

EXTENSION OF FOREST ROAD L-209 NORD

BY BARRETTE-CHAPAIS

PROJECT SUMMARY AND MISSING INFORMATION – COURTESY TRANSLATION

1. Project Description

As stated in the impact assessment statement sent to COMEX on July 20, 2009, Barrette-Chapais wishes to build a 96-km logging road for oversized trucks that will allow it to reach the northwest part of forest management unit (FMU) 02665. The road would enable the proponent to fulfil its commitment to the Québec government in accordance with the timber supply contracts it was awarded. It represents an approximate timber volume of 2,844 M m³ over 15 years, which translates into estimated stumpage fees totalling more than \$7.8 M. Although an existing road provides access to the area concerned, it would involve a 100-km detour in order to harvest timber.

The selected road corridor overlaps, over more than 22 km, the old road built by Hydro-Québec during construction of the power transmission line that passes through the Alanel and Abitibi substations. The corridor also follows along the power transmission line over a distance of 30 km. The road would be designed for oversized trucks that carry loads in excess of 100 tonnes, according to the following specifications:

- Width of the road surface: 10 m
- Width of the right-of-way: 35 m
- Annual utilization period: 6-8 weeks

Most of the road would be located on Category III lands, with the last 13 km being located on Category II lands. The road would cut across seven traplines located on the traditional territories of the Waswanipi, Oujé-Bougoumou and Mistissini Cree Nations. The family hunting ground supervised by Joseph Neeposh (W10) would be the most affected by the project.

Road corridor	Trapline	Community	Distance
km 0 to km 12.0	O53	Oujé-Bougoumou	12.0 km
km 12.0 to km 20.7	W22	Waswanipi	8.7 km
km 20.7 to km 32.6	W12	Waswanipi	11.9 km
km 32.6 to km 43.9	W10A	Waswanipi	11.3 km
km 43.9 to km 53.0	O52	Oujé-Bougoumou	9.1 km
km 53.0 to km 68.8	M47A	Mistissini	15.8 km
km 68.8 to km 96.8	W10	Waswanipi	28.0 km
Total:			96.8 km

A total of 3 bridges and 28 culverts would have to be built to cross waterways along the road corridor. One of the bridges would replace an existing culvert that is in poor condition.

A specific problem discussed by the proponent concerns bypassing Lake Ruth, located midway in the road. The existing road passes east of the lake, but the option chosen by the proponent (main corridor) passes west of the lake. According to the information provided by the proponent, woodland caribou likely occur in the area. Building the road on the east side of Lake Ruth (alternate corridor) would cause fragmentation of woodland caribou habitat as well as encroach on the proposed area of the Assinica national park. The proponent stresses in its impact assessment statement that woodland caribou occur solely in the area east of the proposed corridor and mostly along a 6-km stretch near Lake Ruth. Bypassing the lake on the west side requires the construction of a bridge, and the tallymen were mostly against this option, arguing that it would cross a navigable waterway that links two lakes and that non-Native people would probably use it to gain access for sport fishing.

2. Main Steps Completed to Date

Given that the proponent submitted the project notice to the Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC) more than seven years ago, a reminder of the main steps completed in the environmental and social impact assessment and review procedure is appropriate:

- Receipt of project notice by MDDEP: December 17, 2008. The preliminary information consisted of a cover letter and a map of the road corridor.
- Transmission of project notice to COMEV: January 12, 2009
- Transmission to MDDEP of the recommendation for the directive: March 30, 2009
- Transmission of directive to proponent: April 17, 2009
- Receipt of impact assessment statement by MDDEP: July 13, 2009
- Transmission of impact assessment statement to COMEX: July 20, 2009
- Transmission of questions and comments to MDDEP: October 28, 2009
- Transmission of questions and comments to proponent: November 16, 2009
- Receipt by MDDEP of proponent's answers to COMEX's questions and comments: December 23, 2009
- Transmission of answers to COMEX: January 12, 2010
- Receipt of report on archaeological potential: April 16, 2010
- Transmission of report on archaeological potential to COMEX: April 30, 2010
- Public hearings: June 1, 2010 in Oujé-Bougoumou; June 2, 2010 in Waswanipi; June 3, 2010 in Chapais

3. Concerns Raised at the Public Hearings

Hearing held in Oujé-Bougoumou, June 1

Of the six interveners from the community, one was against the project and two were in favour. The remaining four did not state outright whether they were for or against the project, but did voice concerns. The main concern (4/6) was the mess caused by **opening up the territory**. New roads facilitate access for hunting and fishing and for setting up camps. The construction of camps on their hunting grounds was of particular concern to the interveners. Two of the interveners said that increasing the number of wildlife protection officers or wildlife protection assistants, preferably Cree and preferably full-time rather than part-time, would ensure better control over hunting and fishing activities.

