



Porcupine Caribou Management Board

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February 21, 2007

Steve Caram
Yukon Environmental and Socio-Economic Assessment Board
Box 6050
Dawson City, Yukon Y0B 1G0

Dear Mr. Caram:

**Re: Project 2006-0285
Flow tests at three existing hydrocarbon wellsites (Northern Cross)**

The Porcupine Caribou Management Board (PCMB) would like to make the following submissions to your board regarding the above noted project.

Background – declining Porcupine Caribou Herd population means all projects in any part of the herd's range require caution

The PCMB is concerned about the impacts the project will have on the Porcupine Caribou Herd. It is important to note that the PCMB has recently passed a resolution noting, among other things, that the herd is in immediate need of conservation.

This herd has been declining for at least 12 years, possibly as long as 17 years, presenting a worrying pattern. When the first reliable count was performed in 1972, the herd size was estimated to be about 105,000 caribou. The herd size grew steadily at about five percent each year until it reached 178,000 caribou in 1989. Other large migratory herds in the north also grew in population during this time period. Then the Porcupine Caribou Herd declined by three to four percent per year from 1989 to 1998. From 1998 to the last census in 2001, the herd declined at a rate of 1.5 percent per year to 123,000 caribou. Migration patterns and weather conditions have thwarted census attempts for the past 4 years, but the PCMB estimates that the herd's current population might be as low as 110,000 animals.

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The Board notes that wildlife tend to go through cycles of increasing and decreasing populations, and we should expect fluctuations in population. However, the Board believes this herd's population decline may be in excess of normal fluctuations.

All arctic barren ground caribou herds tend to follow a similar cycle, and the Porcupine Caribou Herd's population cycle has not been consistent with the other herds. The Porcupine Caribou Herd increased at a slower rate than other herds in the 1980s. Then the Porcupine Caribou Herd's population increase peaked sooner and started to decline earlier than other herds.

Until a census proves otherwise, the Board must manage the herd in a manner that is mindful of this strong evidence that the population is declining. The Board is confident in the census techniques, and confident in the findings.

This matter of declining population is of enough concern that the Board is working with all the caribou herd's user groups to develop a harvest management strategy as one means of protecting the herd. If the traditional caribou users are being asked to alter their harvesting activities, it goes without saying that other human activities in the range of the herd need to be altered or even avoided for the good of the Porcupine Caribou Herd. In this case, we believe that conservation of the Herd should be of utmost importance when you consider the Northern Cross application.

This project affects an area of critical importance to herd productivity

"Whatever happens in the winter affects the calf survival, affects the pregnancy the next year and virtually every aspect of productivity from age of first reproduction to calf survival." Quote from Don Russell, Canadian Wildlife Service; 2000 presentation: *Porcupine Caribou Habitat and Oil and Gas Development in the North Yukon*.

The project area is an important part of the winter range because it has some of the best lichen reserves among winter regions. Lichen is of key importance to caribou nutrition. If the quality of the habitat is compromised by the project, then the caribou's overwinter survival could be compromised, as well. Because the herd's population is already declining, extreme caution should be taken to ensure the herd's challenges are not exacerbated.

The land-use planning commission used only satellite radio information to identify areas frequently used by the Porcupine Caribou Herd. But in fact, other information exists from conventional radio collars. Numbers vary from year to year, but on average there are 10 to 15 caribou wearing satellite collars whereas there are about 100 caribou wearing conventional collars. In addition, 10 more years of data exists on conventional collars than on satellite collars. While it's useful to examine satellite collars, it might be wise to look at all the data to give a more complete picture of caribou use of its range. Information from the conventional collars is used in Sensitive Habitats report, which has data up to 1990, and the report is currently being updated. The PCMB has asked the technical staff to update the Sensitive Habitats report to the extent possible.

Specific areas of concern

- The pattern of decline of the herd's population suggests that the herd is less able to withstand natural or human-induced stresses.
- The project will cause disturbance to the herd during the harshest season of the year.
- There will be direct loss of caribou habitat due to gravel pit and road construction.
- There will be an increased loss of caribou due to collisions between caribou and vehicles connected with this project.
- Climate change has the potential to threaten the resilience of the Porcupine Caribou Herd and may alter their use of the landscape. The future range is unknown; Eagle Plains may become increasingly important as suitable habitat shifts from past locations.
- The project itself will increase emissions and contribute to climate change, indirectly harming caribou productivity.
- While the current proposal may be small in scope, the cumulative effects of the project, other developments such as upgrade of the Dempster Highway and seismic lines, climate change, and the expansion plans of the proponent, combined with a declining caribou population suggest that the herd may be further jeopardized.

