



INDEPENDENT ENVIRONMENTAL MONITORING AGENCY

P.O. Box 1192, Yellowknife, NT X1A 2N8 • Phone (867) 669-9141 • Fax (867) 669-9145

Website: www.monitoringagency.net • Email: monitor1@yk.com

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Claudine Lee
Head of Environment and Communities
Dominion Diamond Ekati Corporation
1102 4920 52nd Street
Yellowknife NT
X1A 3T1

Dear Ms. Lee,

Re: Ekati Wildlife Effects Monitoring Plan (WEMP) and Caribou and Roads Mitigation Plan (CRMP) Review

The Independent Environmental Monitoring Agency (Agency) has reviewed Dominion Diamond Ekati Corporation's (DDEC) Wildlife Effects Monitoring Plan (WEMP) and Caribou and Roads Mitigation Plan (CRMP) Review and submits the following comments for your consideration.

The Agency was pleased to see an updated version of the 2002 Wildlife Management Plan with the attached CRMP. DDEC has made obvious efforts to address many of the comments raised during the Jay environmental assessment process and related workshops. However, we have a number of comments and suggestions that DDEC should consider.

Wildlife Effects Monitoring Plan (WEMP)

4.1.4 Waste Management

The WEMP states "There are indications that improved and continual employee education has resulted in a decrease in the presence of scavengers and food waste items at landfills (Rescan 2010)" (pg 4-3). This statement is outdated and incorrect given results from the past 2-3 years. DDEC noted in the 2015 WEMP that adherence by employees to effective waste management disposal practices at the mine site remains a challenge. Overall occurrence of wildlife attractants or misdirected wastes based upon surveys was relatively high in 2015 and similar to 2014.

Recommendation: DDEC should update and correct this statement regarding waste management.

4.2.2 Indirect Habitat Alteration and Loss

The WEMP states “Currently, it is expected that indirect habitat alteration and loss for caribou (Zone of Influence; ZOI) will be monitored through regional programs in collaboration with ENR, potentially through the Barren-ground Caribou Management Strategy (Section 5.8.1). Potential mechanisms for the ZOI will be monitored through the WEMP” (pg 4-7). Sensory disturbance at the mine site level is the responsibility of the developer, and cannot be shunted off to regional programs. Monitoring and mitigation of sensory disturbance, not just for identifying potential mechanisms, must occur.

Recommendation: DDEC to update this section to provide methods for monitoring and mitigation of sensory disturbance.

5 Monitoring

The WEMP states that direct wildlife habitat loss is calculated annually by superimposing the current Mine footprint on the predevelopment (i.e., baseline) habitat map (pg 5-1). Up until approximately the late 2000s the footprint of the LLCF was not included in this calculation. The WEMP should clarify what it considered as the “current Mine footprint” in this context. E.g., all disturbed habitat? If an area is “reclaimed” is it still considered the “current Mine footprint”?

Recommendation: DDEC should clarify what is considered as the “current Mine footprint” for calculation of direct wildlife habitat loss.

5.5 Wildlife-Vehicle and Aircraft Interactions

This section is designed to address a number of residual risks including “caribou avoidance of the Mine” and changes in movement patterns (pg 5-8). However, the 2 objectives focus on risk of injury or death, and have little bearing on reducing caribou avoidance (sensory disturbance).

Recommendation: DDEC should align these sections to address the appropriate objectives.

5.6 Caribou

The section on the Ahiak herd (pg 5-10) is dated and does not align with herd designations presented in the EIR 2016.

Recommendation: DDEC should update this section.

5.6.5 Caribou Zone of Influence Monitoring

DDEC states that it will work with the ZOI Technical Task Group on appropriate methods for monitoring the caribou ZOI (pg 5-15). The Task Group has drafted methods, but is slow to make firm recommendations on which project (especially established projects) should be conducting ZOI monitoring.

Recommendation: The Agency re-iterates that aerial surveys to monitor relative caribou distribution and abundance should be conducted to monitor the impact of the Ekati Mine and measure the effectiveness of mitigation measures for caribou, including enhanced traffic

management and dust suppression. The aerial survey study area should be enlarged to include the extensions related to the Jay and Sable developments.

5.6.7 Camera Trapping

One of the objectives for the camera is to “determine caribou (and other wildlife) responses to the road (i.e., crossing or deflecting)” (pg 5-18). No details on how this will be conducted are provided.

Recommendation: Since this issue has been discussed at length in previous forums, DDEC should provide appropriate methodology to examine crossing success.