Three interveners expressed concerns over the project's impacts on wildlife. Users are worried that watercourse crossings and the road's proximity to lakes and rivers will **affect spawning sites and water quality**. Moreover, one intervener suggested that a 100-m buffer strip be required for water bodies. One person mentioned the presence of **woodland caribou** in the assessment area and that Québec has a duty to protect endangered species. Caribou occur not just east of Lake Ruth, but farther south as well. It was also mentioned that the project would have a significant impact on woodland caribou not just during construction, but also during road use and logging operations.

Two interveners raised an issue that was not addressed in the impact assessment statement, namely **the increase in oversized truck traffic on the road leading to Oujé-Bougoumou**. Indeed, the trucks will have to take this 19-km road to get to the Barrette-Chapais sawmill.

The remaining comments made by interveners concerned, in particular, **incorporation of traditional knowledge** in the implementation of mitigation measures, as well as of tallymen's proposals that logging be prohibited in certain sectors. One intervener also mentioned the potential **economic spinoffs** for the community and said that Cree enterprises should be hired not only for the road's construction, but also for its maintenance.

Note that Guy Héту of the Ministère des Ressources naturelles et de la Faune (MRNF) attended the hearing in Oujé-Bougoumou and answered a few questions.

Hearing held in Waswanipi, June 2

During the hearing in Waswanipi, the proponent also presented its project to build forest road E-West. Seven people from the community and one representative of the Cree Regional Authority spoke. **Of those eight people, six expressed views related directly to the forest road L-209 Nord extension**. They expressed concerns about the project, without stating outright if they were for or against it. As in Oujé-Bougoumou, **the opening of the territory and management of its access** were raised by four speakers. Three expressed concerns about wildlife protection, especially **protection of woodland caribou** (two interveners), but also the potential effects of watercourse crossings on **spawning grounds**. Moreover, one intervener wondered if a characterization study of spawning areas along the road corridor had been conducted given the planned construction of three bridges. Another intervener stated that he has seen woodland caribou tracks on his trapline and wondered if building a new road is appropriate when the timber resource could be accessed using other roads that already exist. The intervener said that he would like to have [his] "trapline as green as possible" so that they can continue "to survive" through traditional subsistence activities. A participant made a general comment about development and its impacts on the land, which affect the movement patterns of wildlife and, consequently, hunters can no longer rely on traditional knowledge.

Lastly, two interveners raised the issue of potential **economic spinoffs**. There is the matter of job opportunities for Crees, but one intervener also mentioned a new partnership that was established in the community to create a company specializing in

the construction of logging roads. Training was offered, but people need experience in order to be certified. Aboriginal workers with training and experience would enable communities to be more self-sufficient and avoid the need to use outside companies.

Note that Guy Héту of the MRNF attended the hearing in Waswanipi and answered a few questions.

Hearing held in Chapais, June 3

The hearing in Chapais garnered less interest than those in Waswanipi and Ujé-Bougoumou. The only views expressed by the public were from the mayor of Chapais. The remaining input came from COMEX members. The mayor of Chapais expressed concerns about the status of the woodland caribou population in the area of forest road L-209 Nord, **economic spinoffs** from the project, including the economic potential of **non-timber forest products (NTFP)**. The proponent replied that the company has started conducting inventories of NTFP, but it is still in the early stages. There is potential, though.

The members of COMEX are concerned about **protection of woodland caribou**, the **navigability of waterways** crossed by the road, **borrow pits** required to build the road and **archaeological potential**. The proponent was told that even if knowledge about woodland caribou in the area is limited, it is a known fact that the species is sensitive to human activities such as road construction and logging.

The members asked the proponent questions about the location of borrow pits and the quality of borrow material. It appears that the borrow pits have been identified, but no information on the quality of the borrow material or the amount to be extracted is available.

Concerning navigation, the proponent said that the tallymen were consulted on the matter and nothing came of it.

Lastly, according to the proponent, the study of archaeological potential conducted by David Denton of the Cree Regional Authority showed no sites over 100 years old in the local assessment area.