- Long-term plans for Northern Cross are even more wide-reaching within the winter range of the caribou:

[Northern Cross President David] Thompson says a more long-term goal for the company is to develop the natural gas potential on their Yukon properties. The problem is no pipelines exist near the Eagle Plain basin to transport the gas to market. However, Thompson is watching the developments in the Mackenzie Gas Project and the Alaska gas pipeline closely.

"We feel it's important that those pipelines recognize the gas potential of the Eagle Plain area and we ultimately have a road map to get those resources delivered to market through those new pipeline facilities," Thompson says. *(Excerpt from: Turning Potential into Product (Eagle Plains) - Far North Gas, Winter 2005)*

- There are numerous effects on the herd and its habitat resulting from the road access:
 - There are currently no mechanisms to control road or ATV/snow machine access associated with road development or seismic development for this or any other project. The project will lead to increased hunting stress due to increased access.
 - Even if new roads are not built, traffic will increase, and traffic will arrive from farther away. There will be more grading and road improvements required. The caribou will be displaced due to traffic along the new access.
 - Roads are the primary conduit for invasive species. Roads alter habitats and stress native species. Exotic species establish colonies along roads. Roads facilitate invasion by acting as movement corridors, channeling population expansion and aiding dispersal. Dispersal is enhanced by adhesion to vehicles, wind-funneling and preferential movement by animals along road corridors. Roadsides store exotic plant propagules for release during disturbance.
 - Roads fragment habitat, which promotes weedy species with high dispersal capacities over less mobile species.
 - Roads play a critical role in fragmenting habitat, which promotes weedy species with high dispersal capacities over less mobile species. Some vertebrate and invertebrate species are inhibited by large road clearings. Road improvements and maintenance increase plant invasion. Invasive species cover was three times greater along paved roads than along dirt tracks. Roads create a threat to biological diversity out of proportion to relatively small habitat they displace.

- Increased traffic has been shown to facilitate the dispersal of exotic diseases and insects. Vehicles transport exotic species into uninfested areas and dispersal of biological agents such as root disease can affect ecosystems far from the road that facilitated access.
- Invasive species have an ecosystem-wide impact: exotic vegetation affects bird and animal communities.
- Greater traffic volumes may stir up increased dust, which can physically harm lichens and mosses, promoting change in native plants and promoting plant invasion.
- Air pollutants from vehicles accumulate in the atmosphere and cause ecological effects far from the source road (Forman, 2000).
- Exotic species invasions are expected to increase due to climate change. Changes in temperature and precipitation can alter resource availability and habitat suitability for exotic species that have previously been unable to establish themselves.
- Even without increased road activity, native species may be more stressed due to climate change. Road-related stresses will then exacerbate the situation. Moreover, the vehicles themselves produce emissions and affect global climate change, not simply dust and dispersal vectors.
- Several studies have shown that some species range expansion can take time: long lived exotic woody invaders may persist for decades prior to expansion initiated by disturbance. The habitat changes associated with climate change are a catalyst for this type of expansion, enabling invasive species that previously remained dormant or persisted at low frequencies to spread.
- Southern Canadian provinces are dealing with major invasive species issues from which the Yukon has been protected due to both distance and climate. The combination of a warming climate and greater human activity in the Northern Yukon could therefore irreparably alter the environment with a proliferation of invasive species.

Recommendations

The PCMB supports responsible development in the herd's range. In the case of this proposal, the PCMB urges you to make your rulings with the wellbeing of the Porcupine Caribou at the top of your mind, and to give the benefit of any doubts to the caribou herd.

Page 6

The PCMB concurs with the recommendations of D. Davidge, Environment Canada, that there should be winter only access. Winter only roads have much less permanent impact on the habitat and wilderness.

The PCMB also supports and proposes the following recommendations of C. Hubert of the Department of Environment:

- Wildlife environmental monitor to record, respond to and report caribou and other wildlife sightings and any environmental degradation.
- Report wildlife incidents or mortalities to Conservation Officer in Dawson City at 994-5492
- Prohibit hunting by employees and contractors
- Maintain a minimum line of sight of 300 m so that wildlife collisions can be avoided
- Relay sightings of wildlife by radio to all vehicles to reduce collision occurrences
- Speed limit of 50 km/hr to reduce potential for vehicle collisions with caribou
- Give caribou right of way when encountered on winter road
- Controlled access (i.e. gate) at Dempster Highway for use by company only during use of winter road and all-season road.

Thank you for your consideration of this matter. Not only is the health of the Porcupine Caribou Herd a valid consideration for its own sake, but the health of the herd is also critical in maintaining centuries of traditions for First Nations in the herd's range.

If you have any questions, please do not hesitate to contact our office.

Sincerely,



Per. Joe Tetlich
Chair