

Howse Property EIS

Proponent final responses to CEEA IRs: 20, 58, 68, 79-83, 96 and 102

CEAA 20, Round 1, Part 2	HC-IR-26	5(1)(a)(i) Fish and Fish Habitat	6.3.5	<p>In response to CEEA 20 (Round 1-Part 2), the proponent did not provide the information requested regarding the types of activities conducted by Indigenous Peoples on Kauteitnat (Irony Mountain). In order to assess the effects to current use of lands and physical and cultural heritage due to noise, the following are required: an adequate baseline information for use of Kauteitnat, a description of potential effects to that use as a result of the Project (including avoidance), and clear commitments to mitigation measures that would be implemented for effects to this use.</p> <p>Furthermore, the proponent indicated that “visits to Irony Mountain are infrequent: they are limited to Summer, maximum once or twice per year, for a half-day outing at a time. The Proponent does not feel that additional mitigation measures are needed for this component.” It is recommended that the Agency’s <i>Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the Canadian Environmental Assessment Act, 2012</i> be followed. The Technical Guidance states that uses that may have ceased due to external factors should also be considered if they can reasonably be expected to resume once conditions change.</p>	<p>Describe the types of traditional activities that are expected to occur at Kauteitnat (e.g. prayers, gathering, other ceremonies) where loud noises would be disruptive to those traditional activities. Include the source of this information and a discussion of the appropriateness of using provincial Guidelines and Health Canada’s % change in highly annoyed (HA) to evaluate the acceptability of noise levels for the types of uses provided.</p> <p>Consider the the Agency’s <i>Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the Canadian Environmental Assessment Act, 2012</i> which states that uses that may have ceased due to external factors should be considered if they can reasonably be expected to resume once conditions change. If this applies the uses of Kauteitnat, revise the effects assessment for the current use and physical and cultural heritage VCs.</p> <p>Consider the following mitigation measure: to work with the Indigenous communities and adapt on-site work schedules to address effects from activities, such as noise, to accommodate visits to Irony Mountain. Comment on whether such a measure could form part of the suite of mitigation measures in assessing effects to current use and to physical and cultural heritage.</p>
	CEAA	5(1)(a)(iii) Migratory Birds	6.3.1		
		5(1)(b) Federal Lands /Transboundary	6.3.2		
		5(1)(c)(i) Aboriginal Peoples Health/ socio-economic conditions			
		5(1)(c)(ii) physical and cultural heritage			
		5(1)(c)(iii) the current use of lands and resources for traditional purposes			

HML Response

Previous studies indicated a rather intensive use of this area by local land-users (Clément, 2009; Weiler 2009), and TSMC found it necessary to obtain more precise information regarding harvesting practices specific to the proposed Howse Project location. Accordingly, the Howse Project study’s purpose was to identify the current land-use and harvesting practices that are carried out in the vicinity of the Howse Project proposed site. Participants in the study were Innu from NIMLJ and ITUM, and the NNK. The participatory mapping approach and methodology are described in Volume 2 Supporting Study D, as well as the historical land occupation of both the Innu and the Naskapi.

The information below originates from the Howse EIS and from STUDY ON LAND AND RESOURCE USE BY THE INNU AND NASKAPI (Volume 2, Supporting Study C) conducted for the Howse EIS.

Baseline information for use of Kauteitnat

Innu use

Kauteitnat, or “heart-shaped mountain”, is an important topographic centre for the Matimekush–Lac John and Uashat mak Mani-Utenam Innu. This mountain and its surroundings contain all of the attributes and advantages required for Innu-Aitun practices. The mountain itself constitutes an ecosystem that protects all its elements (Innu elder). Its morphology and the fact that it is elevated are signs of importance for the Innu and the elders in particular. It reaches an elevation of 3,000 feet, which is rather modest when compared to other mountains, and users can easily reach its peak. It is located in relatively flat terrain and is surrounded by water bodies with abundant resources. Innu informants seemed to agree that if this mountain retains its natural integrity, the project can go forward, provided the company can provide assurances to that effect (Volume 2, Supporting Study C). Kauteitnat belongs to all Innu and inspires the practice of rites of thanks for the benefits it provides. This makes it a sacred mountain that must be appreciated and protected.

This mountain is an important topographic landmark for Innus of Matimekush-Lac John and it is an important symbol in Innu culture. The mountain has always been an important observation hill for locating caribou and other species, as Kauteitnat used to be a part of the caribou migration route. Herds that originated from the southwest would stop there in the fall, and some small, scattered groups of caribou even stayed near the site until late winter. Innu would head toward the summit to get a better view of the approaching caribou in the fall or spot the dispersed groups in winter. The Kauteitnat-caribou relationship is very revealing of Innu hunting habits and constitutes a survival myth, which is the necessity of such a relationship as a major cultural symbol for this Innu group. Kauteitnat was also used as a point of orientation for hunters, who relied on this mountain to find their routes and their way.

The above portrayal of the use of the study area and the harvesting of resources is clouded by the absence of caribou, which is the primary resource for Innu-Aitun practices. Furthermore, this resource is being replaced by a more active harvesting of other resources. The situation varies, but users still show their interest in using this area, even in a fragmented manner, and in practicing their traditional activities. Informants have stated that there are sites where young students are brought to learn about traditional life and learn basic practices and harvesting techniques. This shows a concern about the necessity of transmitting this way of life and its characteristics. It is also worth noting that the elders are no longer active in the study area; they go farther afield and spend longer periods of time on their lands. The study area is thus used as a passageway to other harvesting areas.

Naskapi Use

Much of the Naskapi’s harvesting activities are carried out in the vicinity of Lake Attikamagen and Swampy Bay, as well as the Kauteitnat, Goodwood and Greenbush areas. Kauteitnat is also an important landmark for the Naskapi, and they practice more or less the same harvesting activities as the Innu on the territory (on Kauteitnat and surrounding area): caribou hunting, waterfowl hunting, trapping, fishing, small game hunting, and plant harvesting.

Naskapi used to hunt the George River caribou herd in groups on the western side of Kauteitnat. The recent scarcity of the species has had an effect on the Naskapis’ lifestyle and they now have to go north to hunt caribou, which is costlier. The local population is also prevented from passing on the cultural knowledge that is associated to the caribou.

Blueberries, bog bilberries and raspberries are gathered by the Naskapi at the edge of Kauteitnat, mainly in the summer. Black crowberries and cloudberries are harvested in bogs. Alpine cranberries are the main harvest in fall, on Kauteitnat Mountain. Many now refrain from harvesting in the study area or part of it, because of the dust generated by mining operations.

Summary of types of traditional activities that are expected to occur at Kauteitnat:

Camping and harvesting activities take place around Kauteitnat, especially towards Rosemary Lake. Few activities take place on Kauteitnat, except perhaps for occasional berry or plant harvesting, or occasional hiking.

- Berry collection in summer (Howse EIS document)
- Alpine cranberries in fall (Howse EIS document)
- Informants have stated that there are sites where young students are brought to learn about traditional life and learn basic practices and harvesting techniques (Volume 2, Supporting Study C)
- There was no mention during the consultations of spiritual activities or rituals taking place on Kauteitnat (Howse EIS document)

Description of potential effects to that use as a result of the Project (including avoidance)

The landscape surrounding Kauteitnat will permanently change with the mining of the open pit, located less than 1 km from the foot of the mountain. However, Kauteitnat as a landmark will remain the same, as the mountain itself will not be affected by the Project, but the cultural symbol that is Kauteitnat will be affected.

