamation or restoration but off-site.	De Beers will revise Table 1-2 to update the information and references to sections, plans or operating procedures.
ENR	Section 1.8, Page 1-12; Mitigation Hierarchy	Under reclamation, add the words "on-site" prior to effects. This is to separate more clearly from the concept of offsetting which could also involve reclamation or restoration but off-site.	Under reclamation, add the words "on-site" prior to effects.	De Beers will add "on-site" to the description of reclamation. Please note that distinction of "off-site" (or offsetting) was included in the last sentence for the context of offsetting (emphasis added): "Offsets can take the form of positive management interventions, such as off-site restoration of degraded habitat, arrested degradation or averted risk, and protecting areas where there is imminent or projected loss."
ENR	Section 1.8, Page 1-13; ZOI monitoring	"The Mine has completed zone of influence (ZOI) monitoring and analysis, which does not inform on Mine mitigation but contributes to understanding cumulative effects to caribou (De Beers 2008b; Boulanger et al. 2012)." De Beers may also wish to add that the ZOI monitoring partly addresses Measure 521.	Recommend adding, "and partly addresses Measure 521 of the Report of EA."	De Beers will add "and partly addresses Measure 521 of the Report of EA."
ENR	Section 1.8, Page 1-3; Mitigations	It would be helpful if the list of mitigations identified in this section could be put in tabular format along with the impact they are being implemented to avoid, minimize or rectify.	Identify the impacts that the mitigations listed are expected to address. The mitigations identified in this section could be put in tabular format along with the impact they are being implemented to avoid, minimize or rectify.	The mitigations identified in Section 1.8 are repeated in subsequent sections where they apply, for example Section 2.2 Site Wildlife Monitoring and Incidents includes a list of mitigations in bullet form that are implemented at the Mine to reduce the potential for Mine-related wildlife incidents. Examples of those listed include wildlife awareness and safety training, prohibit hunting and trapping, establish and enforce speed limits, etc.
ENR	Section 1.8, Page 1-13; Bullets 14 - 18	Destruction of inactive raptor nests is a relatively new prohibition under the Wildlife Act, not reflected in this list.	Add bullet 14, Add "and inactive raptor" nests; after "avoid destruction of active bird nests".	De Beers will add "and inactive raptor nests", after "avoid destruction of active bird nests".
ENR	Section 1.8, Page 1-3; Mitigations for Aircraft at Site	ENR notes the omission of mitigations related to the use of aircraft at the site in this list (i.e. consistent with ENR's Flying Low pamphlet, other than for landing and take off, pilots should not fly below 300m.). ENR recommends that where possible pilots avoid routing flights over groups of caribou near or approaching the site.	Please include mitigations to minimize disturbance to wildlife from aircraft.	De Beers will revise to include mitigations to minimize disturbance to wildlife from aircraft.
ENR	Section 1.9, Page 1-14; Monitoring of vegetation loss	DeBeers indicates that monitoring of Mine-related effects will include the following components: "direct loss of vegetation communities associated with the Mine footprint" It is unclear why DeBeers would need to monitor direct loss of habitat during closure and reclamation.	Please clarify if and how DeBeers is expecting additional loss of vegetation during closure and post-closure, and if so, identify which specific activities would be expected to contribute to this loss.	De Beers is not expecting additional loss of vegetation during closure and post-closure. During the operations phase, the direct loss of vegetation from the Mine footprint was monitored to quantitatively measure the direct effects of the vegetation monitoring will continue into the closure and post-closure phases to monitor the change from habitat loss to reclaimed habitat, which will provide a measure of the positive change as a result of reclamation. De Beers will revise to describe the changes to direct loss of vegetation communities associated with the Mine footprint as a result of reclamation.
ENR	Section 1.9, Page 2-1; Primacy of plans	DeBeers states: "Although the WMPM is a stand-alone plan, in areas of disagreement between the management plans, deferral will be made to the regulated plans under the NWLWB requirements." Please be advised that if the matter of disagreement between plans results in DeBeers not adhering to its approved WMPM, there is a risk that DeBeers could be in violation of the Wildlife General Regulations.	If DeBeers has already identified areas where there may be disagreement between management plans it should be brought to ENR's attention before the revised WMPM is submitted to ENR for approval. Once the WMPM is approved by ENR, De Beers should refer to the approved WMPM and not the draft WMPM. Recommended deleting this list and referring to Section 1.8.	De Beers has not already identified areas of disagreement between the WMPM and other regulated management plans. De Beers will revise that when regulatory requirements of management plans disagree, that De Beers will engage with the regulatory agencies to determine the appropriate solution.