4. Analysis and Issues

The major issues at stake in this project are woodland caribou protection, opening up of the territory, preservation of the Cree traditional way of life, and regional planning with a view to establishing new protected areas. The assessment area for the proposed road (extension of forest road L-209 Nord) is in the heart of the home range of the Assinica woodland caribou herd, the herd under the greatest threat from development in the area covered by the *Paix des Braves* agreement. In this regard, the focus on the Lake Ruth area is not justified and represents a serious under-evaluation of woodland caribou presence in the assessment area. The impact of the proposed road will extend beyond the shores of Lake Ruth, which is less than 5 km long. The most fragile area is the portion of the road corridor located between the start of the road at Chibougamau River and where it turns in a northwest direction on trapline W10, which represents a distance of nearly 70 km.

Currently, telemetric monitoring of the Assinica herd shows that caribou do not come within 1.5 km either side of the power transmission line. The avoidance distance would likely increase as a result of greater disturbance over nearly 100 km along the power line. The risk of creating an artificial landscape barrier exists. Rudolph et al. (2012) predict that proposed roads L-209 and extension 167 will substantially diminish functional landscape connectivity and therefore population resilience, in addition to promoting conditions consistent with population decline. As well, displacement of caribou into alternate ranges, such as within the proposed area of the Assinica national park, does not guarantee they will survive if suitable-quality habitat is not available. In fact, there is documented evidence that when caribou are displaced from an area with good-quality habitat to an area with lesser-quality habitat, their survival rate decreases.

In quantifying habitat loss caused by the project, the proponent cites no studies showing caribou avoidance of road networks. The majority of woodland caribou studies identify habitat loss and fragmentation, in particular due to logging, as the leading cause of population decline. According to the 2013-2023 woodland caribou recovery plan drawn up by Québec's Woodland Caribou Recovery Task Force, habitat disturbance, whether natural or anthropogenic, has varying impacts, including:

- a higher rate of caribou displacement;
- greater energy loss during critical times in the caribou's annual cycle (calving, post-calving, winter);
- expansion of the caribou's individual home range;
- diminished fidelity to calving grounds and seasonal and annual home ranges;
- edge effects leading to spatial reorganization of caribou, with a greater likelihood that individuals will be found at a distance of around 4.5 km from cutovers;
- greater likelihood of encountering predators;
- an increase in the mortality rate;
- avoidance of areas of otherwise suitable habitat.

In 2011, Environment Canada linked habitat disturbance to the probability of a self-sustaining caribou population. A 0.5 probability of self-sustainability (threshold separating a self-sustaining population and its extinction) corresponds to a maximum habitat disturbance of around 40%. In short, the lower the percent disturbance, the higher the likelihood a population will be self-sustaining. To ensure the conservation and recovery of woodland caribou herds, the Recovery Task Force set a target disturbance threshold of 35% disturbance to give herds a minimum 0.6 probability of being self-sustaining (Woodland Caribou Recovery Task Force, 2013).

Acknowledging the challenge of sustainable forest development, the MFFP released the government's action plan for woodland caribou habitat management on April 5, 2016.

The easier access and mess caused by opening up the territory is a concern that was raised many times during the proponent's consultations as well as during the public hearings in Waswanipi and Ouje-Bougoumou. Although building new roads makes it easier for tallymen to get to their traplines, it is harder for them to monitor access to their land, which they fear could make the land use situation even messier. Moreover, in 2013,

the Cree Nation Government and the Waswanipi Cree First Nation called on the Québec government to protect a large swath of the Broadback River watershed. While the agreement signed on July 13, 2015 to resolve the Baril-Moses forestry dispute provided for the designation of the Broadback River Protected Area, it also provided for meaningful discussions regarding options for protective measures in this area.

Lastly, even though the proposed road would be built northwest of Oujé-Bougoumou, starting at the north side of Chibougamau River, the purpose of the road is still to carry timber supplies to the Barrette-Chapais sawmill. Therefore, the increased truck traffic (oversized trucks) will have an impact not just on the new road, but also across the entire area from the southern end of the road to the Barrette-Chapais sawmill. As pointed out by two participants at the public hearings in Oujé-Bougoumou, there will be an increase in oversized-truck traffic between Oujé-Bougoumou and provincial highway 113. The distance between the southwest end of the road and Oujé-Bougoumou is approximately 42 km, so the trucks will travel roughly 60 km to get to the sawmill.