The renewal of mining activities in the study area over the last five years has had an effect on the Matimekush–Lac John Innu, who are its primary users. This area is serviced by old roads from mining that took place between 1950 and 1980.

The Howse Project will occur within a large mining complex which is heavily disturbed by historical mining operations, which have resulted in avoidance of the area for several years. Consequently, recreational land use activities are scant in the immediate area. This was confirmed by a country food assessment and survey conducted by HML for the Howse Project (Volume 2 Supporting Study D). Further to these past effects, the Howse Mining Project is expected to have the following effects on use of lands (Kauteitnat) and resources for traditional purposes:

Effects of dust

Perceived effects of dust generated by mining projects on resource quality, the environment, and health were concerns raised by local stakeholders. Dust will affect use of Kauteitnat insofar as it is perceived as having detrimental consequences to the quality of the resources (i.e. berry harvesting). These perceived effects will likely result in avoidance of the site.

Although it is acknowledged that dust settling on vegetation may deter some local land users from traditional activities (namely collecting medicinal plants and berries), a Human Health Risk Assessment (Volume 2 Supporting Study D) confirms that the risk of contamination to country foods associated with the Howse activities is also very low. As such, the effect of the Howse Project on any of the few recreational land use activities that occur in the Howse Project area will be negligible.

Effects of noise

Noise and/or vibration were mentioned six times during Aboriginal consultations in 2015. Although none of these concerns expressed a direct link between Irony Mountain and noise, the following concerns can be inferred to imply an effect on Kauteitnat:

- effects of noise made by helicopters, planes, train, trucks and blasting on resources, which leave the area was mentioned as an issue;
- the impacts of vibrations are a preoccupation;
- noise from machinery is a source of disturbance; and
- noise can be heard from far away and it drives the animals away.

The effects assessment of noise on different sensitive areas, including Irony Mountain, adopted an exceedance criterion of 5dB as the threshold for noise mitigation investigation. Day-time future noise levels indicate an impact of 4.7 and 2.8 DBA for day and nighttime noise levels at Irony Mountain, respectively. Further, the % change in highly annoyed percentage for Irony Mountain is 0.47%, well below the 6.5% set threshold.

Blasting at the Howse Property will occur approximately once per week during summer and infrequently during winter (the Proponent will blast infrequently in winter, and only if frozen ground or hard rock are encountered during winter overburden removal). HML will ensure that land users will continuously have access to harvesting grounds except for periods of blasting. As such, blasting events will prevent access to Irony mountain.

Discussion of the appropriateness of using provincial Guidelines and Health Canada's % change in HA to evaluate the acceptability of noise levels for the types of uses provided:

As for ceremonial sites, unless a specific local criterion exists, we can only take what we have from other jurisdictions. Typically, ceremonial sites such as places of worship get classified as noise sensitive institutional buildings/structures, and are treated in the same manner as residential noise sensitive land use (which is typically places where people sleep). In some jurisdictions where the places of worship are located on commercially zoned lands, they are not considered noise sensitive (not applicable in this project). Typically, locations such as graveyards are not considered noise sensitive.

Noise sensitive locations identified in the Howse EIS were addressed in the same manner, except for the locations within Quebec, which has its own noise guidelines for stationary noise sources.

Effects to access

The roads built by IOCC in the study area are used by Innu for their traditional activities. The road that goes from Kauteitnat to Howells River is used frequently. Pick-up trucks are the most used mean of transportation, while ATVs, ski-doods and canoes are also complementary vehicles. The settling of long-term camps in the study area is random because most users now travel for short-term specific resource harvesting, and access by road allows them to come and go in a day by their own means. Most permanent camps are farther away and most of the existing camps in the study area are now used for day or short-term hunting and fishing trips.

Currently, the Innu are required to abide by the security gate for the DSO project and stricter security standards. The potential effects associated with the Project activities during the operation phase for access to Kauteitnat will be the destruction of the access road to Kauteitnat, and the alteration of the landscape around Kauteitnat. Further, access to Kauteitnat will be longer, by 16 km, since the Proponent has made the final decision to maintain the bypass road that passes via Greenbush.

Clear commitments to mitigation measures that would be implemented for effects to this use on Kauteitnat

Anticipated affects of Howse Property Project on Kauteitnat	HML Commitments and mitigation measures	Effects of commitments and mitigation measures
<p>Dust Increase dust du to truck traffic</p>	<p>In 2016, the Proponent implemented a policy which restricts 90% of its vehicles from travelling to Schefferville. Of those 10% with special authorization to travel to Schefferville, they do so to go to the airport (which does not pass through the center of town) or in the course of the work of environmental technicians or for logistical purposes. More vehicles will travel, occasionally, during shift changes (1 day every 2 weeks).</p> <p>The Proponent will continue this policy throughout the Howse Property Project Operations phase.</p>	<p>It can be logically assumed that this mitigation measure reduces the dust incurred by vehicles travelling to and from the site by approximately 90%.</p>
<p>Noise Day and night noise levels under the 'no blasts' scenario are not expected to cross %HA thresholds. During blast events (once per week in summer and infrequently in winter), land users will not have access to Kauteitnat.</p>	<ul style="list-style-type: none"> ▪ HML will announce on the local radio stations blasting activities two days ahead of time; and ▪ HML will collaborate with local groups, via the HSE Committee, and adapt its mining activities to minimize the effects on traditional activities. 	<ul style="list-style-type: none"> ▪ There will be no blasting when Indigenous groups are using Kauteitnat. Knowledge of upcoming blasting events 2 days in advance should help to plan activities around Kauteitnat; and ▪ Indigenous groups can practice their traditional activities on Kauteitnat in a noise-free environment.
<p>Access</p>	<p>The Proponent will maintain the Greenbush bypass road and is committed to its maintenance bi-annually in order to continue to accommodate First Nation's access to the land</p>	<p>Access to Kauteitnat will be possible, with limitations.</p>

The Proponent would like to clarify:

The Proponent holds HSE meeting 3-4 times annually. During these meetings, local people's opinions are solicited and requests are accommodated, when possible. These meetings are a good time to request dates when blasting/noise should be avoided to accommodate activities on Kauteitnat.

CEAA 57, Round 1, Part 2	IN-IR-25d	5(1)(c) Aboriginal Peoples – Overall comment	6.3.4	<p>The proponent has not provided an adequate rationale for the spatial scoping of the current use VC (s. 5(1)(c)(iii) of CEAA 2012). As captured in CEAA 57 (Round 1 – Part 2), the Innu Nation 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> The Innu Nation proposed that the regional study area for current use, in particular</p>	<p>Describe how adjusting the regional study area for current use to focus on the portion of the caribou's range that overlaps the range of Indigenous harvesting areas could change effects analysis and predictions. Confirm whether any additional mitigation will be implemented as a result of the analysis, and provide an updated significance assessment, as applicable. Refer to <i>Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the Canadian Environmental Assessment Act, 2012</i> for guidance.</p>
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HML Answer

Adjusting the study area

First, it is important to note that the George River Caribou Herd (GRCH) range was used as an RSA for the assessment of the caribou and its habitat (see 7.4.3.1 p. 7-212). This was done in order to consider the entire annual life cycle and the different region used to complete it.

The RSA for all socioeconomic components includes Labrador West (Labrador City and Wabush) and the City of Sept-Îles, and Uashat and Mani-Utenam. But as mentioned in section 7.52.1.1 (p 7-321) concerning the RSA for Land-Use Practices: "The RSA has not been considered for this component as Project effects will be felt locally". Only the LSA was considered for land-use practices.

