

HML Answers to Howse IRs for Newfoundland and Labrador Wildlife Division (Part 2)

IRs: 57, 70-79, and 89

CEAA 57	IN-IR-25d	5(1)(c) Aboriginal Peoples – Overall comment	6.3.4	7.4.3	<p>The Innu Nation has advised that “<i>selecting an RSA that is inclusive of the entire range of the George River Caribou Herd, which is larger than the RSA for the current use of lands and resources for traditional purposes (i.e. the proposed socio-economic RSA), suggests that the extirpation of the herd from the traditional hunting territory of the local Aboriginal populations is acceptable so long as the Herd persists somewhere throughout the Quebec-Labrador peninsula.</i>” It proposed that the regional study area for the use of lands and resources for caribou harvesting be comprised of that portion of the George River Caribou Herd range that overlaps the range of harvesting areas of the affected First Nations.</p>	<ul style="list-style-type: none"> Describe how adjusting the regional study area for the current use of lands for caribou harvesting to the portion of the caribou’s range that overlaps the range of harvesting areas of the affected First Nations would affect impact predictions (e.g. additional mitigation, significance assessment, as applicable)
<p>HML Answer</p> <p>The RSA for caribou was extended to include the entire GRCH to reflect the fact that the herd is linked across its entire range and the effects of the Howse Project (in addition to other projects considered under the cumulative effects section) on caribou could, in a worse-case scenario, have effects on the entire herd. For example, if it is found that there are calving areas in the vicinity of the Howse Project (currently not the case), the application of a herd-wide RSA would allow to consider that adverse effects on calving and/or calving areas could impact the entire herd. This approach provides, in our view, a much more thorough analysis of the effects of the project on the herd.</p>						

This approach is also more representative of the strategic assessment on the GRCH, which was a process that was welcome by several local communities, but it is a process that is under federal jurisdiction.

Caribou / Wildlife

CEAA 70	IN-IR-56	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.5.2.1.2, p.7-333	The EIS discusses the potential for the George River Caribou Herd to recover and return to the region. The proponent relies on a single personal communication to support its views that the herd is unlikely to recover during the lifetime of the proposed Project.	<ul style="list-style-type: none"> Provide additional substantiation, including peer-reviewed reference(s), if available, to support the idea that it is unlikely that the George River Caribou Herd would recover during the life of the proposed Project.
<p>HML Answer</p> <p>The last population size estimate provide in the EIS is 14,200 animals in 2014. Since then, the wildlife division has indicated to the Proponent that the herd has declined further by 30%, to 10,200 animals in 2015. An information update on the George River Caribou published in May 2015 by the Department of Environment and Conservation of the Government of Newfoundland and Labrador under the Labrador Caribou Initiative provides the most up to date and comprehensive evaluation of the George River Caribou herd. According to the document, in addition to the population size decline, the demographics of the population are so poor that they cannot support population stabilization or recovery. Indeed, survival for individuals of all ages and sexes is much lower than what is needed to sustain a caribou population (let alone promote herd recovery).</p> <p>The predicted Predicted population trends in a scenario where no hunting occurs, the projections are for herd stability over the next few years. Although the population demographic results indicate an improvement in the number of calves and males in the population, the document also states that these numbers are still far from supporting population stabilization.</p>						
CEAA 71	CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.3, page 7-221, 7-212	Although the EIS states that there are presently no caribou in the LSA, it also states that seven caribou were observed there in 2009. According to Table 7-81, 71% of LSA is suitable caribou habitat (p.7-212,	<ul style="list-style-type: none"> Provide an additional background analysis on the use of the LSA by the George River Caribou Herd historically and in the recent past, recognizing limitations on existing data. Clarify the type of habitat that the LSA provided for caribou (i.e. was the LSA