5. Missing Information

It is not possible at this time to say if this project is environmentally and socially acceptable. Even though the project went to public hearings, various information stipulated in the directive was not provided. In addition, up-to-date information is needed on certain aspects of the project.

Project rationale and alternatives

The proponent says it wants to build the road to gain access to the northwest part of forest management unit 02665 and, thereby, a volume of timber.

- QC 1 On page 13 of the impact assessment statement, the proponent says that the proposed road would provide access to 2,844 M m³ of timber. Does that figure still stand? Does it include the timber that can be accessed from the existing road? The proponent must specify the timber volume accessible from the existing road versus the proposed road.
- QC 2 The proponent must provide a map showing the location of cutting areas granted for the period 2013-2018 in management units 02665 and 02663, as the road will cross through the latter FMU as well. Will the road corridor need to be modified in order to get to the allocated cutting areas?
- QC 3 Where applicable, the proponent must identify the other holders of a timber supply contract who are allowed to harvest timber in the cutting areas identified and will use the proposed road.

In 2013, the MRNF introduced a precautionary approach to help in woodland caribou recovery and prohibit forestry operations in specific parts of the territory. In addition, when it released the action plan for woodland caribou habitat management on April 5,

2016, the Ministère des Forêts, de la Faune et des Parcs (MFFP) said that concrete steps would be taken quickly, including adapted forest planning to create a vast caribou habitat in the area encompassing the Broadback Valley protected area.

QC 4 The proponent must specify how these measures affect the available timber volume and if the economic value of the residual timber volume still justifies the proposed road project.

In section 5.2 of the impact assessment statement, the proponent says that the road will be used 6-8 weeks a year.

QC 5 The proponent must indicate who the main users of the existing road are and how often the road is used. In addition, it must indicate whether the proposed road will have a structuring effect on development in this part of the territory and the extent to which the road project takes into account the Assinica national park project and other potential users (e.g. outfitters, mining companies, vacationers). Insofar as the proposed forest road is expected to be used by a number of stakeholder groups, the proponent must discuss possible partnerships, anticipated road traffic, the types of vehicles expected to use the road, and the anticipated frequency of road trips, and, if applicable, explain the rationale for the selected road corridor based on the needs of each stakeholder group.

QC 6 The proponent must explain how its project is compatible with the regional land and resource use plan for Category II lands and the regional plan for integrated land and resource development drawn up by the Cree Nation Government and the Eeyou Istchee James Bay Regional Government, respectively. It must consult those two governments for that purpose and submit a report of the consultations.

During the planning stage, the proponent assessed possible corridors based on the use of oversized trucks to haul timber. Furthermore, Map 4.2 of the impact assessment statement shows an existing road running between the bridge on Chibougamau River and the road that follows the power transmission line.

QC 7 The proponent must submit an updated map of the existing forest road network in the assessment area and explain why it cannot get to its cutting areas use the existing road that follows the power transmission.

QC 8 The proponent must explain why using smaller trucks able to travel on the existing road is not a possible solution. In particular, the proponents must discuss the consequences for the road's use (annual use and the number of vehicles required to haul timber).

QC 9 Map 4.1 of the impact assessment statement shows the northern corridor trucks would have to follow, but not the road used to get to the Barrette-Chapais

sawmill. The proponent must modify Map 4.1 to show the corridor trucks would have to follow to get to the northwestern edge of forest management unit 02665, indicating the distances travelled.

- QC 10 The proponent must explain how building a new road running between the bridge on Chibougamau River and the power transmission line is good from an environmental perspective. Why is not possible to use the existing road?

It says at the beginning of section 5.1 of the impact assessment statement that the definition of the (main and alternate) corridors is based on economic, technical, social and environmental criteria, but that the criteria do not all have the same weight.

- QC 11 The proponent must indicate the weight given to each criteria used to define the corridor and the reasons therefor.

Project description

The road corridor proposed by Barrette-Chapais starts at the bridge on Chibougamau River and partially overlaps an existing road that follows the power transmission line. Portions of the existing road would be redeveloped to withstand oversized vehicles and new sections would have to be built. In addition, the proponent indicated in its answers to supplementary questions from COMEX (December 2009) that, for safety reasons, oversized trucks cannot come within less than 10 m from the stays that support Hydro-Québec's towers, thereby necessitating the construction of new road sections. The costs and required deforestation should differ depending on whether roads are repaired or new road sections are built.