ENR	Section 2.2, Page 2-4; List of Mitigation	The list of mitigations implemented at the mine to reduce the potential for mine-related incidents was mostly already provided in Section 1.8, and seems repetitive here in the monitoring section.	Recommended deleting this list and referring to Section 1.8.	Please see response to ENR-8. De Beers has repeated mitigations listed in Section 1.8 in subsequent sections so they are more clearly linked to effect pathways and monitoring activities.
ENR	Section 2.2.3.1, Page 2-5; Detections of Nests	DeBeers describes how observations of nesting activity will be handled, saying "Incidents will be reported annually in the WMPM as part of the EMS reporting. Observations of nesting activity on Mine infrastructure by bird species will be recorded, and decommissioning/demolition and reclamation activities in the area around the nest or suspended until the nest is no longer active. De Beers will report the presence of active nests to the regulatory authority of the species (i.e., ENR or Canadian Wildlife Services)." There is no mention of the need to contact ENR and obtain a General Wildlife Permit if an unoccupied raptor nest is detected and it is not possible to avoid destruction or moving of the nest. In the WMPM Determination letter, DeBeers was advised that under new Wildlife General Regulations that came into effect in 2019, unoccupied raptor nests may not be intentionally destroyed or removed unless authorized by a General Wildlife Permit. ENR notes that OP 014 identifies that unoccupied nests should be reported to GWNW and ECC, however addressing unoccupied raptor nests in this section would provide consistency.	Revise this section to stipulate that if an unoccupied raptor nest is detected on structures areas scheduled for demolition activities, DeBeers will contact ENR to report the situation, and if removal is necessary, obtain a General Wildlife Permit to authorize removal.	De Beers will revise this section to identify that unoccupied raptor nests on areas scheduled for demolition should be reported to ENR and a General Wildlife Permit will be required to authorize removal.
ENR	Section 2.2.3.2, Frequency of systematic site surveys for wildlife	It is unclear how often personnel is expected to be visiting the site for monitoring visits during post closure, and how often systematic surveys for wildlife, and (recovered) wildlife signs will be completed.	Please clarify how often staff will be on-site during post closure for monitoring purposes, as therefore how often, when and where wildlife sign surveys might be conducted.	Staff visitations to the site during post-closure will be predominantly in the ice free months and will be campaign-based. It is anticipated that for the first 5 years of post-closure there will be personnel on site each month from May to September. These visits however are subject to change and are not necessarily focused on wildlife. Section 2.2.3.2 indicates that systematic monitoring of wildlife presence at site will occur at Surface Mine Components such as the airstrip, buildings and waste management areas. Section 2.2.4 indicates monitoring will be completed at a frequency of once per month during the active closure phase, and once per year during the post-closure phase. De Beers will revise the WMPM and OP to be consistent in the description of the camera program.