Subsistence and Traditional Caribou Hunting have thus been assessed only in the LSA, which consider the portion of the GRCH Herd range that overlaps the range of harvesting areas.

Adjusting the size of the study area won't change a series of facts that were presented in the EIS and in the first round of question, that are now updated with new information on the GRCH:

- There is a serious decrease in the size of the population that began in the late 90's and accelerated around 2001:
 - 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 (excerpt from answer to CEAA70).;
 - GNL's Environment and Conservation issued a statement in August 2016 that the size of the herd has further decreased to 8, 938 animals based on a July 2016 survey;
- This statement also states that: "This long-term decline has been attributed to deterioration in habitat conditions, food resources, predation and climate change";
- There is a hunting ban on caribou from the GRCH herd that will be maintained for the foreseeable future;
- The current areas used by the GRCH are located far from the traditional hunting grounds (see map below, first presented in answer to CEAA 82). It is using less and less territory, the herd is wintering near the coast, close to their calving ground;
- Caribou, which have been absent from the area for several years, and so are not harvested, are not likely to return to the area naturally (e.g. their population is not expected to stabilize in the near future) nor will they return as a result of the habitat disruption from the Project. (Answer to CEAA 55);
- Furthermore, GNL's Environment and Conservation statement says that: "At the current rate of decline and without immediate cessation of illegal hunting, biologists predict this herd could become functionally extirpated in less than five years, meaning that the herd will become so small it will essentially lose its capacity to recover."
- The GNL issued a statement about current winter hunting (winter 2017), stating that the hunting ban is essential to the survival of the herd.

No further analysis will thus be provided concerning Subsistence and Traditional Caribou Hunting.

No additional mitigation measures will be provided. Specific mitigation measures were presented in the EIS, see 7.5.2.3.1 (p. 7-331).

Consideration of external factors

Historically, the GRCH has had similar population cycles of rapid increase followed by drastic declines. It has been reported that the GRCH had a sharp decrease in the beginning of the 20th century that lasted through the first half of the century. A population survey in 1950 estimated that the herd had about 3,500 individuals (Jean and Lamontagne, 2004). There was an increase in the population through the second half. In the 80's and 90's, when the herd population was at its highest, deterioration of the fitness of individuals

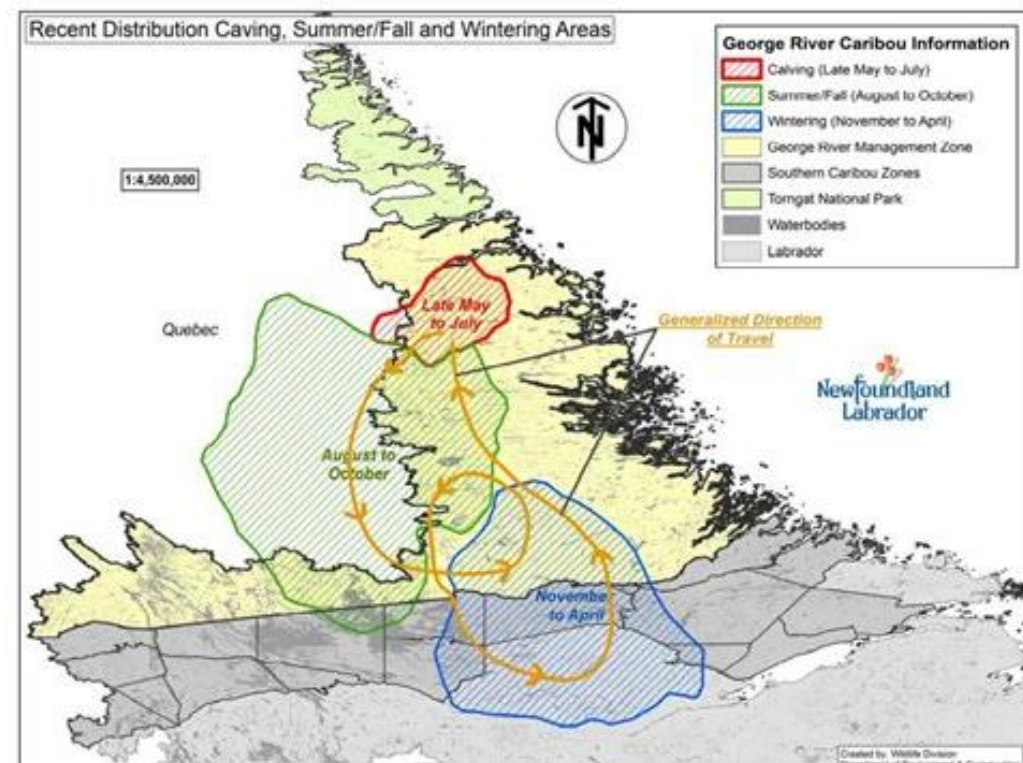
as well as several demographic indices (such as pregnancy rates), gave indications of a stabilization of the population and/or early signs of decrease. The deterioration of the calving grounds due to overgrazing induced a shift in the location of calving grounds, but also a decrease of female fitness. Further, wintering habitat use by caribou is density-dependent. When herd population numbers were high, there may be higher dispersion and thus a bigger range, in order to ensure that individuals have access to sufficient lichen. Wintering habitat may not be used two years in a row to ensure a sufficient intake in lichen.

A lack of sufficient food in the calving and summer area may also have caused early migration and a higher dispersion during fall and winter.

Climatic conditions can also affect survival and disrupt the timing and the length of the migration. For example, an early spring may delay migration because of an early thaw and cause more death due to poor ice cover. Early snow may also shorten the fall migration since it is more energetically costly.

Predation, especially on calving ground, can also affect population density, especially when the size of the herd is small.

It is thus impossible to consider every external factor that affects the presence of caribou in the LSA. There are too many factors that have caused a decrease in the population size and its frequentation of the Schefferville area that it would only be speculation rather than a scientific analysis. It took the GRCH over 40 years to recover from the last population crash. As mentioned above, these factors included a combination of deterioration in habitat conditions, food resources, predation, climate change and illegal hunting. It is impossible to determine how and when these conditions will change.



Source: http://www.env.gov.nl.ca/env/wildlife/pdf/GRCH_2010_Consultations.pdf. Accessed August 2016

References:

Couturier, S., D. Jean, R. Otto and S. Rivard. 2004. Démographie des troupeaux de caribous migrateurs-toundriques (Rangifer tarandus) au Nord-du-Québec et au Labrador. Ministère des Ressources naturelles, de la Faune et des Parcs, Direction de l'aménagement de la faune du Nord-du-Québec, Direction de la recherche sur la faune. Québec, QC.

GNL Environment and Conservation (2017) News release <http://www.releases.gov.nl.ca/releases/2017/env/0202n03.aspx>. Accessed February 2017.

GNL Environment and Conservation (2016) News release <http://www.releases.gov.nl.ca/releases/2016/ecc/0829n02.aspx>. Accessed January 2017.

Jean, D. et G. Lamontagne (2004) Plan de gestion du caribou (Rangifer tarandus) dans la région Nord-du-Québec 2004-2010. Ministère des Ressources naturelles et de la Faune – Secteur Faune Québec, Direction de l'aménagement de la faune du Nord-du-Québec. 86 p.

Schmelzer, I and R. Otto (2001) Winter range drift in the George River Caribou Herd: a response to summer forage limitation? Rangifer Special Issue No. 14:113-122.