					Table 7-81). The EIS states that the Innu and Naskapi expect the caribou to return to LSA and fear that Project would modify caribou <u>migrating routes</u> . Figure 7-34 shows caribou movement around the Project site in both spring and fall. Page 7-212 states that 1.2 km ² of caribou <u>feeding habitat</u> would be affected by the Project.	historically a migratory route? Did it serve as a feeding habitat or did it support the types of vegetation or protection typically preferred by caribou? Based on Aboriginal Knowledge, during what time of the year were caribou likely to be present?).
<p>HML Answer</p> <p>Overall, the herd has exhibited little site fidelity across its entire range, with the exception of the calving areas, which are located in the vicinity of Nain, Labrador (Gov NL 2010 consultations report). Historical maps (pre-2000), show that the herd could occupy the Schefferville area throughout the year, with the exception of spring, where calving areas were located further to the northeast (VBNC 1997). As such, the Schefferville area likely served as a combination of feeding and migrating habitat for the herd prior to 2000.</p> <p>A 2010 map produced by the Wildlife Division of the government of Newfoundland and Labrador indicates that the herd's range was much more restricted at that time, at which point it did not intersect with the Schefferville area at any point during the year. It can be assumed that the herd's range shrunk as a result of the population decline.</p> <p>Source: Voisey's Bay Mine/Mill Project Environmental Impact Statement. December 1997. EIS Chapter 16: Caribou</p>						
CEAA 72	CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	Analysis p. 7-212 to 7-220	<p>The EIS states that migratory tundra caribou can avoid mining infrastructure up to 14 km and that their perception abilities reach 15 km (p. 7-212).</p> <p>Although the LSA is a 15 km radius around the Project, the EIS concludes that only 1.2 km² of caribou feeding habitat would be destroyed or severely disturbed (p. 7-219, 7-220). It is not clear on what basis the 1.2 km² figure was derived from, but</p>	<ul style="list-style-type: none"> • Provide a rationale for determining that 1.2 km² of caribou feeding habitat would be destroyed or severely disturbed, including a description of pathways of effects included in this calculation. • Provide an analysis of the full extent of caribou habitat that would be (1) directly lost and (2) indirectly affected (e.g. by noise, light, blasting) by the Project, recognizing that caribou can avoid mining infrastructure up to 14 km and that their perception abilities reach 15 km. Include effects of blasting in this discussion.

					it is presumed to be the area of direct habitat loss from the Project footprint.	<ul style="list-style-type: none"> • Calculate and present (in hectares) the full extent of caribou habitat that would be (1) directly lost and (2) indirectly affected (e.g. by noise, light, blasting) by the Project. • Present results of habitat lost/affected by the Project as a percentage of available caribou habitat in the RSA.
<p>HML Answer</p> <p>The calculation of the direct habitat loss was made using the Project footprint. As a result, the amount of direct caribou habitat loss is 1.2 km². The amount of indirect caribou habitat loss is 707 km², which is the area of the LSA, which is the area where the project is expected to have effects on caribou, which is reflective of their perceptive abilities. Within this area, it is expected that caribou will exhibit avoidance behavior of the site, which is defined as indirect habitat loss in this case.</p> <p>The population range of the GRCH spans 700 000 km² across Québec-Labrador (VBNC EIS Chapter 16). The Howse Project LSA for caribou is 707 km², representing 0.1% of the population's entire range.</p>						
CEAA 73	CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.3, page 7-221, 7-212	The EIS states that activities would cease if caribou were to be spotted within 5 km of an active pit or the processing complex and that this distance is in accordance with the range of disturbance affecting caribou.	<ul style="list-style-type: none"> • Provide a rationale for selecting 5 km as the distance from the Project that would initiate the cessation of operations if caribou were to be spotted, recognizing that literature states that effects on caribou could extend up to 15 km. Update proposed mitigation measures, if applicable. • Describe the specific "activities" that would be ceased if a caribou is spotted within 5 kilometers. • Explain how long activities would remain shut-down if caribou were observed in the area? • Explain actions that would occur if caribou were to linger in the area (i.e. would activities remain on hold indefinitely)?
<p>HML Answer</p>						

The selection of 5 km as the distance from the Project was based on general acceptance. This distance (and mitigation measure) was previously proposed under the Elross Lake Area Iron Ore Mine (ELAION) EIS, which was accepted by the provincial government (NL & Labrador) as well as the DSO4 Project 2a (Quebec & kativic commission), which was accepted with conditions. Although caribou perception extends to 15 km, the Proponent would not cease operations if caribou were spotted between 5 and 15 km from the site. Rather, the Proponent is committed to instituting surveys if caribou are detected within a 20 km radius to monitor their movements in greater detail.