ENR	Section 2.2.3.2, Camera monitoring / OP 201	ENR notes DeBeers inclusion of a procedure for deploying remote cameras, however many details in this program are lacking. There is also a discrepancy within the document regarding when camera monitoring will be used. Section 2.2.3.2 of the WMPM says cameras will be used during post-closure but OP 201 - Operating Procedure for Remote Camera Monitoring refers to the use of cameras during the closure phase as well. ENR expects that cameras be used to provide evidence of wildlife during periods when no staff are on site during both closure and post-closure. How many cameras will be deployed? Is there a map of key areas where deployment would be expected to guide personnel setting them out and retrieving them? How might TK help inform the placement of cameras? What will happen if wildlife incidents (e.g. injury or mortality due to interaction with the mine site) are detected on the cameras?	Please correct the discrepancy within the document regarding when camera monitoring will be used and provide additional details on the closure and post-closure wildlife camera monitoring program including how many cameras will be deployed, how frequently cameras would be placed out and retrieved, a map of key areas where deployment would be expected to guide personnel setting them out and retrieving them, and how they will be used to monitor wildlife interactions with the mine site, which will be used for monitoring wildlife interactions with the mine site, which will be used for monitoring wildlife interactions with the mine site.	Remote cameras will be deployed during both closure and post-closure phase. De Beers will revise the WMPM and OP to be consistent in the description of the camera program. Section 2.2.3.2 of the WMPM indicates that remote cameras will be placed at the Mine Components identified in the FCRP. The Mine Components identified include the North Pit and associated Water Management System, Infrastructure Areas (e.g., airstrip, buildings, waste management areas). De Beers will deploy about 30 cameras, which would provide about 2 cameras for each of the different surface infrastructure areas. De Beers will include a map of the general remote camera locations in a revision of the WMPM. Exact camera locations and details around the frequency of image capture will be provided in the annual reports following installation. OP 201 will be revised to provide more detailed procedures about capturing wildlife presence with remote cameras.
ENR	OP 078 - Procedure for Responding to Bears or aggressive animals at or near SLM	Not referred to anywhere in the text of the WMPM, despite it meeting the requirement in Measure R18 (protocols for dealing with on-site wildlife encounters).	Insert reference to this OP in relevant sections within the WMPM document.	De Beers will revise and insert reference to OP 078 in Section 1.8 (mitigations).
ENR	Section 3, page 3-2; Compliance with Bathurst Caribou Range Plan	DeBeers characterizes previous contributions to the Bathurst Caribou Management Strategy, and participation in regional collaborative grizzly bear and wolverine hair-snagging as compliance with the Offsetting / Compensatory Mechanism recommendation of the Bathurst Caribou Range Plan. ENR understands DeBeers contributions to the Bathurst Caribou Management Strategy and caribou regional monitoring programs (which pre-date the BCOP) to be support for regional monitoring cumulative effects initiatives for Snap Lake (which are stipulated in the Environmental Agreement 7.4(a)), and would not consider these initiatives as offsets or compensatory mechanisms under the Bathurst Caribou Range Plan. Offsets are typically planned and developed in the planning stage of a development, and there is no consideration currently of expecting offsetting or compensatory mitigation for existing, already operational developments. ENR is still in the process of developing guidance for implementation of this particular recommendation in the range plan, and at this point, it would not be appropriate that suggest that these effects meet such requirements. A	Please remove the reference to previous contributions to the Bathurst Caribou Management Strategy, and participation in regional collaborative grizzly bear and wolverine hair-snagging as compliance with the Offsetting / Compensatory Mechanism recommendation of the Bathurst Caribou Range Plan.	De Beers agrees to updated wording to indicate that they have made contributions to support key initiatives in the past, and that they will continue to explore opportunities to contribute in the future. De Beers agrees that these contributions do not represent offsets as defined by the WMPM Guidelines (GWNW ENR 2019) or international guidelines (BBOP 2021). Offsetting was not identified as a requirement during the planning or assessment phases of the Snap Lake Mine. The references to offsetting compensatory mechanisms will be removed. References BBOP (Business and Biodiversity Offset Program). 2021. Mitigation Hierarchy. Available at: http://https://www.forest-trends.org/bbop/bbop-key-concepts/mitigation-hierarchy/ . Accessed: June 6, 2021. GWNW ENR. 2019. Wildlife Management and Monitoring Plan (WMPM) Process and Content Guidelines. Yellowknife, NT, Canada.

