



Independent Environmental Monitoring Agency

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Claudine Lee
Superintendent – Environmental Operations
EKATI Diamond Mine
BHP Billiton
1102 4920 52nd Street
Yellowknife NT X1A 3T1

Dear Claudine:

Re: Comments on 2014 Final Lac de Gras Regional Grizzly Bear DNA Report and 2013 WEMP Addendum — Wildlife Camera Monitoring Summary Report

The Agency has reviewed the above captioned grizzly bear DNA and camera reports, and our directors have seen the presentations by Harry O’Keefe at our recent environmental workshop. Both reports were well written, and provide excellent data upon which to improve environmental management at the Ekati mine. We provide the following comments and questions on these reports for your consideration:

2014 Final Lac de Gras Regional Grizzly Bear DNA Report

- The report provides an estimated “superpopulation” or “detection frequency” density for the study area, which as explained in the report does not address study area closure (edge effect). Although not necessary for this baseline portion of the study, when the study is next conducted (perhaps 2017 according to Harry), you should consider using the SECR (spatial explicit capture-recapture) analysis technique to estimate density and spatial scale of movements (Efford 2011). This methodology would provide more robust estimates of population size and density by accounting for those bears that are present only on a portion of the study area, will be more comparable to other densities generated, and will better estimate the spatial scale of grizzly bears movement. These parameters may enable better assessment of any potential mine-related impacts or other potential disturbance factors within the study area over time. (*Efford, M.G. 2011. Estimation of population density by spatially explicit capture-recapture analysis of data from area searches. Ecology 92:2202-2207.*)
- The Agency encourages DDEC to collaborate with De Beers to conduct an overall analysis of the combined Lac de Gras and southern/De Beers study areas. This analysis will provide an excellent opportunity to clarify grizzly bear distribution and abundance across much of the central NWT.

2013 WEMP Addendum — Wildlife Camera Monitoring Summary Report

- The report states that caribou were deterred/deflected in <1% of observations of groups and individuals. However, the trigger range of the cameras is ~25-30 m, and field of view (often down along the road) is not described or quantified. It appears that the cameras are recording presumed crossings of animals that are close enough to trigger a camera – those that may have already been so close to the road that they were almost committed to cross – but do not address reactions of caribou out of the field of view – those that may have deflected 50 or 100 m out from the road. We would appreciate greater clarification and justification of the conclusions reached about caribou crossing success.
- In line with the above point, DDEC should consider placing an array of cameras further out from specific crossings to better detect deterred/deflected behaviour by caribou as they approach the Misery Road.
- The terms “deterred road crossing” and “deflected” are used within the report, but are not defined. We understood them to mean essentially the same thing, but Harry’s clarification during his presentation suggested they are different. We would appreciate clarification of these terms and suggest that clear definitions are included in the report.
- We understand that there were issues with the traffic counts during the reporting period, and we encourage DDEC to establish a dependable method to quantify truck traffic on the Misery Road.
- Much of the traffic volume at Ekati gets compared with the values in Muller and Berthoud (1994): *“Traffic volume along Misery Road at the Ekati Diamond Mine is approximately 3.5 times less than the 1,000 vehicles per day suggested by Muller and Berthoud (1994) that would cause some mortality in smaller species but not prevent movements of larger species.”* This reference is not provided in the literature cited, questioning the relevance of the reference to open tundra habitats where species reactions may differ markedly from forested habitats.
- We encourage DDEC to consider deploying 1-2 cameras at the narrows between Lac de Gras and Lac du Sauvage to document caribou movements through that area. These data may prove valuable for baseline and monitoring of the proposed Jay project.

Please get in touch with us if you have any questions regarding our comments.

Sincerely,



Bill Ross
Chairperson

cc. Society Members
Andrea Patenaude, GNWT ENR