Taillon, J., Festa-Bianchet, M. Côté, S. D. (2012) Shifting targets in the tundra: Protection of migratory caribou calving grounds must account for spatial changes over time. Biological Conservation 147: 163–173

Vincent Le Corre, M. R. (2016) Influence du climat, de la disponibilité des ressources et de la taille des populations sur la phénologie et les patrons de migration du caribou migrateur, Rangifer tarandus. Thèse de doctorat en biologie, université Laval, 165 p.

<p>CEAA 58, Round 1, Part 2</p>	<p>IN-IR 10</p>	<p>5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes</p>	<p>6.3.4</p>	<p>Current use of lands and resources need to be assessed, as required in 5(1)(c)(iii) of CEAA 2012. As captured in CEAA 58 (Round 1-Part 2), Innu Nation indicated that short of conducting a modern study of Innu Nation land use, which was not undertaken for the environmental assessment, the nature and degree of historic or current Innu Nation land use in the region surrounding the proposed Project cannot be determined with confidence.</p>	<p>Provide a discussion on the gaps or uncertainties in information provided regarding the nature and degree of historic or current Innu Nation land use, as raised by Innu Nation, and others, if applicable.</p> <p>Describe how potential gaps/uncertainties were addressed in the assessment, or provide additional analysis, including mitigation measures, to strengthen the assessment of potential effects of the Project on Innu Nation's land use. Alternatively, update the land use study to include all Indigenous groups.</p>
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HML Answer

The proponent would like to clarify that Volume 2, Supporting Study C of the Howse Property EIS presents a 107-page Study on Land and Resource Use by the Innu and Naskapi, which was completed for the Howse Property Iron Ore Project in 2014. The objectives of the study were to:

- 1) Identify current and past parameters relating to the land and use of the study area and its resources by the two Innu groups (Matimekush–Lac John and Uashat mak Mani-Utenam) and the Kawawachikamach group.
- 2) Compile a range of data on aspects such as toponymy, ecology, hunting and fishing, as they are named and assessed by the groups.
- 3) Understand the concerns of Innu and Naskapi users with respect to the components of the Howse Project and their potential effects on traditional activities and community life.

To gather information, the report used interviews and literature research and describes past (1900-present) and present land use. The literature research also included a review of previous studies carried out in the context of nearby DSO Projects (Clément 2009; Weiler 2009), which affect the same groups.

The report states that there may be uncertainty in the information on traditional activities practiced by elder informants who do not go to the study area frequently, but have perceptual knowledge of its current use and can share their prior knowledge of the area, which spans several decades. These elders recommended that we meet with younger users of the study area as they are more active there. Further, the segmentation of user groups into three categories (trapline holders, those affected by projects effects on a daily basis and the Naskapi who hold treaty rights) makes it very difficult to standardize the interviews into a single, uniform user profile and to draw different conclusions than those reached by previous studies conducted for other projects. Each user segment has its own interests: the people of Matimekush–Lac John claim that mining project effects affect their daily lives: those from Uashat mak Mani-Utenam are concerned about their traplines and the Naskapi worry about the joining of government-regulated interests with the non-government regulated lands of Labrador.

A number of studies (two Aboriginal traditional knowledge (ATK) studies linked to two impact statements) have been conducted in recent years and, although in high demand, ended up indicating similar concerns in the same areas. Stakeholder fatigue has proved to be a significant constraint. The length of the interviews, considering the amount of information being sought, also proved problematic, undoubtedly due to limited time and available manpower.

In addition to Appendix C, the proponent used information collected during a second round of surveys – conducted in summer 2015 – which aimed to obtain information on country food consumption. The survey included questions on the types of country foods consumed, including the timing and location.

As stated in the Howse Property EIS, the Proponent feels that the existing data provides a recent and exhaustive overview of the land use component.

Sources:

Clément, D. (2009) Innu Use of the Territory and Knowledge of its Resources. New Millennium Capital Corps, Direct Shipping Ore Project. Environment Impact Statement Supporting Study May 2009

Clément, D. (2009) L'utilisation innue du territoire et la connaissance de ses ressources II, NMC Corp, décembre 2009, 111 pages

Weiler, M. (2009) Naskapi Land Use in the Schefferville, Québec, Region. Reports 1 (January 2009) and 2 (December 2009). Final Reports presented to New Millennium Capital Corp

Weiler, M. (2009) Naskapi Land Use in the Schefferville, Quebec Region Report II, NMC Corp, December 2009, 55 pages

CEAA 68 Round 1, Part 2	IN-IR-14	5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes	6.3.4	As captured in CEAA 68 (Round 1 – Part 2), the Innu Nation requests that Indigenous Traditional Knowledge and land use information be continually updated in consultation with Indigenous Peoples. The proponent did not address how Indigenous Traditional Knowledge and land use information will be revised, as appropriate, in follow-up and monitoring programs, so as to verify the accuracy of impacts and effectiveness of mitigation.	Describe whether and how Indigenous Traditional Knowledge and land use information would be updated on an ongoing basis to inform the follow-up and monitoring programs to ensure environmental effects, including effects on Indigenous Peoples, are accurately captured.
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HML Answer

During Health and Safety Committee meetings (held 3-4 per year) Indigenous Traditional Knowledge is solicited and added to monitoring programs. The environmental monitoring plan is updated annually and is based on analytical results from monitoring programs (all components) and any other information (e.g. ATK), that it receives.

An IBA agreement between the Proponent and Indigenous groups has the following highlights:

The Proponent agrees to give full and fair consideration and to incorporate traditional knowledge in its Project planning, design and implementation of the Howse Mining Project. To do so, the Proponent is committed to hearing recommendations about further studies concerning the need for and design of such studies, and even fund some if they are relevant, new and at reasonable cost. The Proponent is also committed to consider traditional knowledge alongside scientific knowledge.

AND

Environmental Monitoring

In its environmental monitoring plan, the Proponent shall consult the indigenous communities with respect to its preparation. The plan will evaluate environmental effects and results as well as effects that are of special interest to the Indigenous communities. The plan will also be reviewed periodically and make recommendations with an emphasis on those Environmental Effects that are of special interest to Indigenous communities. The Proponent will deliver monitoring data in appropriate time frame and formats so that the accuracy of the environmental assessment of the Project can be evaluated. The Plan will be designed to determine the effectiveness of measures taken to mitigate the Environmental Effects, to establish or confirm thresholds or early warning signs and to trigger adaptive management measures where appropriate.

Further, the Proponent is committed to include the meaningful involvement and active participation of Indigenous communities in the implementation of the monitoring programs, including a minimum of two members as part of the personnel conducting monitoring fieldwork and such additional members as may be justified based on relevant qualifications, experience or aptitude. The Proponent is also committed to providing training opportunities for Indigenous people in the field of environmental monitoring, including in fields requiring specialization.