5.8.2 Wolf Den Occupancy and Productivity

DDEC states “It is anticipated that aerial surveys for wolf den occupancy will continue to be conducted by ENR staff” (pg 5-26). If the objective is to “determine the presence, distribution and productivity of active wolf dens throughout the study area”, then DDEC should conduct these surveys if ENR does not do them. No surveys were conducted by either ENR or DDEC in 2015).

Recommendation: DDEC should provide appropriate methodology to examine wolf den occupancy independent of ENR.

Caribou and Roads Mitigation Plan (CRMP) (Appendix B)

1.1 Background

The CRMP states that “(given 56 round trips per day by long-haul trucks) there would be an average of 12 minutes between trucks” (pg 1-1). This statement does not consider the other traffic (bulk explosives trucks, crew transport vehicles, road maintenance equipment, garbage trucks, low-bed trucks to transport larger equipment, water trucks, emergency vehicles, and light vehicles). Therefore, the non-winter season road truck traffic should be about 160-210 passages (7-9 minute spacing if even distribution).

Recommendation: DDEC should clearly provide information on all vehicles and vehicle spacing.

2 Caribou presence at Ekati Mine

The CRMP states “Caribou are likely most sensitive to development during the northern migration (May) when females are pregnant and need to get to the calving grounds” (pg 2-1) Depending how you define “most sensitive”, this statement is likely not true. During migration caribou movement through an area is rapid and directional, and displacement from migration is likely less than would occur when caribou are more sedentary during summer and fall, and when cows with calves are present during the early postcalving season. This is similar reasoning to why the zone of Influence monitoring dropped the northern migration (Handley 2010).

Recommendation: DDEC should revise this statement or provide supporting references.

Map 2-1 (pg 2-4)

This is an interesting and informative figure depicting relative distribution/density of caribou sightings from camera data. However, since the Fox road has only 2 cameras on it at widely spaced intervals, how could density be calculated along this road? This comment also refers to other roads on the map with few to no cameras.

Recommendation: DDEC should clarify in the methods how roads with few to no camera are assigned relative caribou densities.

4.1 Operational Level (Blue)

The CRMP states that “Once the road is constructed, the effectiveness of the caribou crossings will be monitored by the Environment Department” (pg 4-5), but provides no details on how effectiveness (better termed permeability) will be measured.

Recommendation: DDEC should clarify in the methods effectiveness of the caribou crossings will be determined.

Road snow berm heights

The CRMP states that “Snow berms along the Misery and Jay roads will be maintained at a height less than 1.6 m, where practicable.” (pg 4-8). However, since results indicated that caribou crossed roads when berms were 0.5 m high or less and deflected when berms were at least 1.6 m high, why just aim for the 100% deflection level at 1.6 m?

Recommendation: DDEC should modify their snow bank criteria to encourage caribou crossings during the snow period.

4.1.2 Monitoring and Levels 1 and 2

At the Operational level and Levels 1 and 2 there remains a large gap between collar monitoring (with no indication how frequently ENR will be able to provide collar locations to DDEC and how dated those locations will be) and road monitoring, which is effective only out to hundreds of metres, perhaps 600-800 m at most (pg 4-8). Mid-distance monitoring, admittedly technically challenging, is not adequately covered, but this uncertainty should be compensated for by application of more protective mitigation.

Recommendation: DDEC should consider a temporal consideration to the collar data for triggering levels. For example, if collared caribou are moving towards the mine and are 35 km away but the location data is 2-3 days old, then there is an increased likelihood that the animals would be <30 or <14 km from site, which would trigger a higher level of mitigation and monitoring beyond waiting for the next (dated) set of collar data.

4.2 Level 1 (Yellow)

Monitoring (pg 4-10) will be increased from weekly to bi-weekly, but this is totally inadequate for meaningful monitoring by Environment staff when caribou collars are known to be within 30 km of the mine. This should be changed to daily at a minimum (as was proposed in the June 2015 version of the CRMP).

Recommendation: DDEC should establish at minimum daily road monitoring by Environment staff when caribou are triggered to Level 1.

4.3 Level 2 (Orange)

“Mitigations are intended to reduce sensory disturbance from roads and traffic on approaching caribou (i.e., within 14 km of the mine), and the perception that roads and vehicles are a barrier to movement.” Why is the word “perception” given here? Mitigation is intended to reduce real potential impacts to caribou attempting to cross Ekati roads, not to deal with the perception of these impacts.

Recommendation: DDEC should reword this section, for example “, and to reduce the semi-permeable barrier effect of the roads and vehicles to movement”.