- QC 12 The proponent must provide a map showing road sections to be built (new road) and existing road sections to be widened. It must also explain what will happen to the sections of road that are not converted into a road class that can withstand oversized vehicles.
- QC 13 Have there been any more discussions with Hydro-Québec regarding changes to the road? If so, the proponent must report on the outcome.
- QC 14 The proponent must reassess the costs of building the road today as well as the anticipated revenue from stumpage fees. Table 5.3 in the impact assessment statement puts the cost of road construction at \$120 000/km. Does this figure represent the average cost between building the road and repairing existing infrastructure?
- QC 15 In section 5.2 of the impact assessment statement, the proponent estimates that 300 m³ of timber per kilometre will be extracted from the right-of-way, for a total timber volume of 11 317 m³. The proponent must explain the calculation method used to arrive at this total and indicate what will be done with the timber extracted from the right-of-way.

To ensure the supply of timber to its sawmill, the proponent has to use existing roads, which would affect road traffic near Oujé-Bougoumou.

QC 16 The proponent must explain how the proposed road will join the existing road network to transport timber supplies to the Barrette-Chapais sawmill. It must also indicate the route trucks would have to take to get to the sawmill and the condition of the roads in order to determine if the bearing capacity of those roads is adequate for oversized trucks.

QC 17 The proponent must say whether extending forest road L-209 Nord will lead to an increase in oversized truck traffic between Oujé-Bougoumou and provincial highway 113 and, if so, quantify the increase.

Extension of forest road L-209 Nord will require the installation of 28 culverts and 3 bridges. One of the bridges will be installed in order to replace existing culverts at watercourse crossing #2009-06. As this crossing is outdated, replacing it with a bridge will have a positive impact by encroaching less on the river.

QC 18 The proponent must specify the work required to dismantle the culvert at crossing #2009-06.

Construction of the road will require borrow material. Maps 7.2 South and 7.2 North in the document containing the proponent's answers to supplementary questions show all of the borrow pits Barrette-Chapais plans to use to build the road. The maps identify 13 borrow pits totalling 410 ha. However, at the public hearings held in June 2010, the proponent was unable to give the amount of borrow material needed for the project or the surface areas worked.

QC 19 In section 8.2 of the answers to supplementary questions, the proponent mentions that no test boring was done in order to validate the quantity and quality of the borrow material. Has any test boring been done since then? If so, the proponent must revise the maps accordingly, indicating the location of the borrow pits to be used, the surface areas affected and the volume of material to be extracted.

QC 20 The proponent did not fully answer Question 21 ("answers to supplementary questions"), identifying only those borrow pits that will be used for the construction of the road. What about subsequent maintenance of the road? Will other sources of material be needed? Do sources exist?

QC 21 In section 7.2 of the answers to supplementary questions, the proponent says that borrow pit #1 might fall within the boundaries of the future Assinica national park. However, Map 7.2 South shows that borrow pit #6 would also lie within the park's boundaries. Does the proponent plan to use these borrow pits even if they still lie within the proposed area for the Assinica park project?

Section 13 of the answers to supplementary questions mentions that Barrette-Chapais and Chantiers Chibougamau have reached an agreement to house road-construction workers at Chantiers Chibougamau's Broadback River facility.

QC 22 The proponent must show the location of the facility on a map and indicate whether the agreement is still valid. If it is not still valid, the proponent must answer questions 23 to 26 in the questions and comments sent to it on November 16, 2009.

QC 23 The proponent must provide a construction schedule detailing each step in the road's construction.

Description of the biophysical environment

In any impact statement, a description of the biophysical environment is crucial to ensuring an adequate assessment of the project's impacts. However, apart from describing the ecological characteristics of the assessment area using ecoforest maps, the impact statement does not list the animal and plant species found in the assessment area, other than woodland caribou or possible fish species found in the area. Yet, the directive sent to the proponent on April 17, 2009 clearly stated that if there was not enough data or the available data was not representative, the proponent had to complete the description of the biophysical and human environments using surveys and consultations that meet the regular qualitative and quantitative standards

Since no field surveys were conducted, all of the information and impact assessments in the proponent's impact statement are based on available data—of which there is very little. Impact statements for projects of this scope must be grounded in field surveys conducted specifically for the project, not merely in an inventory of existing data. This is especially important for areas such as watercourse crossings. Such an approach would be unacceptable and discriminatory towards other proponents who invest time and money to conduct a proper impact assessment.

