



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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May 31, 2010

Dave R. Abernethy
Environment Superintendent - Operations
BHP Billiton Canada Inc.
#1102 4920-52nd Street
Yellowknife NT X1A 3T1

Re: Comments on the 2009 Wildlife Effects Monitoring Program (WEMP) Report

Dear Dave:

The Agency has reviewed the 2009 WEMP report received in March. A number of comments and suggestions are presented in our Annual Report. Below are additional minor comments BHPB and your consultants may wish to consider. We provide these as constructive comments to help strengthen the scientific aspects and accuracy of the document.

- Figure 1.1-1 is missing Coronation Gulf and Arctic ocean waters. The map does not have the arctic coast around Bathurst Inlet.
- Pg. 2-15. Insect indices: These have been calculated for a number of years. To provide an indication of trends of indices among years, rather than just within a given year, it would be useful to have a figure comparing results among years. This may help explain differences in caribou activity and behaviour among years.
- Pg. 3-15: The scientific name for the rough-legged hawk is *Buteo lagopus*, not *B. jamaicensis* (which is the red-tailed hawk;). This is also incorrect in the Standard Operating Procedures (Appendix).
- Pg. 3-17. The WEMP stated that “*pair of peregrines was observed carrying nesting material*”. Falcons do not construct their own stick nests. They use ledges, or usurp the stick nests built by other raptors or ravens.



- Pgs. 4-1, 4-6. “*The most recent survey, conducted in June 2006, estimated the Bathurst herd to be 128,000 ± 27,300 individuals*”. The most recent Bathurst survey is June 2009 (~31,000 caribou). The report should be updated since it is within the WEMP reporting period, and provides better context to the monitoring program. Also the “*current management objective undertaken by the GNWT Environment and Natural Resources (ENR) is to estimate the herd size every six years*” is not accurate. During declining and low numbers, the objective is revised to every three years (Bathurst Caribou Management Planning Committee, Bathurst caribou management plan 2004).
- Pg. 4-6. ...“*six major barren-ground caribou herds (Bathurst, Bluenose East, Bluenose West, Bathurst, Cape Beverly, and Ahlak)*”. One of the “Bathurst” should be “Cape Bathurst”.
- Figs. 4.3-5 to 4.3-8 (harmonic means of ranges): These figures are limited, inaccurate, and misleading, especially the calving period one, because of incorrect herd identification and inability to distinguish breeding from non-breeding caribou. These range maps should be constructed with more care and diligence.
- Pg. 4-41. “*Misery Road extends for approximately 25 km running northeast to southwest and potentially bisects the path of caribou migrating northwest to the Bathurst calving grounds (Figure 4.3-6)*.” The Misery Road runs northwest to southeast, and the caribou migrate northeast to the calving grounds.
- Pg. 7-3. The WEMP states “*Wolverine population densities... ..between 1.9 and 3.5 wolverines per 1,000 km² in the Northwest Territories (Boulanger and Mulders 2008)*”. Although Boulanger and Mulders 2008 provide their density estimates split by sex, their total densities for the 4 study areas range from ~5.2 to 9.4 wolverines/1,000 km² (Table 8 in Boulanger and Mulders 2008, and Table 7.2-2 in WEMP).
- Pg. 10-8. “Abandonment” or failure of occupied raptor nests can happen for a variety of reasons, but the most common are weather and prey related. Thus the whole abandonment analysis should be coupled with these two covariates. Weather among years can easily be summarized (i.e. focus on late May to mid-July for peregrines).
- Pg. 10-8. “*Gyr Falcon respond to the abundance of their prey by producing large clutch sizes when prey are abundant, and when prey are scarce, clutch sizes are small, if they mate at all*”. This statement is not referenced, and is not correct. Gyr Falcon clutch size averages about 3.75-3.80 (generally 4 eggs, sometimes 3, very rarely 1, 2, or 5; Poole and Bromley 1988, Clum and Cade 1994), and appears to vary little with time (and hence changes in prey). When prey are scarce, nesting does not occur, or eggs/chicks are abandoned during incubation/early brooding.
- Pg. 11-3. Mentioning cross fox as a colour variant of red fox (*Vulpes vulpes*) is fine, but reporting “*Red fox, Arctic fox, and cross fox (i.e., a fox with a mixture of the red and silver colour phases of the red fox) were observed near EKATI; however, 146 red fox individuals were observed compared to one Arctic fox individual, 11 cross fox individuals, and eight unknown fox species*” incorrectly implies that cross fox are a separate species. This should be clarified.

We would be happy to discuss these comments with you at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Ross". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

Bill Ross
Chairperson

cc. Society Members

Karin Clark, Wek'eezhii Renewable Resources Board

Myra Robertson, Environment Canada