If caribou is spotted within 5 km of the mining operation there we will be no blasting or hauling activities in the area. Activities will remain halted until we can confirm that the caribou has left the area and all risks have been mitigated, both to the caribou and to the mining team in the area. This situation will be handled very similar to when a bear is in the mining area. Bangers and air horns will be employed to attempt to chase the caribou out of the area. If these methods fail to encourage the caribou to leave rubber bullets will be used as a last resort.

CEAA 74	NL- Wildlife Division	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.3 page 7-221, Table 7-82	The EIS states that “blasting must be suspended in certain circumstances to avoid excessive disturbance of wildlife.”	<ul style="list-style-type: none"> Provide a rationale and discussion of the proposed mitigation measure (i.e. <i>suspending blasting in certain circumstances to avoid excessive disturbance of wildlife</i>) including providing clarification of what would be defined as “certain circumstances”, “excessive disturbance”, and “wildlife”.
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HML Answer

If caribou is spotted within 5 km of the mining operation there we will be no blasting or hauling activities in the area. Activities will remain halted until we can confirm that the caribou has left the area and all risks have been mitigated, both to the caribou and to the mining team in the area. This situation will be handled very similar to when a bear is in the mining area. Bangers and air horns will be employed to attempt to chase the caribou out of the area. If these methods fail to encourage the caribou to leave rubber bullets will be used as a last resort.

CEAA 75	NL- Wildlife Division, CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.3, page 7- 222, Table 7-82	The EIS states “where possible, operation activities will avoid areas of wildlife concentration, as traffic would disturb wildlife during critical periods.” There is insufficient information to understand the circumstances where areas would be avoided and when they would not be avoided. It is not possible	<ul style="list-style-type: none"> Provide a rationale and discussion of the proposed mitigation measure (i.e. <i>having operations activities avoid areas of wildlife concentration where possible during critical periods</i>) including: <ol style="list-style-type: none"> describe the circumstances where avoiding areas of wildlife concentrations would not be possible and the potential effects that would occur;
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					<p>to understand the potential for effects without additional information.</p> <p>The Wildlife Division (Newfoundland and Labrador) has also advised that given caribou have not been observed in the area in over 5 years, impacts are not likely to occur. However, if caribou are observed in the area, operations should avoid these areas until caribou have moved away. Activities that may be permitted should be outlined in an EPP approved by the NL Wildlife Division.</p>	<ol style="list-style-type: none"> 2. describe the distance at which Project activities would avoid areas of wildlife concentrations; explain how the distance was established to address effects; 3. describe which Project “activities” are included in the proposed mitigation measure (i.e. how were activities selected in order to mitigate effects on wildlife?); 4. explain how “wildlife concentrations” are defined; and 5. identify which wildlife species are included in the proposed mitigation measure (i.e. caribou only? other species?).
<p>HML Answer</p> <ol style="list-style-type: none"> 1. The proponent does not envisage any circumstance where avoiding areas of wildlife concentrations would not be possible; 2. If caribou is spotted within 5 km of the mining operation there we will be no blasting or hauling activities in the area. Activities will remain halted until we can confirm that the caribou has left the area and all risks have been mitigated, both to the caribou and to the mining team in the area. This situation will be handled very similar to when a bear is in the mining area. Bangers and air horns will be employed to attempt to chase the caribou out of the area. If these methods fail to encourage the caribou to leave rubber bullets will be used as a last resort. This distance is in accordance with the range of disturbance affecting caribou that is presented for the site Construction phase; 3. Blasting or hauling activities in the area will cease. These activities cause the most noise and so it is expected that their cessation would reduce the most amount of noise from the mine site rapidly; 4. In the case of caribou, a single animal will trigger this mitigation measure; 5. These measures will be applied to Caribou and Bear, as described in the Proponent’s EPP document (Appendix 1a). 						
CEAA 76	NL – Wildlife Division	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.3, page 7-222, Table 7-82	The EIS states “ <i>Under an agreement with the Ungava project and CARMA, TSMC’s Environmental Specialist / Permit Manager will be notified when migratory tundra caribou, which are monitored via satellite collars, come within 100 km of the Howse Project.</i>	<ul style="list-style-type: none"> • Provide a rationale and discussion of proposed mitigation measures related to caribou including: <ol style="list-style-type: none"> a. Explain how many collars would be accessed through the agreement with the Ungava project and CARMA.