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSED RESPONSE
ENR	Management of Wildlife Attraction	ENR notes that neither the WMMP or the Waste Management Plan, taken together or separately, satisfactorily addresses how adaptive management is used to reduce attraction of wildlife. ENR acknowledges that many of the procedures for managing waste to minimize wildlife attraction are contained in Version 5.1 of the Waste Management Plan, however, it is unclear how compliance and presence of wildlife are monitored to identify when and how additional monitoring or mitigation actions are necessary to prevent problems or address them as they arise. While the Waste Management Plan provides more details on actual handling of waste, ENR notes that there are few details provided regarding waste audits and wildlife inspections and how they might trigger either increased monitoring or increased mitigation actions. ENR notes that Section 5.3 of OP 014 (Environmental Inspections) identifies that the environmental technician will inspect waste storage area every 2 weeks. ENR is concerned that this is not frequent enough to provide an early warning sign of potential wildlife attraction issues. It is also unclear whether systematic surveys for wildlife sign in and around waste storage areas occur at the time. Waste storage areas should be systematically inspected for waste stream compliance and wildlife sign on a twice weekly basis. There is also little information provided about what actions are taken when mis-directed waste or wildlife sign (above threshold) are identified on surveys, or what thresholds are in place to trigger such actions (e.g. observations of non-compliant waste types? sign of large carnivores nearby noted increase in wildlife sign overall?). In order for ENR to assess whether the approach meets Measure R13, the WMMP should have a section that outlines and refers to the salient points in the Waste Management Plan that are pertinent to preventing, detecting and reducing wildlife attraction.	Add a section (or sections) to the WMMP that outlines adaptive waste management specifically as it relates to reducing wildlife attraction. This would include summarizing or reference to specific sections of the Waste Management Plan, as well as a framework for linking monitoring of waste stream compliance, wildlife surveillance around waste management areas, thresholds for action and specific mitigations to be undertaken. Waste stream compliance and wildlife sign should be inspected for waste stream compliance and wildlife sign on a twice weekly basis.	Section 2.2.3.2 of the WMMP identifies that the inspections of waste management areas will record the presence of wildlife attractants to determine the effectiveness of the Waste Management Plan. De Beers will revise to add additional information specifying that should the inspectors find misdirected waste, wildlife attractants (food waste to particular), or should observations of wildlife, wildlife sign, or wildlife incidents point to problems in the waste management process, immediate corrective actions will be taken or delegated by Environment staff. For example, a corrective action may include that monitors may remove misdirected waste at the time of inspection.
ENR	Section 3, Page 3-2, Mitigations to reduce sensory disturbance to caribou	ENR has been unable to identify how Measure R13, which requires a Caribou Protection Plan, has been addressed in the document. The main objective of this measure is to reduce sensory disturbance to caribou. The wording of the measure is consistent with the recommendation made in the ENR's letter of September 18, 2020 that DeBeers work with ENR to develop site-specific Mobile Caribou Conservation Measures as identified in the Bathurst Caribou Range Plan. ENR is currently developing guidelines for smaller operations that we can discuss with you. For project-specific equivalents developed for larger operations, DeBeers may refer to the Caribou Road Mitigation Plan which is Appendix C of the approved Jay Project WEMP at the Ekati Mine and Section 7.1.5.2 of the Wildlife Mitigation and Monitoring Plan for Sabina Gold & Silver Corp's Back River Project. As Snap Lake is located in the core range of the Bathurst herd, this will be a necessary component of an approved WMMP.	ENR requires DeBeers to develop a section in the WMMP to specifically and concurrently address Measure R13 and be consistent with the BCSP recommendations for Mobile Caribou Conservation Measures that identifies to a) how approaching caribou will be detected, b) identify trigger levels to initiate action and c) tiered mitigations that may be undertaken to avoid and reduce sensory disturbance to caribou from closure operations.	De Beers will add a Caribou Protection Plan section into the Tier 2 WMMP to address Measure R13. De Beers will incorporate information from the 2008 WEMP and update with MCMs that identify how approaching caribou will be detected, identify trigger levels to initiate action, and describe the tiered mitigations that may be undertaken to avoid and reduce sensory disturbance to caribou from closure operations.
