

BEVERLY AND QAMANIRJUAQ CARIBOU MANAGEMENT BOARD

22 June 2007

Leslie Payette
Manager of Environmental Administration
Nunavut Impact Review Board
P.O.Box 1360
Cambridge Bay, Nunavut
X0B 0C0

Dear Ms. Payette:

NIRB File No. 07EN046 – Forum Uranium-North Thelon Project Proposal

On behalf of the Beverly and Qamanirjuaq Caribou Management Board (BQCMB), I am submitting comments on the proposal from Forum Uranium Corporation (Forum) for uranium exploration in the Schultz Lake area west of Baker Lake. This is in accordance with the mandate of the BQCMB, which is to advise governments and caribou range communities on ways to protect the Beverly and Qamanirjuaq caribou herds and their ranges.

The BQCMB is concerned about these proposed activities because they will occur on range of the Beverly and Qamanirjuaq caribou herds during periods when caribou may be using those areas. As a result, there is potential for Forum's proposed activities to impact barren-ground caribou.

As we have indicated in recent submissions commenting on other similar proposals, the potential effects of a project such as this one on barren-ground caribou should be given serious consideration. Adequate deliberation on this issue is of great importance at this particular time, given the documented declines in five NWT caribou herds, a lack of information about Beverly and Ahiak herds, and the uncertain but likely declining population status of these herds.

Following is a description of the BQCMB's major concerns with this proposed project amendment, and recommendations to address them. This information is intended to help NIRB to identify the potential impact of the proposed project activities on caribou as well as actions that should be taken to avoid or minimize these impacts.

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Importance of the Area to Caribou

a) Seasonal use of the project area by caribou

Data from past government caribou surveys conducted between 1948 and 1990 indicate that the proposed project area has been used by Beverly caribou primarily during the post-calving (late June to end of July) and late summer (early August to mid-September) periods. Beverly and Qamanirjuaq caribou may have occasionally used the area during spring migration (mid-March to late May).

According to recent information on locations of satellite-collared caribou, the area has also been used by Ahiak caribou between late July and early November (i.e., primarily late summer and fall migration/rut periods); Lorillard caribou between October and March (fall migration, winter, spring migration); and Wager Bay caribou in November (early winter).

Based on this information, it appears that the project area can provide important habitat to barren-ground caribou from various herds throughout most of the year, including spring migration, post-calving, late summer, fall migration and rut, and winter.

Sources of information: The survey data were compiled by the BQCMB in a map atlas which is available on the BQCMB website (www.arctic-caribou.com/parttwo/mapatlas.html). Locations of satellite-collared caribou from the Ahiak and Beverly herds (to June 2007) were provided to the BQCMB by the Department of Environment and Natural Resources, Government of the Northwest Territories. The locations of satellite-collared caribou from the Lorillard, Wager Bay and Qamanirjuaq herds (to June 2006) were compiled and published by the Government of Nunavut, and are also available on the BQCMB website (www.arctic-caribou.com/journey/).

b) Implications of limited knowledge

Unfortunately very little recent information is available about seasonal range use of this area by caribou, especially Beverly caribou. Very few Beverly caribou have been tracked using satellite collars, most only since March 2006, and they provide limited information about seasonal range use patterns of caribou cows. In addition, the satellite collar information does not tell us if the area was used in recent years by other segments of the Beverly herd, such as bulls.

c) Water crossings

Designated caribou water crossings have been identified at Schultz Lake and nearby on the Thelon River. This indicates that the area has been used by caribou moving to and from different seasonal habitats.

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Issues and Concerns

1. General Comments on the Application

In the application materials submitted by Forum to NIRB, they acknowledge that their project area is located on the range of the Beverly and Qamanirjuaq herds, and that the herds may use areas near Schultz and Aberdeen lakes for calving in some years. Forum has also provided BQCMB maps showing Beverly and Qamanirjuaq traditional calving grounds and an INAC map showing the Caribou Protection Areas (CPA), all of which are outside Forum's project area.

It is encouraging to see that Forum appears to recognize the importance of the area in which they will be operating to barren-ground caribou, and the possibility that they will disturb caribou during their operations. They have provided Wildlife Mitigation Measures, including measures specifically designed to minimize disturbance to caribou. They have also acknowledged that there may be several helicopters operating in the area at any one time, which may result in cumulative effects to wildlife.

However, the only map of the Forum project area appears to be a poor quality faxed map included in the application to KIA, which is not legible or useful. (Appendix I of the Abandonment & Restoration Plan in their application to INAC was titled "Maps, Figures and Photos", but did not contain these items.) This is not adequate for assessing potential impacts of proposed activities on wildlife, including caribou.