				<p><i>Upon receipt of such a notice, operations will continue with caution. If data from the radio collars indicate that some of the caribou have moved to within 20 km of the Howse Project, TSMC will institute surveys within that radius to monitor their movements in greater detail."</i></p> <p>It is not clear how many collars are accessed through the agreement with the Ungava project and CARMA.</p> <p>In addition, the EIS includes only limited information on the course of action that would be taken should caribou move into the area.</p> <p>The Wildlife Division (Newfoundland and Labrador) has recommended that the proponent provide it with an annual report including caribou locational data provided to the company to demonstrate that caribou have not been within the project footprint.</p> <p>If caribou do move into the area (i.e. within 20 km), the Wildlife Division has advised that it should be contacted to determine next steps and reporting mechanisms.</p> <p>If, through the monitoring of telemetry data, it is found that caribou have moved within 20 km of the Howse Project, the Wildlife Division (Newfoundland and Labrador) has recommended that it be contacted within 24 hours (if caribou move closer to operations, contact the Wildlife division immediately). In addition, if caribou are within 20 km</p>	<ul style="list-style-type: none"> b. State whether- and under what circumstances existing telemetry information would be augmented (e.g. by purchasing, deploying and/or maintaining additional collars). c. Describe plans for reporting on locational caribou data including: what would be reported on, who the information would be provided to, and how often reporting would occur. d. Propose a reporting scheme, in the case that caribou move into the area. e. Provide a description of surveys that would be conducted, if caribou move within 20 km of the Project. Clarify whether surveys would be conducted by TSMC or the proponent. f. Describe the circumstances under which additional mitigation measures (adaptive management) would be implemented. g. Describe specific adaptive management actions (i.e. mitigation measures) that could be taken to minimize disturbance to caribou and current use.
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					of the Project, the Wildlife Division (Newfoundland and Labrador) recommended that the proponent augment telemetry information by deploying and/or maintaining additional collars to assist monitoring efforts and inform the development of additional mitigation, exact number to be determined by the Wildlife Division.	
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HML Answer

- a. Caribou are being monitored for HML under an agreement between TSMC and the Ungava project and CARMA. The Proponent does not know exactly how many animals from the GRCH have been collared under the UNGAVA research Program. The Government of Newfoundland and Labrador, itself a partner in the UNGAVA Program, may be aware of these numbers.

- b. The decision to purchase more collars will be joint between all the partners in the UNGAVA program.

- c. If monitoring data from the radio collars indicate that some of the caribou have moved to within 20 km of the Howse Project, TSMC will institute surveys within that radius to monitor their movements in greater detail. Survey details will be evaluated during the early years of operation. Initially, preference will be given to fixed-point observations along high ground areas adjacent to the Howse Project activity sites and to snowmobile- and ATV-based searches by members of the local First Nations hired by HML, with instructions to avoid disturbing the animals. It is expected that the inclusion of Aboriginal people's help will benefit from the knowledge about the movements of caribou in the area. If ground-based surveys do not prove to be useful or feasible, HML will initiate aerial surveys. Special care will be taken at all times not to interfere with the activities of First Nation hunters. The data collected during the surveys (number, age and sex; location of sightings; topography of sighting location) will be communicated frequently to the authorities concerned, who will be asked for advice with respect to the course of action to be followed, the overall goal being to reduce nuisance. Propose a reporting scheme, in the case that caribou move into the area.

- d. See answer c) above
- e. See answer c) above
- f. See section 7.4.3.3 of EIS document