ENR	Section 3, Page 3-2, ZOI monitoring	Section 3.1.1.5 states that to determine if a caribou ZOI changes in relation to mine activity "Regression or other similar statistical models will be used to evaluate changes in ZOI in relation to mining activity and natural factors. Mechanisms causing such changes are uncertain and likely related to sources of sensory disturbance operating simultaneously. Therefore, this monitoring does not directly inform on mitigation but is used to fill an information gap. Activity at the Mine site during the decommissioning/demolition period of closure is anticipated to be similar to construction and less than during operation and care and maintenance. De Beers will complete analysis of collar data at the end of closure (1996 to end of closure), and once during post-closure (1996 to post-closure), depending on availability of collar data in the Mine study area." ZOI monitoring is part of effects monitoring, and helps to quantify effects of mining on caribou, and partly satisfied Measure S21. ENR agrees with the proposal that ZOI analyses be conducted once at the end of closure and again during post-closure. ENR believes that this analysis should be contained within comprehensive WMMP reports completed at the end of closure and at the end of post-closure that provide more in depth analysis of the data sets accumulated over the years, summarize	To the extent that sample sizes allow, ZOI estimates should be generated for every year that sample sizes allow, and analysis methods will follow recommendations in the most current ZOI guidance. ZOI estimates will be provided within comprehensive WMMP reports provided at the end of closure and of post-closure.	De Beers will include annual ZOI estimates for years where sample sizes are sufficient. De Beers would like to note that the time or season of the point estimate (if statistically achievable) may change across years depending on the caribou population size (i.e., currently, caribou are more frequently around the mines during winter than during post-closure, but when population increases again, we may get point estimates for summer/autumn). The point estimate may not be consistent with respect to season from year to year and this will influence the comprehensive analysis at the end of closure and post-closure. The methods used for ZOI analysis have varied over time, so De Beers' view is that the analysis should not be prescriptive of what will be done multiple years into the future. For example, the assumptions of ZOI analysis were reviewed at the 2021 diamond mine wildlife meeting and it was determined that the assumptions of recommended analyses in the ZOI guidelines have not been demonstrated to be valid. In the absence of valid assumptions there is uncertainty as to whether the null hypothesis of no ZOI has been incorrectly rejected. If future examination of assumptions determines they are invalid then the analysis recommendations in the ZOI guidelines should be reconsidered. De Beers will use an appropriate and scientifically defensible analysis.
ENR	Section 6.0 Reporting	DeBeers proposes that "A report on the WMMP during the calendar year will be valuable for regulatory review in March of the following year and will follow article 7.4 of the Environmental Agreement and that each year the report will summarize the cumulative data and analyses from baseline through present". DeBeers then states "Experience has shown that significant patterns associated with effects from mining operations and natural factors are not apparent with data collected during one- or two-year periods. However, if significant results are obtained within the short-term, then a discussion of these results will be provided annually. All results will be discussed in the context of predictions made in the ESI (De Beers 2020a) and relative to potential environmental significance." ENR notes there is no mention of comprehensive reporting to provide more in depth analysis of the data sets accumulated over the years, summarize lessons learned or highlight the most significant findings over the year.	In addition to the annual WMMP reports, DeBeers should provide a comprehensive WMMP report once at the end of closure and again at the end of post-closure to provide more in depth analyses of the datasets and discuss final conclusions and lessons learned. ENR would like to meet with DeBeers to discuss reporting schedule options and alignment in the context of other reporting requirements (i.e. water licence	De Beers is open to meeting with ENR to discuss reporting schedule options.
ENR	Reporting of incidents to ENR		An Incident Report should be completed for all wildlife deterrent actions taken and submitted to ENR. Blank incident report forms can be downloaded from the following link: https://www.enr.gov.nt.ca/sites/enr/files/resources/sample_g	Acknowledged.
ENR	OP 194 & OP 078 Deterrence & handling of aggressive animals	The OPs dealing with deterrence and handling of aggressive animals are at times redundant, unclear and improperly titled for anyone seeking operational guidance. For instance, it is not clear whether OP 194 is primarily focused on bears or on caribou. The title refers to "bear deterrents", but there are deterrence techniques for both bears and caribou, yet the objective of the OP refers to caribou and not bears. ENR acknowledges that there may be common elements to approaching deterrence regardless of species, however, the specifics in OP 194 will not be the same for caribou as for bears. OP 194 refers to OP 0193 on bear deterrents, but that is not provided in the document. Section 5.3.1 of Op 194 refers to OP 0193 on Bear Deterrents, but there is no OP 193.	DeBeers should reorganize the content of the OPs and choose a title that reflects what is actually found within it. Include more detail regarding the situations in which deterrence of caribou would be warranted. The primary mitigation is to avoid disturbing caribou. They should be deterred using herding if there is an immediate safety concern for people or the animals.	De Beers will review the OPs and reorganize/revise the content as needed and as committed to above in relation to SLEMA comments.