CEAA 79, Round 1, Part 2	CEAA	Species At Risk Act, s.79	6.3.3	In the response to CEAA 79 (Round 1, Part 2), the proponent did not provide the requested information with respect to the Little Brown Bat, a Species at Risk. 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.	Describe the potential effects of the Project on the Little Brown Bat taking into consideration effects pathways such as destruction/modification of hibernacula and roosts, loss of foraging habitat, noise, light, vibration, and spread of white-nose syndrome by entering habitat. Provide rationale to support the assertion that general avoidance would be sufficient to mitigate these effects, or propose additional mitigation measures. Describe the residual effects following mitigation measures.
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HML Answer

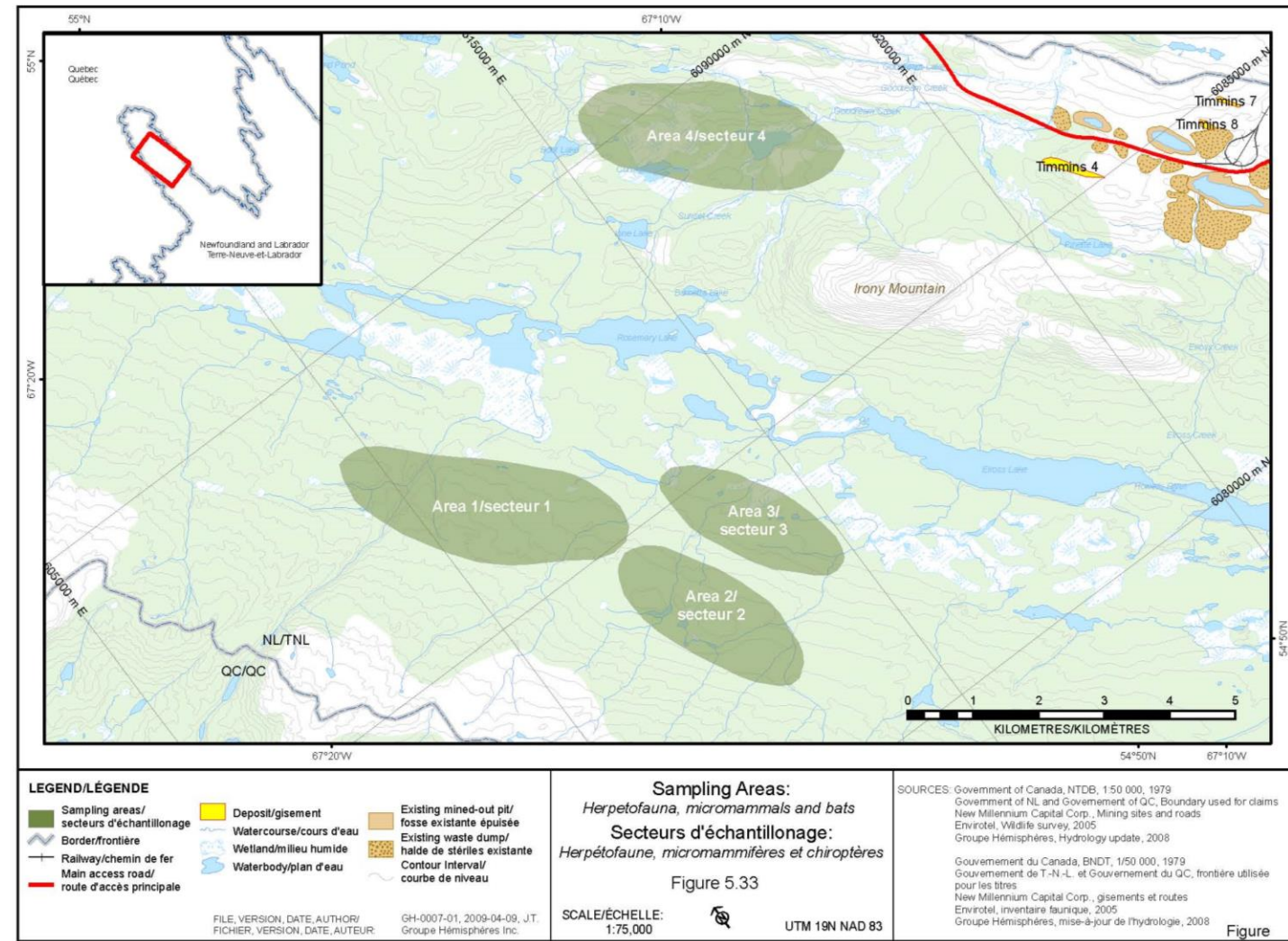
Page 7-233 of the Howse Property EIS states: There is little traditional knowledge on Chiroptera, as they are not an important component of Aboriginal subsistence.

The Little Brown Bat was never found in the vicinity of the project and the project is at the northern limit of the species' distribution. This information is based on surveys that were carried out in 2005-2006 in the Howells Rivers area. Acoustics surveys were done with both mobile stations and fixed stations. One of the fixed station was located north-west of Irony Mountain (area 4 in figure below). Fixed stations were accompanied with a luminous trap to attract insects to increase detection of bats. No bats cries were recorded at this location. The only Myotis sp. cries that were recorded were located at the bottom of Howells river (sector 3), where there are some much more productive ecosystems with large trees, as compared to the Howse Project area. The map below (extracted from Elross Lake Iron Ore Mine EIS submitted by New Millennium in 2009) shows the areas that were surveyed for bats.

It is also stated that according to Broders et al (2013), the species is associated to productive forest with commercial value, which are not present if the vicinity of the project.

We therefore conclude that the species is not present in the RSD.

Since the species is not believed to be present, and since its presence cannot be quantified, no quantifiable mitigation measure can be suggested.



Source: New Millennium Capital Corp. and Paul F. Wilkinson & Associates [NML and PFWA] (2009) Eloss Lake Area Iron Ore Mine. Environmental Impact Statement Submitted to Government of Newfoundland and Labrador. Montréal, QC

<p>CEAA 80, Round 1, Part 2</p>	<p>CEAA</p>	<p>Species At Risk Act, s.79</p> <p>5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes</p> <p>5(1)(a)(iii) Migratory Birds</p>	<p>6.3.3</p>	<p>The proponent's response to CEAA 80 (Round 1 – Part 2) did not provide the requested summary table. The information is required in order to clarify effects to current use of lands and resources by Indigenous groups, migratory birds, fish, and Species at Risk.</p> <p>Based on the information provided in the EIS with respect to effects to wildlife, fish, and plant species, it is challenging to understand which species specifically are included in the assessments of effects to species and current use of lands and resources by Indigenous groups, and the listing status of any species at risk included in that assessment. Information is not clearly or consistently presented.</p>	<p>Prepare a table that provides a list of species (or groups of species) that are likely present in the local study areas that may be affected by the Project (i.e. affected by noise, light, air quality, water quality, etc.). This list would be informed by observed species, species at risk likely in the area, current use of lands and resources by Indigenous groups, and Aboriginal traditional knowledge. If referring to groups of species (e.g. waterfowl, songbirds), indicate which individual species are included in groups. In the table, indicate:</p> <ul style="list-style-type: none"> • Whether or not each species was observed or if presence is expected (much of this information can be extracted from Appendix XXIII).
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				Furthermore, no rationale is provided for the selection of indicator species (e.g. most vulnerable, greatest concern to Indigenous peoples).	<ul style="list-style-type: none"> • Status of federal SAR and COSEWIC assessed species, whether it is a protected migratory bird, and provincial listing (QC and NL) as applicable. • Whether specific species are hunted/trapped, fished, gathered by Indigenous communities within the area where project effects could occur. • Whether indicator species, if any, were selected to assess impacts of the Project on migratory birds, species at risk and current use of lands and resources and resources for traditional purposes by Indigenous peoples. Provide rationale for selection.
<p>HML Answer</p> <p>Tables provided in appended document. Information provided for the species presence in the LSA, RSA or outside these range are derived from the different fauna and flora studies (See volume 2 and 3). ATK and current use are from Picard (2014), Weiler (2009) and Clément (2009).</p>					
CEAA 82, Round 1, Part 2	NNK-IR-11 CEAA	All	8	<p>The proponent’s response to CEAA 82 (Round 1 – Part 2) indicated that “the scope of the cumulative effects analysis of the Howse Project on the George River Caribou Herd is limited to the light and noise effects and that these additional activities will not produce additive, i.e. cumulative, effects between the mine projects (as each mine site is located more than 200km from the next). No additional effects are expected, from the Projects identified by the Naskapi.”</p> <p>The Agency’s Operational Policy Statement <i>Assessing Cumulative Effects under CEAA 2012</i>, and associated <i>Technical Guidance for Assessing Cumulative Effects</i>, describe how - where the Project could have a residual effect on any one valued component - the effects from other projects that could affect that valued component must be considered. For example, if the Howse Project results in a residual effect on caribou, then effects from projects that could also impact caribou must be considered, even though the projects are not necessarily close in proximity (i.e. effects do not need to overlap, just have a cumulative effects on the valued component). In this case, multiple projects could remove or degrade habitat for the caribou in its range.</p>	<p>Review the past, existing physical activities and certain/reasonably foreseeable in the assessment on cumulative effects and amend, as appropriate, if additional projects are expected to have an effect on the same valued components as this project. Considering each valued component individually, update the cumulative effects assessment including analysis, mitigation measures, and determination of significance, as appropriate.</p> <p>Provide a map that overlays the caribou range, locations of the projects in the cumulative effects analysis that could have an effect on this area from noise, light, habitat loss, and any other effect, as well as historic and preferred hunting areas.</p>
<p>HML Response</p> <p>The Agency asks that two projects be added in the cumulative impact assessment: Quest Minerals Strange Lake and Commerce Resources Eldor Rare Earth. A description of the projects is presented and the table below presents the description of these projects. The table has the same columns than Table 8-2 in the EIS that presented the selected projects for the cumulative impacts assessment.</p> <p>Strange Lake - Quest Minerals</p> <p>The Strange Lake B-Zone Mine project will produce a rare earth element (REE) concentrate to be further processed to specifications of industrial customers. The Strange Lake project is currently comprised of 211 active individual mineral claims covering a total area of approximately 90km². The project will have an open pit, stockpiles, and tailings. A 152 km private road access from the Quebec border to the Port at Voisey bay will be constructed. An airstrip will also be constructed. A EIS is yet to be deposited.</p>					