The proponent jumped to conclusions in asserting that there are no threatened or vulnerable species in the assessment area. Indeed, even if the Centre de données sur le patrimoine naturel du Québec (CDPNQ) confirmed that no threatened or vulnerable species (TVS) occur in the assessment area, the proponent failed to consider the CDPNQ's cautionary note stating that [TRANSLATION] "the absence or status of threatened species in a given area is never set in stone and must not be construed as taking the place of the field surveys required to conduct an environmental assessment." Furthermore, affirming that there are no TVS in the assessment area based on the study by Gauthier (2004) is ill-advised considering that the objective of that study was not to carry out an exhaustive inventory of flora found in the proposed park area, but rather to [TRANSLATION] "provide an initial overview of the vegetation present in the territory of the Assinica park project" (Gauthier, 2004). The fact that Gauthier (2004) does not mention TVS in his report does not necessarily mean that there are no TVS in the assessment area. The proponent's reading of the report must be dismissed.

Lastly, the proponent makes no mention of Cree land use in the assessment area or of Cree local and traditional knowledge of wildlife and plant species, even though it was

clearly stipulated in the directive. This is a serious lapse in judgment, as the proponent fails to recognize the extent of the Crees' use, occupancy and knowledge of the land. A series of interviews conducted by the Cree Regional Authority in 2006 details the elements concerning areas of wildlife interest and land uses liable to interact with the project.

- QC 24 Drawing on wildlife distribution maps, the proponent must list all species liable to use the assessment area based on the presence of their preferred habitat. The proponent should draw on the traditional knowledge held by tallymen and land users to confirm the species' presence. The proponent must indicate the nature and source of all traditional references consulted.
- QC 25 The wildlife characterization must give special attention to species of importance for the Crees, the species' habitats and their distribution in the assessment areas. The characterization must also indicate the consideration given to Cree traditional knowledge. The proponent will report on meetings and references used for the wildlife characterization.
- QC 26 Drawing on species distribution maps, the proponent must indicate all rare or threatened wildlife and plant species, or species likely to be so designated, that might be found in the assessment areas (overall and local) based on the presence of their preferred habitats.
- QC 27 Table 7.5 in the impact assessment statement shows that a species of orchid and a species of bryophyte likely to be designated as threatened or vulnerable were found within the boundaries of the future Assinica national park and in the Assinica wildlife reserve, respectively. Since the preferred habitat of these species is peatlands, how can the proponent assert that these species do not occur in the immediate assessment area when peatlands make up 20% of the assessment area and no vegetation survey was conducted?
- QC 28 In section 8.3 of the answers to supplementary questions, the proponent provided a map of vegetation cover, but the map is illegible and there is no legend explaining the codes. The proponent must provide a legible copy of this map, including a legend.

According to the available information, the proposed road would impact peatlands. Based on the types of maps contained in the documents provided, it is safe to assume that the proponent used the maps from the ecoforest inventory system of the Ministère de l'Énergie et des Ressources naturelles from the third 10-year inventory. In addition, barren wetlands (peatlands) seem to be the only type of wetland considered. However, other types of wetland, such as forested peatlands, can be found in forest stands such as northern black-spruce stands.

- QC 29 The proponent must consider the parameters set out in Appendix 4 of the guide *Identification et délimitation des milieux humides du Québec méridional*, available on the MDDELCC website, to re-examine the map-based data by extracting the

polygons of all wetland ecotypes for the overall assessment area as well as the local assessment area.

Apart from a list of fish species that might be found in the area, the proponent conducted no characterization studies of watercourses to determine the presence of spawning grounds or identify species found there. However, the consultations with tallymen revealed that three spawning grounds would be affected by the project, including one at crossing #2009-26.

QC 30 It says in section 10.4 of the document containing the proponent's answers to supplementary questions that the species and the location of the spawning grounds "will need to be validated." Has this information been validated yet? If so, the proponent must indicate the species whose occurrence is confirmed, describe their habitat, and specify the distance of each spawning ground from watercourse crossings.

Woodland caribou

Forest road L-209 runs through the range of the Assinica woodland caribou herd. As previously mentioned, the impacts of the proposed road will extend far beyond the shores of Lake Ruth. The proponent needs to provide more recent information on the woodland caribou's use of the area and how that use has changed as a result of developments in the area.