2. Potential Disturbance to Caribou

Forum's 2007 program is scheduled to begin in July, with work continuing through the summer and fall to late September, and possibly until November. Work in 2008 and subsequent years, is expected to start as early as February and end in September (subject to change). It is therefore likely that caribou using the project area during the period from spring migration to late summer (mid-March to mid-September) will be subjected to some disturbance from project activities.

Issues:

- The BQCMB does not agree with permitting exploration activities on calving and post-calving areas. The Board has recommended establishing long-term legislated protection for calving and post-calving areas¹.

¹ Protecting Calving Grounds, Post-Calving Areas and Other Important Habitats for Beverly and Qamanirjuaq Caribou: A Position Paper (BQCMB 2004)

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- Caribou may arrive in the project area during Forum's operations. If this occurs, drilling and survey activities will cause disturbance to caribou during vulnerable periods.
- Caribou may cross water bodies on and adjacent to Forum's properties during the period when Forum is operating, and may be disturbed by low level flights to and from the airstrip or during surveys. Disturbance may divert caribou from crossing or increase their vulnerability while crossing.

Concerns regarding disturbance: Disturbance during the most vulnerable parts of the caribou life cycle are of greatest concern. This would include disturbance during **spring migration, calving and post-calving periods**. Project activities such as drilling and geophysical surveys could occur near caribou while they are particularly sensitive to disturbance (e.g., while caring for young calves). They may also occur while caribou are attempting to cross water bodies, during which time they are extremely vulnerable to disturbance.

Frequent interruption of caribou feeding during **spring migration through to late summer** can have a significant negative effect on the condition of individual animals. Caribou need to feed continuously through the summer (to end of August) to ensure that they are in good condition during the fall migration and rutting period and have reserves for winter. Insufficient feeding can lead to increased calf mortality rates, reduced pregnancy rates, and lower calf production the following year, and may result in a decrease in herd size.

Disturbance to caribou can result in obvious behavioural changes, such as running away from aircraft or vehicles. However, disturbance can also cause stress to caribou when behavioural changes are less obvious (e.g., walking), or when they are not apparent to an observer (e.g., when feeding stops but the animal's head remains lowered). It is generally difficult for people to recognize that caribou are undergoing stress if observations are made primarily from aircraft (at elevations above 300m in altitude), unless the animals are running away.

3. Mitigation of Impacts on Caribou

Forum has committed to comply with NPC's conformity requirements, including those dealing with low level flights and caribou protection measures. Their internal policies reiterate that Caribou Protection Measures will be followed, and both their policies and mitigation measures for caribou describe how they will minimize low-level flights and avoid caribou during geophysical surveys. They will also suspend operations if caribou come within 1km of any work site, and will hire local wildlife monitors to monitor wildlife before and during geophysical surveys.

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These are good commitments that will help to minimize the effects of projects activities on caribou. A few key additional measures should be undertaken to strengthen mitigation efforts (see Recommendations).

4. Cumulative Effects of Mineral Exploration on Caribou

Forum has concluded that the cumulative effects of their proposed work may result in “a minor amount of environmental stress in the area surrounding the camp” and that “the cumulative noise effect of multiple helicopters is anticipated to be minimal”. No explanation is provided to support these conclusions, however, or to address cumulative effects on caribou specifically.

Issue: The potential cumulative effects of mineral exploration and development on caribou that use Forum’s project area is an issue at several spatial scales, including:

- (i) within Forum’s project area,
- (ii) within the larger area of exploration by numerous companies west of Baker Lake,
- (iii) across the Thelon geological basin, including the Beverly calving ground and the upper Thelon watershed, and
- (iv) across the caribou ranges, because caribou accumulate impacts as they move from one seasonal range to another, year after year.

Concern: As we have stated repeatedly in our comments submitted to NIRB earlier this year on mineral exploration proposals, the BQCMB is concerned with the amount of mineral exploration underway and proposed across the range of the Beverly and Qamanirjuaq caribou herds. This includes exploration activities in the Kivalliq region of Nunavut, where numerous companies have been issued mineral tenure and land use permits over the past few years. Two maps available on the BQCMB website (www.arctic-caribou.com/mining.html) show land uses permitted across the caribou ranges (updated to May 2007) and mineral rights on the calving grounds (as of mid-May 2007) for these two herds.