ENR	EP-DOF 001 - Effects of the winter road	Data on traffic levels on the winter spur road at a temporal scale that is useful as a co-variate in other analysis (ZOI, wildlife incidents, caribou movements through the area) during active closure would facilitate investigation of the effects of the winter road. ENR suggests either expanding the scope of Winter Road Wildlife and Public Use Surveillance program (EP-DOF 001) to include traffic monitoring, or adding details in the WMMP about how this is currently collected and reported.	ENR recommends that Snap Lake report daily traffic level (public and project related) for its winter spur road in its annual wildlife reports. Fix the discrepancy regarding frequency of winter road surveillance in EP-DOF 001.	De Beers will provide mine-related traffic levels for the winter access road. De Beers will consider adding a remote camera and/or traffic counter at the junction with the TCWR to record daily public use of the Snap Lake Mine winter access road, and will update Section 2.2.3.2 to reflect that addition.
ENR	EP-DOF 001 - Frequency of winter road surveillance	This OP provides conflicting information regarding the frequency of winter road inspections. Under Scope, the OP identified that security personnel will patrol the winter road once every two weeks. Under Section 3.3, it states the Security Contractor performing daily surveillance. ENR recommends that daily surveillance is appropriate.		De Beers will revise the discrepancy in EP-DOF 001 regarding frequency of winter road surveillance.
ENR	Sensitive times for wildlife	ENR has been unable to locate information regarding sensitive times for various wildlife species.	Please include information on sensitive times for wildlife species that staff are expected to monitor for. Please provide a Table of Contents or list of the SOPs as well as provide references within the text to the appropriate SOPs.	De Beers will add additional information in Section 1.5 about sensitive times for wildlife species of concern that are monitored as part of the WMMP commitments.
ECCC	Species of Concern Table 1-1: Species of Concern for the Snap Lake Mine, Potential Effects, and Related Monitoring Components in the Wildlife Management and Monitoring Program	There is no list of SOPs available in the WMMP to demonstrate which ones are available and the order they are in to make them easier to find. Table 1-1 (Species of Concern for the Snap Lake Mine, Potential Effects, and Related Monitoring Components in the Wildlife Management and Monitoring Program) lists all of the species of concern for the Snap Lake Mine. ECCC notes further species that have been observed on site in the past: - Both bank and barn swallow are listed as "Threatened" under the Species at Risk Act since November 2017. - Red-necked phalarope was listed as "Special Concern" under Species at Risk Act in 2019. - Lesser yellowlegs was recently assessed by COSEWIC as "Threatened" in November 2020. - Harris's sparrow was assessed by COSEWIC as "Special Concern" in April 2017. - Lesser yellowlegs was recently assessed by COSEWIC as "Threatened" in November 2020. - Harris's sparrow was assessed by COSEWIC as "Special Concern" in April 2017.	ECCC recommends De Beer's update their annual distribution list to include ECCC. Annual reports can be sent to ECCC at: EA.NorthNWT@ec.gc.ca	De Beers will update a table of contents in an appendix of SOPs. De Beers will update Table 1-1 to add additional species at risk observed or expected in the wildlife regional study area to the Tier 2 WMMP, as identified in the 2020 WWHP and WEMP.
ECCC	Distribution List Section 5: Quality Assurance/Quality Control Procedures	The Proponent has stated "for all components of the WMMP, the study designs, field methods, and data collection techniques will be reviewed on an ongoing basis by De Beers, their environmental consultants, SLEMA, government biologists, and regulators." ECCC has jurisdiction for wildlife under the Migratory Birds Convention Act and federal Species at Risk Act but is not included on Snap Lake Mine's annual report distribution list	ECCC recommends De Beer's update their annual distribution list to include ECCC. Annual reports can be sent to ECCC at: EA.NorthNWT@ec.gc.ca	De Beers will update the annual distribution list to include ECCC.
