



Porcupine Caribou Management Board

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Loralee Johnstone
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YESAB
Mayo Designated Office

- submitted by e-mail to loralee.johnstone@yesab.ca

Dear Ms. Johnstone:

Re Wernecke Winter Road Access Project

File No. 2007-0205

The Porcupine Caribou Management Board (PCMB) would like to comment on the application by Cash Minerals for approval of the Wernecke Winter Road Access Project. This project affects part of the Porcupine Caribou Herd's wintering range, and this raises concerns for the PCMB.

The declining population of the Porcupine Caribou Herd means all projects that might affect the herd's use of its range require caution. It is important to be aware that the PCMB has recently passed a resolution noting, among other things, that the herd is in immediate need of conservation.

The Porcupine Caribou Herd's population has been declining for at least 12 years, possibly as long as 17 years -- 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 a population of 123,000 caribou. Migration patterns and weather conditions have thwarted census attempts for the past five years, but the PCMB estimates that the herd's current population might be as low as 110,000 animals, based on annual recruitment and survival surveys.

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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. Most arctic barren ground caribou herds tend to follow a similar cycle; however, 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, in the 1990s, the Porcupine Caribou Herd's population 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 the indication that the population is declining.

This matter of declining population is of such concern that the Board is working with all of 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 application.

The proposed winter road project could potentially affect the health of the herd. The current decline of the population suggests that the herd might not be as resilient to the stresses of development as we would like to see. In addition to direct impacts of human activity, the project also affects the herd's habitat. In turn, the wellbeing of the herd affects the ability of numerous native groups to participate in Porcupine Caribou traditions that have bonded the community members together as a community and to the earth for millennia.

Increased activity in the herd's range will pose a disturbance for the Porcupine Caribou Herd as a result of:

1. Increased levels of traffic
2. Increased recreational activity
3. Increased habitat fragmentation
4. Increased risk of wildland fire
5. Cumulative impacts

1. Increased levels of traffic

(a) Direct loss of caribou due to road-kills or injuries

With a new access road, there will be an increased potential for drivers to collide with caribou and other wildlife. This alone is not an overwhelming concern, but it is a factor that must be considered when you look at the cumulative impacts of the project.

(b) Indirect loss of caribou due to displacement of caribou from roads (by avoidance) resulting in reduced availability of habitat

Caribou behavior related to traffic or other human-induced disturbance is difficult to study. Generally, researchers have found that caribou (*rangifer* species) react more strongly to different human sources of disturbance in the springtime during calving than at other times of the year. The caribou will tend to appear in the project area during winter, when they are more resilient, but the cumulative effects of many projects throughout the herd's winter range, which includes the Eagle Plains area, should not be underestimated.

Although the extent is unclear, it is clear that caribou tend to avoid human activity. A recent *Rangifer Report* noted that "Around the mid 1980s, focus shifted to regional scale landscape ecology studies, reporting that reindeer and caribou reduced the use of areas within 5 km from infrastructure and human activity by 50-95%, depending on type of disturbance, landscape, season, sensitivity of herds, and sex and age distribution of animals." (Ingunn, V. and C. Nellemann. 2007. Impacts of human activity on reindeer and caribou: the matter of spatial and temporal scales. The 14th Nordic Conference on Reindeer and Reindeer Husbandry Research. Vantaa, Finland. 20-22. March 2006). Common sightings of the Porcupine Caribou Herd along the Dempster Highway do not disprove this notion. Although it might appear that many caribou are seen along the Dempster Highway, in fact, if the highway didn't exist there could be many more caribou in that same spot. A new winter access road such as proposed by Cash Minerals could also affect the herd in that project area, although clearly to a relatively lesser extent, given the amount of traffic one can anticipate arising from this proposal.

2. Increased recreational activity

Increased access by the construction of the winter road can potentially increase snow machine and ATV access to the project area. Snow machine use by recreationists is likely not a serious problem, particularly if the users do not chase or harass the caribou (an illegal activity, but it has been reported nonetheless). Even hunters who use snow machines acknowledge that the use of snow machines by hunters is a major factor in changing caribou behavior near the highway. However, caribou react differently if a snow machine operator is hunting (approaching, stalking) or is simply passing by. If the snow machine driver is not actively hunting, caribou seem to be vigilant but do not exhibit avoidance behaviors.

3. Increased habitat fragmentation

Access to project areas will increase habitat fragmentation. Whether all-season or winter-only roads are used, roads and trails fragment the habitat of the herd. Projects that require cutting seismic lines will fragment the landscape further still, even though modern practices tend to minimize this damage. This can affect herd movements, change how the herd uses the land, and provide predators easier access to the caribou.

With increased ATV and snow machine use for exploration as well as recreation, more tundra could be damaged by the machines, which in turn would deprive the caribou of vital forage that they need to survive the winter and reproduce in the spring. Damaged tundra can take several decades to rehabilitate, so increased snow machine use could potentially deprive the herd of important parts of its habitat for extended periods, and well outside the project areas.

Again, it is the cumulative impacts of these activities that greatly concern the Board.

