

May 2nd, 2012

File:

Willard Hagen MacKenzie Valley Land and Water Board 7th Floor-4910 50th Ave. P.O. Box 2130 Yellowknife, NT X1A 2P6

Re: Wildlife Effects Monitoring Program

Dear Mr. Hagen,

In response to the letter from Anne Gunn, consultant to SLEMA's questions on the Wildlife Effects Monitoring Program, please find the following responses.

Comment Section and Number	SLEMA COMMENT	RESPONSE
Main Point 1	2010 was the 11th year of monitoring for Snap Lake. The 1999-2004 period was reported as baseline and then 1999-2007 monitoring was reviewed in a comprehensive report (Golder 2008). The next multi-year analysis is scheduled to be 2012. The next multi-year analysis will include all data collected to 31 December 2012.	In 2010, no caribou were observed during the single post calving survey of the study area which was in mid-November. The trigger or their absence for the aerial surveys is unrecorded. Caribou sightings from the 2010 wildlife log were 36 observations compared to ~250 in 2009 and 13 in 2008. In the 2010 Wildlife Incidences, caribou were seen near the airport and emulsion plant but no details are reported except that they did not have to be deterred.
Main Point 2	In 2010, no caribou were observed during the single post calving survey of the study area which was in mid-November. The trigger or their absence for the aerial surveys is unrecorded. Caribou sightings from the 2010 wildlife log were 36 observations compared to ~250 in 2009 and 13 in 2008. In the 2010 Wildlife Incidences, caribou were	As described in the WEMP, triggers for aerial surveys of caribou include the approach of collared caribou to the regional study area or reports from site about the presence of caribou. Neither of these triggers was met in 2010. Despite this, an aerial survey was completed in November 2010, and confirmed that caribou were not present in the





	seen near the airport and emulsion plant but no details are reported except that they did not have to be deterred.	RSA (neither caribou nor caribou tracks were observed). It is agreed that additional details about observations at site should be recorded. Variables such as the GPS location, number of animals, sex, group composition, and behaviour should be documented.
Main Point 3	The number of 2010 wolverine sightings (7) decreased sharply compared to 2009 (27) and 2008 (57). The number of fox sightings increased in 2009 (99) and 2010 (103) from 2008 (62) although the number of fox incidences was 7, 10 and 6 in 2008-10. The 2010 report has no details on the fox incidences and their circumstances. Wolf sightings were 2 in 2010 compared to 15 in 2009 and 3 in 2008.	The next WEMP report will include all details provided by De Beers' environmental staff.
Main Point 4	In 2010, monitoring for grizzly bears in the regional study area changes from looking for sign to hair-snagging at scent stations. The hair-snagging for grizzly bears was unsuccessful as only 1 of 40 stations (checked 3 times) had bear hair and no bears were recorded in the 2010 wildlife log or list of wildlife incidences. The trend since 1999 has been a reduction in grizzly bear sign.	The reduction in grizzly bear activity may be attributable to the declining Bathurst caribou population. De Beers is currently considering participation in a regional hair snagging program in collaboration with Ekati and Diavik that will provide broad scale population and demography data on grizzly bears from monitoring effects from mines and other factors.
Main Point 5	No reason is given to explain why the wolverine track survey was not undertaken in 2010.	Snow track surveys for wolverines were not completed in 2010 because the wildlife research permit was not obtained in time to complete the program. The wildlife research permit application for Snap Lake WEMP components was submitted to ENR in late January 2010 and received on March 30, 2010.
Overall 1	The amount of explanatory detail is noticeably less than previous reports. Additionally, most of the same problems previously noted remain in the 2010 report even though De Beers has responded positively to the previously raised	More detail will be provided in the multi-year analysis report and future annual reports.





	comments. This suggests that a new approach is needed for SLEMA relative to WEMP report. With this in mind, I looked at the Ekati and Diavik WEMP most recent annual reports. The amount of detail and the clarity of data presentation is a contrast to the Snap Lake WEMP.	
Overall 2	The level of detail prevents an understanding how the results contribute to the monitoring objectives. It is not clearly stated how the WEMP meets its stated objective of how the Snap Lake monitoring contributes to regional monitoring and then for cumulative effects (p.3; 2010 report).	The WEMP is primarily designed to detect project-related effects, but the results have been used in cumulative effects analysis (e.g., NICO Project and Gahcho Kué Project environmental assessments, Boulanger et al. 2012). Data on wolf den activity is provided directly to ENR to support regional monitoring. Data from raptor surveys will be collected to contribute to the Canadian Peregrine Falcon Survey (CPFS) which monitors regional long-term population trends. Analysis of raptor nest occupancy and productivity in the Snap Lake area has also been used to compare with trends occurring in the Lac de Gras and Daring Lake areas, and for predicting effects from development in the NICO Project and Gahcho Kué environmental assessments.
Overall 3	The 2010 report is inconsistent in when information is reported for a 2010 only or previous years. For example wildlife log sightings are for 2010 while Interactions are reported for the previous years (which are useful).	The tabulation of the wildlife log has always included the observations of wildlife at site during the reporting year to demonstrate that this mitigation has been completed as required. Wildlife log information from previous years can be provided on request, but the key information is related to interactions (incidents), which is used to determine the effectiveness of mitigation and provide feedback to adaptive management.
Overall 4	A continued omission from the annual report is that there is not	A number of environmental variability parameters are collected