Ashram rare earth project - Commerce Resources

The Ashram rare earth project (previously Eldor lake) is at the pre-feasibility stage and there are currently no production date planned. The Project study area is about 19km². The project layout will include an open pit, tailings, the construction of a dike and a process plant. A 185 km road to the Koksoak river north of Kuujuaq will also be constructed. An airstrip will also be constructed. This project is still at the pre-feasibility stage and there are no production date targeted. The mine should be in function for 15 years.

PROJECT / ACTIVITIES	OWNER	LOCATION	DURATION / SCHEDULE	ANTICIPATED SOURCES OF EFFECT	INTERACTION WITH THE HOWSE PROJECT
Future Projects					
Strange Lake	Quest Minerals	About 240 km north-east of Schefferville	In EIS process Production planned for 2019 to 2049	Stripping of vegetation, emission of air pollution, dust, noise, vibration and light, pits, waste rock piles, tailings and rare earth processing	Possible cumulative effects with the Howse project regarding caribou and its habitat
Ashram rare earth project	Commerce Resources	About 260 km north-west of Schefferville	Pe-feasibility study	Stripping of vegetation, emission of air pollution, dust, noise, vibration and light, pits, waste rock piles, tailings and rare earth processing	Possible cumulative effects with the Howse project regarding caribou and its habitat

These projects are located outside the spatial boundary for most of the VC assessed for the cumulative effects assessments. They are located far from the Howse project, there should not be an additive effect. Adding these projects could only have a potential effect on caribou and its habitat. It could result on the loss of functional habitat. A figure presents the past and current caribou distribution, as well as the projects location used for the cumulative effects assessment.

Caribou - Loss of functional habitat

The assessment for the loss of habitat is carried out for the caribou second most recent caribou distribution (1994-2001). Current and future projects in the Schefferville area, as well as three projects north of Schefferville (Lac Otelnuk, Strange Lake and Ashram) are considered. For the future projects, the whole study area has been considered since there is not enough precision on the specific areas where the project will be implemented. It is thus considered a worst-case scenario.

A 15km-radius around the project’s areas was considered for the noise and light effects on caribou. It is considered as the limit caribou’s perception. As such, a maximal area of 10 580 km² of functional habitat might be loss, considering that: all the projects will be done; the whole study area will be used for the projects implementation and that area will be completely avoided by caribous. Considering the 1994-2001 caribou range, 2.55% of the range might be loss due to the projects.

Residual Effects Significance Assessment

The table below presents assessment criteria applicable specifically to caribou. It is the same as the one presented in the EIS, section 8 (cumulative impact assessment), Table 8-4.

TIMING		
Inconsequential timing	Moderate timing	Unfavorable timing

Timing of predicted Howse activities are not expected to affect any sensitive activities in the caribou life cycle.	Timing of predicted Howse activities may affect some caribou activities, i.e.: winter forage availability migration routes.	Timing of predicted Howse activities may affect some key caribou activities, i.e.: the calving period.
SPATIAL EXTENT		
Site specific	Local	Regional
The Howse Project and surrounding projects activities will affect a small portion of the RSA	The Howse Project and surrounding projects activities will affect at least half of the RSA	The Howse Project and surrounding projects activities will affect nearly all of the RSA
DURATION		
Short	Medium	Long
The effect of the Howse Project and surrounding projects on caribou will last less than 12 months and will not likely cause changes to the caribou herds.	The effect of the Howse Project and surrounding projects on the caribou will last between 12 or 24 months corresponding to one (maximum of two) caribou annual migration. Extends beyond the preparation/construction phase, but shorter than the lifespan of the Project.	Longer than 24 months, possibly as long as the project duration. The Howse Project and surrounding projects will likely cause long-term demographic changes to the caribou.
REVERSIBILITY		
Reversible	Partially reversible	Not reversible
The caribou are expected to return to their pre-Howse population status and distribution.	Effect on caribou will persist after the decommissioning and reclamation phase but caribou are expected to largely return to their pre-Howse status.	Caribou will be permanently altered by the Howse Project and surrounding projects.
MAGNITUDE		
Low	Moderate	High
Effect will be at the individual level.	Effect will be felt on a subsection of the nearby caribou herds.	Effect will be at the herd-level.
FREQUENCY		
Once	Intermittent	Continual
The disturbance will occur once.	The disturbance will be occasional, such as only at night.	The disturbance will be year round.

Timing

All mining activities will occur throughout the year. In particular, caribou will exhibit deterrence behavior related to noise and light, which will be produced continuously, but the caribou will be in the projects areas during migration and wintering. Caribou is more susceptible to human disturbance during the pre-calving (spring migration) and calving periods. They will not be in the vicinity of Schefferville during this period, which extends from mid-march to mid-may for spring migration and mid-may to July for the calving period (Couturier et al., 2004). The timing is considered moderate (Value of 2)

Spatial extent

The effects of noise and light for combined projects will result in the loss 2.55% of the 1994-2001 range. Howse project represents 0.17% of this range, and the combined projects in the Schefferville area represents 0.23%. It is considered that the portion of the range affected is small (Value of 1).

Duration

The effects of noise and light will occur for as long as the project duration. However, although caribou are known to alter their behavior to avoid anthropogenically-disturbed areas, they can also become accustomed to these disturbances over time (Haskell and Ballard 2008; Johnson and Russell 2014). Also, caribou won't be in the vicinity of the projects year-round. (Value of 2).