CEAA 77	NL – Wildlife Division, CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	9.2.2 Follow-up	<p>The EIS suggests that caribou surveys will include fixed-point observations and ATV-based searches. It states that “<i>if ground-based surveys do not prove to be useful or feasible, HML will initiate aerial surveys.</i>”</p> <p>Ground based caribou surveys are generally not useful to inform mitigation measures or monitoring programs. Rather, aerial surveys conducted in winter provide more useful information.</p>	<ul style="list-style-type: none"> • Provide information on the caribou monitoring program, including whether aerial surveys would be conducted in winter months and how frequently these surveys would occur.
<p>HML Answer</p> <p>Caribou are being monitored for HML under an agreement between TSMC and the Ungava project and CARMA. This monitoring consists of telemetric data currently available from the CARMA program. Under this program, HML’s Environmental Specialist / Permit Manager will be notified when migratory tundra caribou venture within 100 km of the Howse Project. Upon receipt of such a notice, operations will continue with caution. If monitoring data from the radio collars indicate that some of the caribou have moved to within 20 km of the Howse Project, TSMC will institute surveys within that radius to monitor their movements in greater detail.</p> <p>The Proponent is amenable to conducting aerial surveys of caribou, as requested. The data collected during the surveys (number, age and sex; location of sightings; topography of sighting location) will be communicated frequently to the authorities concerned, who will be asked for advice with respect to the course of action to be followed, the overall goal being to reduce nuisance.</p>						
CEAA 78	CEAA	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	7.4.3.4 p. 7-225	<p>In concluding on the magnitude of effects on caribou, the EIS states that interactions between the Project and caribou could cause behavioral changes and site avoidance, which could in turn lead to delayed effects, such as predator-prey interactions, leading to population-wide effects. It further states that effects are impossible to predict, much less</p>	<ul style="list-style-type: none"> • Provide an analysis of potential change in predator-prey interactions as a result of the Project, and how this would affect the effects analysis of current use of lands and resources by Indigenous Peoples. • Clarify the conclusions related to the <i>magnitude</i> and significance determination based on the information provided.

					<p>quantify. It concludes that effects of the Howse Project will therefore be at the individual level.</p> <p>This is the first and only time predator-prey interactions are discussed in the caribou section. There is no correlation between the statement that population-wide effects could occur and the final conclusion of effects at the individual level.</p>	
<p>HML Answer</p> <p>The statement about predator-prey interactions was included in the EIS because it is a possible eventual effect of the project on the GRCH. However, much like climate change effects can be inferred but not predicted, alterations in predator-prey interactions are a long-term and indirect effect that cannot be predicted. Rather, changes to predator-prey interactions, if they occur, will be identified via close monitoring, and the Proponent suggest that the Labrador Caribou Initiative is in the best position to identify this effect, if it occurs, in the future. The second phase of the Caribou Ungava program (2015-2020) will focus on the ecology of the caribou's main predators (grey wolf and black bear).</p> <p>The conclusion of the magnitude of the effect of the Project on caribou remains the same, as the effects of predator-prey interactions, nor their likelihood, cannot be predicted.</p>						
CEAA 79		Species At Risk Act, s.79	6.3.3	7.4.6	No effects analysis was provided on the Little Brown Bat, yet it is possible the species is present in the region of the Project and could interact with the Project.	<ul style="list-style-type: none"> Describe the potential effects of the Project on the Little Brown Bat (e.g. destruction/modification of hibernacula and roosts, loss of foraging habitat, noise, light, vibration, spread of white-nose syndrome by entering habitat) and associated rationale to support the assertion that general avoidance would be sufficient to mitigate these effects. Explain whether or not there would be residual effects following mitigation measures.
<p>HML Answer:</p>						

As stated in the Howse EIS' the species was not confirmed during any of the surveys conducted in the vicinity or the Howse EIS, where an attempt was made to identify roosting and hibernacula. Indeed, the Government of Newfoundland and Labrador indicates that Schefferville is at the northern edge of this species' range.

Broders et al. (2013) collected baseline data on the presence of the Little Brown Bat in Labrador and results suggest that occurrences of the little Brown Bat in Labrador are limited by the presence of appropriate habitat, which consists of productive forests with commercial value. The authors conclude therefore that the Little Brown Bat rely on human occupations for habitat in Labrador. Given the lack of commercial forests in the Howse Project area, we therefore also conclude that the Little Brown Bat would occupy human dwellings. Here, it would be susceptible to white-noise syndrome, which is spreading across Canada. However, it is possible that the extreme cold winters in Schefferville prevent white-noise syndrome from spreading. The Howse Project would have no effect on Little Brown Bat habitat as defined by Broders et al. (2013).

Source: Broders Hugh G., Burns, L.E and McCarthy S.C. 2013. First records of the Northern Myotis (*Myotis spetentrionalis*) from Labrador and summer distribution records and biology of Little Brown Bats (*Myotis lucifugus*) in southern Labrador. *The Canadian Field Naturalist* (127): 266-269