ECCC	Section 6: Reporting Incident Reporting Section 2.2.3.1: Wildlife Incidents	The Proponent states "incidents will be reported annually in the WMMP and as part of the EMS reporting." The WMMP does not contain a section for contacts to report wildlife incidents and/or mortalities.	ECCC recommends that a section identifying who to contact to report wildlife incidents and/or mortalities be added to the WMMP and reviewed periodically to ensure that the appropriate contacts are reached timely and to reduce potential delays in receiving advice. ECCC's Canadian Wildlife Service and Wildlife Enforcement can be contacted at: • cws.north-edf@ec.gc.ca • dalford-wednorth@ec.gc.ca	De Beers thanks ECCC for providing contact details and will add a 'Contacts' section for reporting wildlife incidents and/or mortalities. De Beers will include ECCC CWS' contacts as provided.

REVIEWER	TOPIC	COMMENT	RECOMMENDATION	PROPOSITOR RESPONSE
ECCC	<p>Site Monitoring</p> <p>Section 2.2: Site Wildlife Monitoring and Incidents</p> <p>Table 1-1: Species of Concern for the Snap Lake Mine, Potential Effects, and Related Monitoring</p> <p>Components in the Wildlife Management and Monitoring Program</p> <p>Appendix B: Operating Procedure (014)</p> <p>Environmental Inspections; pdf xxxv-50</p>	<p>ECCC notes that, among others, mitigations to reduce mine-related wildlife incidents include providing training to on-site personnel, nest surveys in areas prior to decommissioning/demolition and reclamation activities, and to avoid the destruction of active bird nests.</p> <p>Section 2.2.3.1 (Wildlife Incidents) states "Observations of nesting activity on Mine infrastructure by bird species will be recorded, and decommissioning/demolition and reclamation activities in the area around the nest will be suspended until the nest is no longer active."</p> <p>"Site monitoring" is listed as a monitoring measure for all species in Table 1-1. The Operating Procedure (014) describes in more detail the period when monitoring will take place, the frequency of the monitoring, the areas the monitoring will focus on, how the data will be collected/entered, and when ENR or ECCC will be contacted.</p> <p>The Operating Procedure (014) specifies that an Environmental Technician will inspect facilities for wildlife presence immediately prior to closure activities involving decommissioning, demolition of infrastructure or areas where mobile equipment will be used for reclamation or rehabilitation. ECCC notes that depending on the duration of the activities and the features being demolished or reclaimed it is possible that birds may try to use features for nesting even during demolition or reclamation activities. For example, bank swallow may attempt to nest on stockpiles or coarse processed kimberlite even while actively used.</p>	<p>ECCC recommends the Proponent avoid decommissioning, demolition and reclamation activities on existing infrastructure where migratory birds may be found nesting during the general nesting period (early May to mid-August).</p> <p>If decommissioning, demolition and/or reclamation activities must occur during the general nesting period on features that could be used by bank swallow for nesting (i.e. stock piles or coarse processed kimberlite), ECCC recommends that surveys be completed daily on these features to ensure they are not being used for nesting.</p> <p>ECCC recommends the Proponent contact ECCC's Canadian Wildlife Service (cwsnorth-scfhord@ec.gc.ca) as soon as possible if nests are detected to ensure adequate mitigation and monitoring measures are put in place.</p>	<p>De Beers will add mitigation in Section 1.8 to avoid disturbance of nesting migratory birds during the general nesting period (March to mid-August).</p> <p>The WMMP includes completing nest searches prior to decommissioning, demolition and /or reclamation activities in OP 014. Inspections will include searching entire areas where activities will occur for wildlife and nests (if applicable). Activities will not commence until the survey inspections are complete and the facilities or areas are deemed not to contain wildlife, nests, eggs or young. Unoccupied nests will be reported to the Department of Environment and Natural Resources, Government of the Northwest Territories or Environment and Climate Change Canada to determine the appropriate course of action.</p> <p>De Beers will revise the OP 014 to specify that during the general nesting period, De Beers will complete nest sweep surveys prior to disturbance (e.g., earth works or demolition) of features where bank swallows may be nesting to ensure they are not being used for nesting. De Beers may also use additional mitigation such as noise making devices and/or visual deterrents to deter nesting on infrastructure scheduled for decommission, demolition or reclamation.</p> <p>De Beers will contact ECCC's Canadian Wildlife Service (cwsnorth-scfhord@ec.gc.ca) as soon as possible if nests are detected to ensure adequate mitigation and monitoring measures are put in place.</p>