



Northwest
Territories Environment and Natural Resources

Ms. Claudine Lee
Environmental Operations Superintendent
Ekati Diamond Mine
BHP Billiton
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YELLOWKNIFE NT X1A 3T1

MAY 24 2012

Mr. David Wells
Superintendent, Environment
Diavik Diamond Mines Inc.
P.O. Box 2498
5007-50TH AVENUE
YELLOWKNIFE NT X1A 2P8

Ms. Veronica Chisholm
Permitting Manager, Gahcho Kue Project
DeBeers Canada Inc.
SUITE 300, 5102-50TH AVENUE
YELLOWKNIFE NT X1A 3S8

Dear Ms. Lee, Mr. Wells, and Ms. Chisholm:

Initial Review: Draft - Joint Regional Grizzly Bear DNA Proposal, 2012

The Department of Environment and Natural Resources (ENR) received a draft proposal "Joint Regional Grizzly Bear DNA proposal, 2012" on April 26th, 2012. The proposal is designed to address the revised monitoring objective referred to in previous correspondence: determine if mine-related activities influence the relative abundance and distribution of grizzly bears in the study area over time. Our understanding is that Diavik Diamond Mines Inc. (DDMI) and BHP Billiton Canada Inc. will initiate data collection in the northern portion of the regional study area in 2012 while De Beers Canada Inc. will initiate data collection in the southern portion of the regional study area in 2013 pending further discussion with ENR and other stakeholders. Sampling periods for both study areas are to be aligned during the 2016-2017 sampling effort.

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ENR has reviewed the proposal and is encouraged by the collaborative approach being taken by the mines to develop a regionally based monitoring program for grizzly bears. Our main concern with the proposal relates to the use of 12 km x 12 km cells instead of 10 km x 10 km cells:

- We recommend that a 10 km x 10 km cell size be used for this study design, as this is the protocol used in other grizzly bear DNA monitoring programs in Nunavut and along the Nunavut and Northwest Territories border (i.e., the programs in the Kitikmeot, Izok Lake and the Kivalliq regions). There is some concern that capture probabilities will be too low if cell size is too big, making study results difficult to interpret. ENR understands that reducing cell size may mean a reduction in the size of the regional study area.
- If a larger cell size is to be used in 2012, then we recommend moving posts between sessions (within cells) as this should increase capture probabilities and thereby reduce potential sampling concerns¹.
- ENR has satellite data from grizzly bears collared between 1996 and 1999 that may be used to more objectively define the relationship between cell size and capture probability. ENR can provide this data to the mines so that this analysis can be completed. Alternatively, ENR is willing to analyse this data and review results with the mines, as part of our commitment to provide technical and statistical support for this proposal.

These concerns and suggestions have also been raised by Nunavut and by an independent contractor with statistical expertise.

ENR believes that all monitoring programs should be adaptive, and as such, expects that the study design will be refined as new information becomes available. Following this, we suggest a second workshop on grizzly bear monitoring in fall 2012 to (1) review the initial results of the 2012 northern survey; (2) refine the study design in anticipation of the 2013 southern survey; and (3) discuss roles and responsibilities of all parties with respect to this monitoring initiative.

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¹ Proctor, M., B McLellan, J. Boulanger, C Apps, G. Stenhouse, D. Paetkau, and G. Mowat. 2010. Ecological investigations of grizzly bears in Canada using DNA from hair, 199-2005: a review of methods and progress. *Ursus* 21(2): 169-188 .

Please contact me at Nicole_McCutchen@gov.nt.ca or 867.920.8067 if you have any questions or concerns.

Sincerely,



Nicole McCutchen
Manager,
Wildlife Research and Management

c. Mr. Fred Mandeville, North Slave Regional Superintendent, ENR

Ms. Lynda Yonge, Director, Wildlife, ENR

Mr. David White, Executive Director,
Snap Lake Environmental Monitoring Agency

Mr. Kevin O'Reilly, Executive Director,
Independent Environmental Monitoring Agency

Mr. Mark Fenwick, Executive Director,
Environmental Monitoring Agency Board