4. Increased risk of wildland fire

While fire is a natural part of forest renewal in the boreal forest ecosystem, an increased incidence of fire caused by human activities, coupled with an increase in the occurrence of “fire weather” (hot, dry, windy conditions) that correspond with climate change (Arctic Climate Impact Assessment, 2005, Cambridge University Press, p 1042) would reduce the availability of older, mature forest habitats with their associated lichen groundcover [Smith et al (eds), Ecoregions of the Yukon Territory, PARC Technical Bulletin No. 04-01, 2004]. Caribou of the Porcupine Herd subsist on lichen in winter; landscape scale change that limits lichen cover at any given point in time on the winter range would have implications to the overall health of the herd. Increased human presence in the project area will increase fire risk, and therefore leads to increased risk of less food available to caribou in winter range. Many, many hectares of the herd’s winter habitat have already been scorched by wildland fires. It takes decades for lichen to appear again, so fire is a serious risk.

5. Cumulative impacts

Cumulative impacts are changes to the environment caused by an activity, combined with other past, present and future activities. In the case of the Porcupine Caribou Herd, cumulative impacts include not only the proposed projects in question, but also activities throughout the herd’s range. It should also include consideration of the habitat that has been made unavailable to the herd as a result of wildfire.

The project area covers a part of the herd’s winter habitat. Although caribou are more resilient to human activity during winter than during calving, their winter habitat is still important to their survival. In addition, studies show that as human

activity increases, the number of caribou in the area will decrease, displacing caribou from their chosen habitat. “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 proposed winter road cuts through a part of the herd’s winter range. In addition to the road itself, the caribou might avoid part of the range due to human presence, thereby reducing available and effective winter range for the herd. Because the herd’s population is already declining, extreme caution should be taken to ensure the herd’s long-term conservation.

Climate change has the potential to threaten the resilience of the Porcupine Caribou Herd and may alter its use of the landscape. In addition, increased exploration in the proposed project area could potentially drive the caribou from that area to other portions of the herd’s range such as this project area. The future range of the herd, given these changing conditions, is unknown. This means that displacement of the herd as a result of this project might be more damaging than we can anticipate today.

In summary, the PCMB is concerned about the project’s potential to introduce increased levels of traffic and recreational activity in the range of the herd. In addition, there could be increased harvesting interests. The increased human presence might contribute to the caribou avoiding portions of its range. Increased risk from wildland fires could potentially affect the habitat quality and availability. In addition, the PCMB is concerned about the effects of Cash Mineral’s primary project – exploration for uranium deposits – on the herd’s habitat. Although that is outside the scope of this review, it is a factor that must be considered when you evaluate the cumulative impacts of all the activities in the herd’s range.

Finally, the cumulative effects of all the increased human activity could affect the herd’s use of the range as well as the herd’s productivity. ***While any effects of the winter road access project in isolation might not have a serious impact, cumulatively, and in combination with other effects in the range, the effects could potentially be serious, bearing in mind the herd’s declining population.***

Recommendations

As we already noted, the PCMB supports responsible development. In the case of this review, the PCMB urges you to make recommendations that support the long-term conservation of the herd and its habitat. Where information is lacking or limited, we urge you to recommend a cautionary approach, and establish monitoring systems.

The PCMB makes the following recommendations:

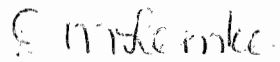
- The Board recommends that approval of any activity in the area be delayed until the completion of the Peel Watershed Planning Commission's land use plan.
- If any portion of the winter road results in increased traffic of any on-road or off-road vehicles past the duration of the project, those areas should be fully decommissioned and rehabilitated
- A comprehensive, long-term monitoring program should be undertaken immediately in the Yukon to assess the cumulative effects of human activity on ecosystems, with a specific focus to include the effects on the Porcupine Caribou Herd. This program should be designed to be consistent with the NWT Cumulative Effects Assessment and Management Strategy and Framework and with the NWT Cumulative Impact Monitoring Program.
- Consider cumulative impacts when you consider this application.
- All efforts should be made to minimize potential for damage to the landscape. Examples include:
 - Roadways should be selected for the most resilient landscapes, with the least disturbance to vegetation.
 - Remediation should be made as quickly as possible, using native plant species.
 - If access roads must be constructed, the shorter the road the better.
- Employees and contractors should be educated to ensure they respect the wildlife they encounter.
- Employees and contractors should be required to agree not to hunt caribou in the project area.
- The project proponent should be required to work with the regional First Nation government to hire a wildlife monitor, and the monitor should have the authority to shut down project activity if the activity might affect wildlife.
- A plan to prevent or stop wildland fires should be developed.

We would like to close our submission by noting that the Porcupine Caribou Herd migrates through the traditional territories not only of Vuntut Gwitch'in First Nation and Tr'ondek Hwech'in, but also of the First Nation of Nacho Nyak Dun, Inuvialuit, and other Gwich'in First Nations in the Northwest Territories. Although these groups are represented on our Board, we do not speak for these organizations. Harvest of the Porcupine Caribou Herd is a traditional practice of these native groups since time immemorial. Although the land involved in the current project is outside some of these traditional territories, the habitat of the herd is affected. Thus, an argument can be made that the wellbeing of the herd represents valued cultural and heritage components even to First Nations whose traditional territories are far from the lands in question.

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 caribou 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