Speed limit decreased

This section (pg 4-10) mentions actions will be taken when “caribou nursery groups” are observed at 200-500 m but only when “caribou” are observed at 100-200 m. The reason for the differentiation between nursery groups and all caribou in this sentence is unclear. Given that drivers may be making their own decisions without Environment staff present, and all truck drivers may not be experienced at caribou classification, we suggest that the reference to nursery groups be removed.

Recommendation: DDEC should remove the reference to nursery groups in this section.

4.4 Level 3 (Red) – number of caribou to trigger

Thirty cows (0.25% of the current approx. 12,000 cow estimate) within 200 m of a road are required to trigger Level 3 outside of the northern migration, but only 1 cow within 500 m of a road is required for northern migration. Given that caribou can cover hundreds of metres in minutes and that cow-calf pairs during post-calving are highly sensitive to disturbance, the reason for the disparity between these 2 triggers is unclear. The focus on this section appears to be on stopping distance and injury/mortality, rather than reductions in sensory disturbance.

Recommendation: DDEC should propose enhanced mitigation when 0.25% of the cows are within 500 m of the road outside of the northern migration.

4.4 Level 3 (Red) – enhanced mitigation

While letting leaders pass is an essential idea repeated many times over the years by Elders, in practice it will be difficult to ensure this occurs when the caribou are not rapidly migrating. The

solution may be to ensure predictable breaks in the traffic which will reduce sensory disturbance and allow or encourage those caribou who are trying to cross the road to actually make their move. There are no details on methods to convoy vehicles to allow more breaks in traffic when short or long-term road closures are not imposed. Systematic breaks in traffic or convoying are a means to safeguard caribou and provide a predictable ore flow and rate of mill feed. When more than 10 caribou are known to be present within 500 m of the road alignments, regularly scheduled breaks in all traffic for 20 minutes every 2 hours may be effective. Similarly, when caribou are detected stopping times should be considered to provide an opportunity for caribou to cross, as suggested in the following table (from Agency response to Undertaking #9):

Table 1. Agency Proposal for caribou distance thresholds, criteria for resuming traffic speed limits and duration of the stop.

Distance of Caribou from the Road	Calving, Post-calving and Fall (<10 adults in a nursery group)	Calving, Post-calving and Fall (≥10 adults)	Northern (spring) migration (any group size)
Less than 200 m	Driver to remain stopped for 30 minutes, then may proceed at 20 km/hr if behaviour is unchanged and caribou are not moving towards the road	Driver to remain stopped until caribou are greater than 500 m from the road	Driver to remain stopped/short-term closure
200-500 m	Driver to remain stopped for 10 minutes, then may proceed at 20 km/hr if behaviour is unchanged	Driver to remain stopped until caribou are greater than 500 m from the road	Driver to remain stopped/short-term closure
In sight and greater than 500 m	Driver to proceed at 30 km/hr	Driver to proceed at 30 km/hr	Driver to proceed at 40 km/hr

Recommendation: DDEC should provide details on convoying and breaks in traffic, and consider instituting stopping times to reduce sensory disturbance.

4.4 Level 3 (Red) – Monitoring on the Jay esker

Enabling movement and migration along the Misery esker is of great concern to Aboriginal communities. Detection monitoring on the esker (perhaps remote video feeds or motion sensors stationed 1 or more km north and south of the Jay complex near the esker crossing) could signal when caribou are approaching. Movement of traffic through the Misery esker and up to 300 m on each side of the esker will be halted until caribou on or adjacent to the esker are more than 500 m and moving away from the road.

Recommendation: DDEC should consider implementing heightened detection monitoring of caribou along the Jay (and possibly Sable) eskers, with halts in traffic when triggered.

5 Reporting

The CRMP states “If negative effects are detected (e.g., caribou-vehicle collisions, failed crossing attempts, inadequate signage)...” (pg 5-1). Firstly, inadequate signage is not a negative

effect on caribou. Secondly, there is no indication in the document how the proportion of failed crossing attempts will be determined.

Recommendation: DDEC should clarify how the proportion of failed crossing attempts will be determined.

Should you have any questions concerning these comments, the Agency would be pleased to discuss these at your convenience.

Sincerely,



Jaida Ohokannoak
Chairperson

Cc: DDEC – April Hayward
Government of the Northwest Territories – Laurie McGregor
Government of the Northwest Territories - Andrea Patenaude
Government of the Northwest Territories – Linda Young
Tlicho Government - Sjoerd van der Wielen
Yellowknife Dene First Nation – Alex Power
Lutsel K’e Dene First Nation – Lauren King
North Slave Metis Alliance – Shin Shiga
Kitikmeot Inuit Association – Jared Ottenhof
Indigenous and Northern Affairs Canada – Jennifer O’Neil