mention of the environmental variability at the mine site itself. Some indexes to the extent of environmental variation are an essential component of cumulative effects (to assist discriminating between project related and environmental effects). Factors such as the timing of snow melt freeze-up and an indication of exceptionally hot or wet weather need to be reported as they can influence the wildlife behaviour and abundance. At least for Ekati environmental information is annually included in the WEMP reports.

by De Beers and summarized in various reports, including but not limited to the Water License Annual Report, Hydrology Report, Vegetation Report, Air Quality Report, Surveillance Network Program Monthly Reports, etc. To avoid duplication this information is not summarized in the WEMP.

Overall 5

The level of systematic monitoring for wildlife in the local study area was low in 2010 (One caribou aerial survey, the bear surveys and no wolverine survey). It is difficult in the absence of adequate survey effort to distinguish between reduced abundance and reduced surveys. However I do agree it makes no sense to survey in the absence of animals but there does need to be more attention paid to triggers for surveys to be assured that the absence or low abundance is not a consequence of survey effort. More analysis is needed to correlate a local reduction in abundance of carnivores with the decline in the size of the Bathurst here as no evidence is presented for this. Although it might seem intuitive, it is unclear what the time lags might be between the change in grizzly bear, wolves and wolverine to the decline in caribou.

Based on recommendations from the Diamond Mine Wildlife Monitoring Workshops in 2009 and 2010 (Marshall 2009; Handley 2010), three WEMP components (caribou northern migration aerial surveys, wolf den monitoring and raptor nest monitoring) were agreed to have little value in determining mine-related effects. In addition, wolverine surveys were not completed in 2010 because the wildlife permit had not been received. Subsequently, the level of monitoring and reporting was lower in 2010 than during previous years. As noted in an earlier response, weekly ENR reports of the locations of collared caribou are reviewed and reports from site are used to trigger post-calving caribou aerial surveys. During 2010, locations of satellite caribou suggested the Bathurst herd was not approaching the RSA and there were no reports of caribou at or near site, so triggers to initiate aerial surveys were not met. However, at least one survey has been completed every year regardless of whether triggers were met. A long-term analysis of WEMP components and the possible influence of caribou population decline on other wildlife results will be completed in the next comprehensive analysis report.





Overall 6	The wildlife sightings log and Incident reports are useful information even although the unknown level of effort for the sightings is a problem in interpreting any trends. The information could be better presented (date and location of sighting) and comments such as repeat sighting) and cross-linked with Incident reports. More consideration could be given to onsite standardized monitoring such as surveying for wildlife along a fixed route and vantage points in the Local Study Area (similar to part of Diavik's approach).	De Beers agrees that utility of these data as an index is limited. Systematic wildlife and waste management surveys will be included in the updated Monitoring Plan.
Overall 7	Section 7 (conclusions and review of impact predictions) is generalised statements which would be more suitable in the multi-year comparison. In a single year monitoring report, there are not the data or analyses (or citations for analyses) to support statements in Table 7.1. The conclusions on one hand comment on the effectiveness of monitoring while on the other one hand the report also notes the annual variation in the wildlife sightings	The intent of Section 7 is to review impact predictions and form qualitative conclusions based on the available information from all years of monitoring data and the results from the comprehensive analyses.
Specific 1	The same comment made for previous annual reports is the use of endpoints for detecting minerelated effects. De Beers refers to the use of measurable endpoints or indicator variables (such as abundance, distribution, probability of occurrence). There is no explanation of how the endpoints will be used to separate project-related effects from natural environmentally caused one. The endpoint for abundance is the range of values measure 1999-2004 (preconstruction) and the data annually vary which raises the question of whether it is reasonable to expect to separate project-related effects from naturally occurring ones using this design.	The WEMP is designed to test impact predictions for Valued Component measurement endpoints assessed in the EAR. Golder agrees that separating indirect and natural effects in year-to-year variability is problematic as noted in the WEMP (2004) and Golder (2008). The current design is consistent with programs at Ekati and Diavik, which allows the use of these data for cumulative effects analyses, and attempts to separate effects of project-related and natural factors on wildlife (e.g., by using habitat, year, weather, and distance to mine variables).