Reversibility

Although with the Howse Project alone, the caribou could be expected to return to area at the end of the Howse activities, the cumulative effects of the surrounding mine activities will make this reversibility at the end of the Howse Project unlikely. However, once the anthropogenic disturbances end and sites are largely restored, it is not unreasonable that caribou will return to the Schefferville area with time. (Value of 2).

Magnitude

The magnitude of the effects of light and noise on caribou is negligible at the herd level and it will not deter the whole herd, since dispersion is greater during the winter months. It could however modify the movements near the different projects. (Value of 1).

Frequency

Light disturbance will only occur at night, and noise disturbance will be continuous, but the caribou could be in the projects vicinity for less than half of the year. (Value of 2).

Significance

The cumulative residual effects of the Howse Project on caribou are expected to be non-significant (value of 11). The projects used for the cumulative assessment will yield a potential loss of habitat of about 2.55% of its range. This value is considered a maximal, since the size of some project is still unknown. The Howse project contribute to a small fraction of the functional habitat loss.

Likelihood

Currently, the likelihood of Howse having an effect on the GRCH herd is unlikely because no caribou have been seen in the vicinity of the Howse Project in the last several years and calving grounds have shifted away from the area (See figure in CEAA 57). The size of the herd is currently small and it is using smaller area of its range. In order to be seen in the vicinity of the projects, the herd would need to grow and there is no indication of stability or growth in the herd. As mentioned previously, it took the GRCH about 40 years to recover from the last crash. It is more than probable that caribous won't be migrating far enough to reach the Schefferville area during the lifespan of the Howse project.

<p>CEAA 83, Round 2, Part 2</p>	<p>CEAA</p>	<p>5(1)(c)(iii) Current Use of Lands and Resources for traditional purposes</p>	<p>6.3.4 6.6.3</p>	<p>The proponent's response to CEAA 83, Part 2, is not consistent with effects described in 5(1)(c)(iii) of CEAA 2012 and does not adequately address the information request. The proponent's response is contextual in nature and does not provide the analysis requested. The interpretation of current use should be consistent with the <i>Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012</i>.</p> <p>Uses that may have ceased due to external factors should also be considered if they can reasonably be expected to resume once conditions change.</p>	<p>Provide an assessment of cumulative effects (i.e. effects from past, existing physical activities and certain/reasonably foreseeable projects) on the current use of caribou by Indigenous peoples, as it relates to current use of lands and resources. Include a description of the methodology used. Such as assessment could consider changes to past, present and future habitat for the caribou, factoring in avoidance of habitat, and assess how the changes impacted and may impact future use of caribou by Indigenous peoples, including use of preferred hunting areas.</p> <p>Based on the revised assessment above, update the proposed measures to mitigate cumulative effects on current use of caribou as it pertains to current use of lands and resources. As caribou historically present in the area, mitigation measures shall</p>
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			<p>The criteria used for determining significance of effects on the <u>current use of caribou by Indigenous peoples</u> were not provided.</p>	<p>consider the possibility that the caribou herd may return to the local area. The analysis could consider expected measures to reduce effects taken by other local developments such as DSO3 and DSO4 that are in the care and control of Tata Steel Minerals Canada Ltd (of which Howse Mineral is a subsidiary).</p> <p>In consideration of all projects included in the cumulative effects analysis, update the significance determination on the <u>current use of caribou</u> as appropriate.</p>
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HML Answer

The cumulative effects assessment is presented here with two premises: there is no ban on hunting caribou and the caribou population is at such a high density that their distribution encompasses the Schefferville area. This is considered a hypothetical analysis, since the population is still decreasing and there is no prospect of recovery in a foreseeable future. Quite the opposite, it has been mentioned that at the current rate of decline, the population could disappear in five years.

Annual Caribou Movements

First, it is important to mention that there is no calving ground in the Schefferville area. These are located at about 300 km to the north-east of Schefferville. Caribous will migrate during fall and disperse through most of northern Quebec/Labrador. Caribou will then spend winter in forested areas throughout northern Quebec/Labrador. Couturier et al (2004) presents a figure of annual movements between 1999 and 2001, when the size of the population was high.

Caribou Movements in the Schefferville Area and Preferred Hunting Areas

The information in this section is derived from information provided by Weiler (2009) and Clément (2009). During the fall migration in the Schefferville area, caribous arrive from the northeast and move to the southwest. They cross the ridge between Schefferville and the Howells Valley in large numbers for a few weeks. They then dispersed in smaller groups to overwinter in more forested habitat. As stated by Clement (2009), the migration patterns are perhaps more representative of the historical movements noted by the members of the First Nations than of contemporary behavior.

Three areas in the vicinity of the project have been identified where most of the hunting occurs:

- On the ridge between the Howells River valley and the Swampy Bay River basin that lies between Schefferville and the Howells River, including the northern part around Sunny Mountain and Greenbush and the western slope of the Howells River valley;
- West of the Howells River, including the western portion of the valley and the adjacent wooded plateau;
- Near Attikamagen Lake and the series of lakes north-west of it.

Most of the hunting is carried out in the first area, during the fall migration. The other two are used during winter. A figure below presents the hunting areas and the projects selected for the cumulative assessment. These zones are approximative since it is hard to define the specific limits.

Cumulative Impact Assessment – Caribou Hunting

The disturbance generated by noise could result in the modification of the migration route of migratory caribou. The effects of noise disturbance on the seasonal movements and distribution of migratory caribou are difficult to predict. Their movements and distribution tend to vary in accordance with the size of the population and use of wintering habitat (See figure presented for Q-82, in which the range of the herd for different period is presented).

A 15-km radius was applied to every current and future projects in the Schefferville area, as if they were all realised simultaneously. The 15 km is the limit of perception for caribou. This area is considered as the potential area that would not be used by caribou due to disturbance.

Only noise and light disturbance is considered, since caribou have and might again use disturbed areas around Schefferville. In the 80's and 90's when the herd population was high, caribou were hunted near the old mine sites and close to the village. The caribou have adapted to the formerly mined area by using old mining roads should they happen to lead in the same direction as that in which they are migrating. Disturbed land have an effect on food availability, but the disturbed area will be limited and vegetation will be restored at the end of the mining. About 50% of hunting areas might be affected by the presence of the mines. Considering the 30-km radius around the Howse project that was used for the cumulative effect assessment, xx% of the RSA might be

Mitigation measures

Several mitigation measures are presented in the effects assessments on caribou concerning disturbance. Mitigation measures for the caribou are important here, since they will lesser the effects on the caribou itself and will thus be beneficial for the caribou hunting.

These measures are already contained in TSMC's Environmental Protection Plan, which will also be implemented for the Howse project. They are:

- 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. 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.
- Activities will cease if caribou are seen within 5 km of an active pit or the processing complex.

The EPP also presents an Implementation and mitigation strategy concerning the caribou:

Activity will cease under the following circumstances:

- if 10 or more sedentary caribou are within 20 km of an active pit or the processing complex;
- if five or more sedentary caribou are within 5 km of an active pit or the processing complex; and
- If one or more sedentary caribou are within 1 km of an active pit or the processing complex.

Whenever activity ceases pursuant to the foregoing, TSMC will contact the Wildlife Division of the NLDEC to discuss any further steps to be taken.

It is not known whether a given group of caribou belongs to the migratory or the sedentary ecotype, site workers assume that they are sedentary caribou and will act accordingly.

