



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

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Laura Tyler
Manager—Environment, Community, Communications and Planning
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Re: Comments on the 2007 Wildlife Effects Monitoring Program (WEMP) Report

Dear Laura

The Agency has reviewed the 2007 WEMP report received earlier this summer. Overall, the Agency found the report to be generally well done and of high quality, with thorough accounts of methodology and results for the various programs covered. A number of comments and suggestions are presented in our Annual Report, among them our belief that the wolverine DNA monitoring program should be continued in favour of the proposed track counts, alternatives to the grizzly bear survey plots should be explored, and a more thorough wolf den survey should be conducted. Below are additional comments BHPB and your consultants may wish to consider.

- **Depiction of caribou ranges among years.** Figs. 4.3-5 to 4.3-8: Caribou seasonal ranges are depicted as harmonic means with a standard deviation (SD) around the mean location (based on collar data). These provide poor visual representations of seasonal range. We suggest that a utilization kernel, such as a 95% fixed kernel, would provide a better and more accurate visual representation that would be more readily understood by the reader.
- **Distance sampling.** Pg. 4-22: Why are results provided for out to 500 m, when the aerial surveys count out to 600 m? In the analysis of distance sampling (Pg. 4-27), it appears that all survey data for 2 years were combined to come up with an estimate of caribou per area. This results in densities and estimated numbers far in excess of the total herd size. This is strange and hard to comprehend. Perhaps the consultants were trying to estimate “average density”, not summed density? To justify these large numbers, the lower end of the range estimate was highlighted, which is of little value. The comment “*Therefore, it is important to recognize that estimates of average abundance are only average densities for the EKATI study area*” (Pg. 4-27) is likely not valid. BHPB should have its consultants revisit these calculations.



- **Caribou Distribution Relative to Roads (Vehicle Encounter).** In the discussion (Pg. 4-37), the report states “*caribou did not appear to be avoiding roads at Ekati*”. This analysis is based on the road monitoring (out to 200 m from road edges), which we suggest may be the wrong scale to detect any changes. Also, the distance from road analysis does not appear to have examined observer and distance biases, bringing the robustness of the analysis into question.
- **Road Permeability to Caribou (Snow Track Survey).** The discussion (Pg. 4-42) states “*caribou were deflected at Misery Road in over 60% of the observed events since 2002. This suggests that Misery Road, at times, is acting as a semi-permeable barrier to caribou movement.*” The road surveys (concluding that caribou do not appear to be avoiding roads) and the snow track surveys (concluding that roads do act as semi-permeable barriers) seem to come to opposite conclusions, which may be related to the scale of analysis and the timing of analysis. We wonder if displacement could also be examined at larger scales using the satellite collar data. These issues should be further examined.
- **Caribou Distribution Relative to Ekati.** In the summary report (Pg. 2-21) the statement “*caribou with young were more likely to be observed at greater distances from EKATP*” is incorrect (reversed) compared with the results and statements made in the main WEMP report.
- **Upland breeding birds.** Details of the plot survey techniques/methods used are not provided (Pg. 8-2). Why doesn’t Ekati use the Canadian Wildlife Service rapid PRISM system (or a modification of this technique) to fit into regional data collection and standardization?
- **Species ranking.** For NWT species rankings, the WEMP refers to RWED (2000). This has now been updated (Working Group on General Status of NWT Species. 2006. NWT Species 2006-2010 - General Status Ranks of Wild Species in the Northwest Territories, Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. III pp) and is available on the ENR website. This results in a number of changes to statements made in the report:
 - Wolverines are listed as ‘Sensitive’ in the NWT, not ‘Secure’;
 - Peregrine falcon have been changed from ‘May be at Risk’ to ‘Sensitive’ (now not distinguishing between subspecies);
 - Semipalmated plover is now been designated ‘Secure’.
- **Raptors.** Instead of describing “percent abandonment”, perhaps it would be better to talk about percent of occupied sites (from the spring) that are productive (successful), as this leads into productivity (mean number of young fledged per occupied nest).
 - “*The summer productivity survey (late July) determined the number of chicks produced at each site.*” Productivity is a rate expressed as the mean number of known or assumed fledged young per occupied territory (Poole and Bromley 1988).

- Fig. 10-5.5. *Percent of occupied sites abandoned or taken over by other species between surveys.* This is a fairly meaningless statistic and figure. Dynamics of birds mean that nesting areas may switch among species among years, although the actual nest site may not be used by all species. For example, a golden eagle and a rough-legged hawk will generally not switch and use the same nests, but may occupy territories within the same general area. Peregrines and gyrfalcons will use golden eagle nests, but a gyrfalcon generally will not use a rough-legged hawk site. As noted, discussion of percent of occupied sites (as determined in the spring) that are productive (as determined after nestlings are >3 weeks of age) for each species on its own is a better biological metric of nesting success than the “abandonment” term used. Lumping of species with differing natural history and timing (e.g., and peregrine falcons and gyrfalcons) is not informative.
- Note also that unless survey coverage and effort remains constant and consistent from the start, and because raptors generally use up to several nest sites within a given nesting territory, you will always get an increase in the number of known nest sites as time goes on without necessarily a corresponding increase in the number of occupied sites or territories. This confounds simple analyses, such as the number of sites occupied. Dealing with occupancy over time using territories, rather than nest sites, will more accurately describe trends over time.

We appreciate that BHPB appears to have passed on our comments from November 2007 on the 2006 WEMP, and that your consultants adopted and addressed most, if not all, of our suggested changes.

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

Sincerely,

-Original Signed By-

Bill Ross
Chairperson

cc. Society Members
Zabey Nevitt, WLWB
Sue Fleck, ENR, GNWT