Specific 2	The three listed objectives for caribou are vague. The objectives need to be broken down into measurable components with testable research hypotheses. The aerial survey design will need to be re-considered in light of the Zone of Influence and reduced caribou abundance.	New monitoring objectives recommended by Handley (2010) will be incorporated into the updated Wildlife Effects Monitoring Plan. A review of the study designs will also be completed and modified if required.
Specific 3	Section 2.1 lists wildlife mitigation practices but the report does not assess or summarize their frequency of use and effectiveness.	Mitigation has been integrated into the report (e.g., through the wildlife logs, incident reports, limiting Mine footprint to reduce direct vegetation loss) but a summary table can be provided. Some mitigation is ongoing (such as dust control and no hunting or fishing policies), but mitigation that is implemented asrequired (such as a wildlife advisory or buffers around bird nests) can be summarized.
Specific 4	Table 3.1. The dates of the migration are dependent on the dates of the first and last aerial surveys-the table should include the dates for the "triggers" for when the surveys were undertaken (satellite-collared caribou, camp sightings). In 2007, De Beers committed to SLEMA to include details on those triggers. An explanation is needed for why the 15 Nov data which is the latest data for a survey was chosen. Analyses are needed to determine if there is a relationship between the reductions on caribou abundance since 2005. The reduction coincides with the period when July surveys were dropped. Again, this would be clarified if the triggers for surveys were included. It is unclear why there is no presentation or analysis of ENR's satellite data. The tables are a poor presentation of the data as they hamper annual comparisons-density/survey would be more useful that the total count.	Post-calving caribou surveys are completed when collared caribou are approaching the study area, or when migrating caribou are observed at site. Further information on the triggers used to undertake surveys will be included in the updated Wildlife Effects Monitoring Plan. ENR caribou collar data will be used in the multi-year comprehensive analysis. Similarly, density has been reported in the comprehensive analysis report (Golder 2008), and can be included as a variable in the annual reports.
Specific 5	Although the 2010 WEMP acknowledges that several recommendations were arrived at	Recommendations from Marshal (2009) and Handley (2010) will be included in the updated Wildlife





	during the review meeting in September 2009 and June 2010 but except for dropping the pre- calving caribou aerial survey, the report does not include any other details for modifying programs (Marshall 2009, Handley 2010).	Effects Monitoring Plan.
Specific 6	Table 2.3 has fewer and fewer species in consecutive monitoring reports without offering a clear explanation for why now it only lists species listed under the NWT Species AT Risk Act. It is incorrect that the General Status Rank is provided by the NWT Species At Risk Act. The General Status Ranking program pre-dates SAR(NWT) Act as it was developed in 1999 to rank every 5 years the general status of all species, using a coarse/rapid procedure, with only readily available information. The rank of "may be at risk" can be (and has been) used by other processes to inform on which species could have priority for a more formal status assessment. It is these formal assessments that are mentioned in SAR legislation.	The number of species included in Table 2.3 has changed because the Guidelines for Considering Wildlife at Risk in Environmental Impact Assessment in the Mackenzie Valley (MVEIRB 2010) has been adopted. The guidelines do not require the inclusion of species considered 'sensitive' or 'may be at risk'. Olive-sided flycatcher was not included because it has never been observed (2010 WEMP Table 2-5) in the RSA or at site and its breeding distribution does not include the RSA. This should have been clarified in the report; we apologize for this oversight. Golder is not aware of recovery or management plans for any of the species at risk in the study area.
	The 2010 WEMP also does not explain whether SAR listed species that occur within the study area receive any particular monitoring relative to any recovery or management plans which are required for species listed as Special Concern. The wildlife sightings for Snap Lake include the rusty blackbird which is the listed under the NWT and federal Species At Risk Act. Previous WEMP reports had included the olive-sided flycatcher and no reason is given for dropping it from the 2010 report (presumably because its distribution reduces the likelihood of its occurrence but this should also be explained).	





I trust this responds to all concerns raised by SLEMA with the 2010 WEMP. Should you have any questions or concerns, please feel free to contact me by phone at (867) 767-8646 or by email at Alexandra.Hood@ca.debeersgroups.com

Sincerely,

DE BEERS CANADA INC.

Alexandra Hood

Environment and Permitting Superintendant

Snap Lake Mine

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