Three exploration projects which were reviewed by NIRB earlier this spring (AREVA, Western Uranium, and Cameco) are currently underway on the calving, post-calving and summer range of the Beverly and Ahiak caribou herds between Baker Lake and the Thelon Wildlife Sanctuary. Several other companies, including Forum Uranium Corp., have mineral interests and are conducting preliminary exploration in this area. Mineral companies are also operating on the south side of the Sanctuary in the upper Thelon watershed, which is part of the spring migration route for Beverly and Ahiak caribou. Past and present exploration and development on the winter range of Beverly and Ahiak caribou in northern Saskatchewan also contributes to the cumulative impacts experienced by these herds.

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There is a need for a regional assessment of the cumulative impacts of mineral exploration and other land use activities, including activities in the Kivalliq region of Nunavut. While the BQCMB's mandate provides a focus on caribou and caribou range, board members are concerned with the broader ecological effects of human land use activities and the long-term impacts these activities will have on the sustainability of traditional lifestyles and livelihoods for northern communities.

The Mackenzie Valley Environmental Impact Review Board (MVEIRB) has also identified a need for a regional cumulative effects assessment for Beverly caribou, and has included the following as part of its recommendation to the Minister concerning Ur-Energy's application for uranium exploration in the upper Thelon watershed²:

"A regional Caribou Cumulative Effects Study should be conducted on the status and sustainability of the Beverly caribou herd. It would be helpful if this study examined:

- a) the state of the herd, its range and population trends;
- b) all human activities affecting the herd (including past, present, and reasonably foreseeable developments);
- c) the predicted cumulative effects of these activities; and,
- d) actions to manage the predicted impacts."

From the BQCMB's perspective it is clear that continued assessment of individual projects on a case-by-case basis will not be adequate to ensure that significant adverse eco-systemic and socio-economic effects will be prevented. Furthermore, because so little is known about the status and vulnerability of the Beverly, Qamanirjuaq, and other barren-ground caribou herds that use seasonal ranges in the Kivalliq region, the potential adverse effects and their accumulating impacts on caribou are not highly predictable.

Recommendations

1. Mineral exploration and development should not be permitted in this area, since it is used by post-calving caribou.
2. Regulatory and other territorial and federal government agencies (i.e., in Nunavut NIRB, GN, INAC) should be taking action to identify and mitigate potential cumulative effects of human land use activities, including mineral exploration, on barren-ground caribou. This assessment of cumulative effects should occur at a regional scale (i.e., larger than individual project areas).

² See <http://www.mveirb.nt.ca/registry/> for MVEIRB's May 2007 Report of Environmental Assessment for the UR-Energy-Screech Lake project application.

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3. If NIRB approves the proposed project:
 - a) Project activities must be prohibited between May 15th and July 15th if caribou are in the project area, as per NPC's conformity requirements regarding the caribou protection measures (2.6 and 2.15.7).
 - b) All activities must be suspended if caribou approach the area during spring migration prior to May 15th.
 - c) Activities should be allowed to resume after July 15th only if post-calving caribou are not in the area.
 - d) An independent caribou monitor should be hired (preferably from Baker Lake) to determine when caribou are moving toward the project area. The monitoring system should ensure that at least one day's advance notification is received for shutting down project activities (including drilling and geophysical surveys) if caribou are approaching. This will be necessary to ensure that potential disturbance is discontinued before caribou reach the project area, particularly once drilling has begun, as it may take up to a day to remove drill rigs and personnel from the area.
 - e) Aircraft pilots should be instructed:
 - to fly above 610 m AGL at all times except during take-offs and landings or when weather conditions do not permit
 - not to fly over the Beverly calving ground (northwest of the project area)
 - not to fly over caribou water crossings adjacent to the project area if caribou are present.
 - f) Critical grade mufflers should be required to ensure the noise from drilling is minimized.
 - g) Good quality maps should be provided of the project area and camp location that indicate the spatial relationship of the project area to traditional calving grounds, CPA, and designated water crossings. Maps showing intended areas for geophysical surveys (ground and airborne) would also be helpful.
 - h) The proponent should be required to describe their plan and capability for inspection and enforcement to ensure that its internal policies are being followed by employees and contractors.
 - i) The proponent should be required to develop a program to evaluate the effectiveness of mitigation measures. This is required to determine whether decisions about activities such as helicopter flights, geophysical surveys, and

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drilling were sufficient to avoid disturbance, or if adjustments are required for activities in subsequent years.

- j) NIRB should ensure that regular inspection of project operations is conducted, and that NIRB's permit terms and conditions and NPC's conformity requirements are enforced.

Please let me know if you require further information or have any questions about these comments from the BQCMB.

Sincerely,

[original signed by]

Leslie Wakelyn
BQCMB Biologist

cc: Jerome Denechezhe, BQCMB Chairperson
Baker Lake HTO