

# **Snap Lake Environmental Monitoring Agency**



## **COMMENTS FROM THE SLEMA SCIENCE PANEL ON THE WILDLIFE EFFECTS MONITORING PROGRAM 2005 ANNUAL REPORT**

**February 2007**

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### **COMMENTS:**

**Overall comments:** The report is relatively clear and credible which is not say that it could not be considerably improved. This is the first year for the wildlife effects program and the switch from baseline data collection. Given that this is the likely format for subsequent reports, I have suggestions on presentation as much as content.

A notable omission is that there is no specific explanation of how the project-specific data will contribute to describing cumulative effects (page 4). This is part off how the annual monitoring relates to regional monitoring. SLEMA, IEMA and EMAB need to jointly require that the annual monitoring of effects start to become coordinated in their reporting. The mines are currently 'three solitudes' as the annual reports almost never refer to the other mines. It is the same caribou herds and probably sometimes the same individuals exposed to the mines. There is need for similarities in the collection of data (effects hypotheses and methods) and its reporting (while allowing for the different scale of footprint and activities).

Another omission is that no mention is made for environmental variability. Some indexes to the extent of environmental variation are an essential component of cumulative effects (to assist discriminating between project related and environmental effects). Conspicuous features such as timing 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.

### **Specific comments:**

1. On p. 4, the report refers to the assessment of meaningful and measurable endpoints for detecting mine-related effects. This sounds so promising but then the three listed objectives for caribou (page 10) are vague with no measurable endpoints. The objectives need to be broken down into measurable components with testable research hypotheses.

In particular the effects at the other two mines appear to include a distributional change at 20-25 km – the specific hypothesis for Snap Lake needs to include testing for this effect (which may require modification of the current design for aerial surveys)

#### 2. Table 3.1

The dates of 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).

3. The report is incorrect in stating that precision is increased by reducing strip width. Reducing transect width will reduce bias (visibility bias). Reducing strip width also lowers the % coverage which is then a reduction in precision.

4. The survey altitude varies 60 m which will have a strong effect on bias – some effort is needed to try and standardise the aircraft altitude.

5. Page 13 – “snow tracks ” were obtained during post-calving migration which seems unusual – but is not mentioned in the results. Some idea of the time period over which the tracks will have accumulated (time since last snowfall or strong wind) is needed to weight the ranking of the tracks as low, medium etc. Does the low number of tracks in 2005 reflect snow conditions as there were fewer tracks but more caribou compared to 2004 (also late May).

6. Page 13

The emphasis on reporting the aerial surveys is on ‘groups’ whereas mean numbers of individuals would be more useful

7. Page 14 – for the sightings of the larger groups, an idea of weather conditions would be useful – whether the conditions were conducive to insect harassment.

8. Table 3-2. The number of surveys each year is variable enough that the caribou numbers in the table are not comparable between years. The data needs to be presented and then graphed as a mean +/- SE.

9. Page 19

The sample unit for the behavioural data is unclear – in the Methods N is number of scans whereas the Results suggests N = number of caribou groups. The time of day for the scans should be included and some idea of weather.