Since it is impossible to visually distinguished sedentary and migratory caribou, it is thus expected that these measures will be implemented whenever caribou is sighted. TSMC is committed to cease operation when there are at least 10 caribou within 20 km of their activities. Arguably, the noise and light disturbance will cease and should thus not deter caribou from the general area. The presence of the infrastructure could influence caribou's migrating routes, but to a lesser extent, since they used roads in the past.

Concerning the practice of caribou hunting, most of the preferred hunting areas will be accessible, despite the presence of the mines. Concerning the DSO and the Howse projects, a by-pass road will be implemented in order to facilitate the access to the territory. It is impossible to know what will be done for the other projects concerning access to the land.

Residual Effects Significance Assessment

The table below presents assessment criteria applicable specifically to. It is the same as the one presented in the EIS, section 8 (cumulative impact assessment), Table 8-10, for the VC subsistence and traditional activities.

TIMING		
Inconsequential	Moderate	Considerable
Will not have an effect	Will have a moderate effect at times	Will have an effect at all times during all phases of the Project
SPATIAL EXTENT		
Site specific	Local	Regional
The Howse Project and surrounding projects activities will impact a small portion of the RSA	The Howse Project and surrounding projects activities will impact at least half of the RSA	The Howse Project and surrounding projects activities will impact nearly all of the RSA
DURATION		
Short	Medium	Long
The effect of the Howse Project and surrounding projects on subsistence and traditional activities will last less than 12 months and will not likely cause changes to the subsistence and traditional activities.	Extends beyond the preparation/construction phase, but shorter than the lifespan of the Project.	The Howse Project and surrounding projects will likely cause long-term changes to the subsistence and traditional activities.
REVERSIBILITY		
Reversible	Partially reversible	Not reversible
Full restoration of pre-development situation likely.	Effect on subsistence and traditional activities will persist after the decommissioning and abandonment phase but subsistence and traditional activities are expected to largely return to their pre-Howse status.	Subsistence and traditional activities will be permanently altered by the Howse Project and surrounding projects.
MAGNITUDE		
Low	Moderate	High
Affects a small proportion (<5%) of the population in the RSA.	Affects a limited proportion (5%-15%) of the population in the RSA.	Affects a significant proportion (>15%) of the population in the RSA.
FREQUENCY		
Once	Intermittent	Continual
~once per year	Occasional/intermittent	Year-round (continual)

Timing

All mining activities will occur throughout the year, but will cease in the presence of caribou. Caribou should not totally avoid the areas and caribou hunting will thus be possible. The timing is considered moderate (Value of 2)

Spatial extent

The spatial extent is site specific because the Howse Project and surrounding project activities will impact a limited portion of the RSA (Value of 1).

Duration

The duration of the effect will be long since effects will minimally be felt throughout the lifespan of the Project (Value of 3).

Reversibility

The effect will be partially reversible considering that a partial restoration to pre-development situation is likely. Roads built in the context of mining projects will also continue to be used by locals even after the end of operations (Value of 2).

Magnitude

The magnitude of the effect will be low since it affects a small proportion (<5%) of the population in the RSA and considering that alternative access to the territory will be available (bypass road). (Value of 1).

Frequency

Land users tend to frequent the territory intermittently and seasonally (for example during hunting seasons or on the week-end for recreational purposes) and for a short periods of time (round trips in a single day). The frequency of the effect has been considered intermittent (Value of 2).

Significance

The cumulative residual effects of the Howse Project on caribou hunting are expected to be non-significant (value of 11).

Likelihood

Given the absence of caribou in the area, the likelihood of the project having an effect on caribou land use is unlikely.

<p>CEAA 96, Round 1, Part 2</p>	<p>CEAA</p>	<p>5(1)(a)(i) Fish and Fish Habitat 5(1)(a)(iii) Migratory Birds 5(1)(c)(iii) current Use of Lands and Resources for traditional purposes</p>	<p>6.1, 6.3</p>	<p>The proponent’s response to CEAA 96 (Round 1 – Part 2) indicates that the size of the transition zone, where shrub and tree stump would be maintained as a mitigation measure, would depend on the activities carried out and the sensitivity of the habitat nearby. More information is required in order to understand the nature of the transition zone and potential reduction in effects that it may provide to fish and fish habitat, migratory birds, or use of lands and resources by Indigenous people.</p>	<p>Provide a description of how project activities and environmental sensitivities would be identified and used to determine the size of the transition zone needed. Explain how the approach used would mitigate environmental effects with respect to each VC, quantify if possible.</p>
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HML Answer

This mitigation measure is proposed for wetlands (section 7.4.2), aquatic fauna (7.4.9) and water quality (7.3.10) and avifauna (7.4.8). The measure is proposed in each section for each component and has already been considered in the effects assessment.

Keeping a transition zone where only trees are cut is a best practice that is frequently used, especially in forest road construction projects. There is usually a minimal distance to be kept clear of standing trees, in which the shrub and forbs are kept. Tree stumps are left in place and the roots help maintain soil the soil in place. This best practice could be used during construction in areas where, for example, there is a need for space to maneuver machinery without the need for a ground footprint.

The positive effects of the preservation of shrub and herbaceous stratum in a transition zone include:

- 1- Reducing surface runoff speed and promoting infiltration. It therefore reduces the erosion process and limits the suspended solids reaching ditches, hence lessening the solids entering sedimentation ponds. This also increases the residence time and sedimentation processes. Combined, this results in a reduction in the adverse effect on water quality at the discharge points and reducing effect on aquatic fauna and its habitat.
- 2- This method promotes the recolonization of vegetation after the project. Indeed, this transition zone will grow back quickly to its original state as low stratum of vegetation will be preserved, which will also have preserved the soil and seed bank of the original habitat. It will also provide a seed source closer to the stripped area, promoting revegetation from local species.
This positive effect is difficult to quantify, but the transition zone should be functionally back to its pre-project state in the first few years following-decommissioning. Whereas revegetation of the stripped areas will depend on revegetation and restoration efforts as detailed in section 10.4 Rehabilitation and Closure of the EIS.
- 3- Finally, the transition zone represents a potential habitat for the foraging and breeding of species under the Migratory Bird Convention. Maintenance of the transition zone will therefore be performed outside of the breeding season of those species (May 25 to August 5). The shrub stratum can be both used for foraging and breeding by species under the Migratory Bird Convention (Blackpoll Warbler, American Tree Sparrow).

Any size transition zone would yield the benefits described to the VCs, as stated above. The size of the zone cannot be predicted as it will depend on site-specific factors including machinery-type, operator's safety, topography.

CEAA 102, Round 1, Part 2	NNK-2	5(1)(a)(i) Fish and Fish Habitat 5(1)(c)(i) Aboriginal Peoples Health/ socio-economic conditions	6.1.8	In response to CEAA 102 (Round 1 – Part 2), the proponent states that the acceptable concentration of iron in effluent water is 0.3 mg/l, however no rationale was provided to explain how this concentration will sufficiently address potential effects to fish and fish habitat and the health of Indigenous peoples.	Provide a rationale or reference for selecting 0.3 mg/l (iron concentration) as the limit for acceptable iron concentration in effluent water.
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HML Answer

The value of 0.3 mg/L is provided by the Canadian Council of Ministers of the Environment (CCME), as a recommendation for water quality and aquatic life protection (<http://st-ts.ccme.ca/fr/index.html?chems=123&chapters=1&lang=fr>). This recommendation is based on a sound literature review and is used throughout Canada.