The woodland caribou recovery plan for the period 2013-2023 is informative regarding the species' status and preferred habitats (Woodland Caribou Recovery Task Force, 2013). Caribou generally inhabit mature softwood forests and peatlands. The woodland caribou also displays a fidelity to range use and sites of seasonal aggregation, such as during the rut, wintering areas and calving grounds. These are critical habitats for caribou survival, and disturbance in those habitats may displace caribou to lesser-quality habitat.

QC 31 Based on the most recent data held by MFFP, the proponent must provide maps, at an appropriate scale, showing the locations of woodland caribou in the project area, including annual and seasonal ranges. The maps must also show existing forest roads.

QC 32 Using MFFP telemetric monitoring data, or based on the most recent literature available, the proponent must delineate the sectors within the overall assessment area that are most used by woodland caribou.

QC 33 Using MFFP telemetric monitoring data, the proponent must assess the caribou's migratory behaviour in relation to the existing road and the power transmission line, taking into account current road use (frequency and type of vehicles).

QC 34 In section 9.2.1 of the impact assessment statement, the proponent says that "it may be assumed that the woodland caribou population will migrate towards old

growth forests located inside the boundaries of the future [Assinica] park.” Considering that the Assinica National Park Reserve was established in 2011 and that no forestry or mining activities have been carried out there since then, the proponent must study the most recent telemetric monitoring data to determine whether any changes in the movement pattern of caribou have been observed and whether use of this area has increased.

While telemetric monitoring provides a picture of the area’s use by woodland caribou, it may not reflect that actual use, since only collared caribou are tracked. In their study of the status of woodland caribou in Québec, Rudolph et al. (2012) modelled the probability of occurrence of woodland caribou in the James Bay region. While it is a theoretical model, it is nevertheless a tool for rounding out information on woodland caribou use of the area.

QC 35 Using the model developed by Rudolph et al. (2012) or another valid model for the region, the proponent must provide a map illustrating the probability of occurrence of woodland caribou within the assessment area.

The negative effects of natural and anthropogenic disturbances on caribou populations are documented in the literature. According to Environment Canada (2011), total range disturbance of below 35% is required for a 60% probability of a self-sustaining woodland caribou population.

QC 36 To provide an up-to-date picture of the quality of woodland caribou habitat, the proponent must calculate the disturbance level of woodland caribou habitat using the method developed by Environment Canada (2011). The proponent must consult experts at MFFP to validate the data to be used to calculate the disturbance level and determine the scale at which it will be calculated.

Occupation of the land and consultation of communities

Occupation of the land, including the proposed Assinica national park, may have changed since the impact assessment statement and the answers to the supplementary questions. In addition, MFFP has adopted a precautionary approach to limit forestry activities in certain parts of the territory with a view to helping woodland caribou recover.

QC 37 The proponent must provide detailed, up-to-date land-use maps showing, but not limited to, camps (Cree, worker), active mining claims, logging areas and vacation leases. The proponent must also show the latest boundaries of the Assinica national park project, i.e. the study area and the tract of land set aside as entered in the registry of protected areas.

QC 38 The proponent must delineate the area covered by the MFFP’s precautionary approach and indicate whether the proposed road is consistent with that approach.

QC 39 The proponent must provide a map showing all other protected areas lying within the overall assessment area.

The Cree Nation Government and the community of Waswanipi have taken steps with the Québec government to establish a protected area in the Broadback River watershed. The Crees submitted the *Waswanipi Mishagamish Proposed Protected Area* and the *Broadback Watershed Conservation Plan*.¹

QC 40 The proponent must provide a map delineating the areas covered by the *Waswanipi Mishagamish* proposed protected area and the *Broadback Watershed Conservation Plan* and indicate whether the extension of forest road L-209 Nord encroaches on these areas of interest.

The proponent reported on the outcome of the consultations held with communities during the project planning stage, but certain elements need to be clarified or updated.

QC 41 With regard to the project's impact on navigation, the proponent must provide a detailed explanation of how and in what context the consultation process was conducted. A report on the consultations must be provided.

QC 42 The proponent must report on any consultations held on the project since the public hearings in June 2010 (date of consultation, participants, minutes, etc.). This includes consultations with tallymen and land users as well as with band councils.

QC 43 The proponent must indicate all commitments made during the consultations in relation to the *Waswanipi Mishagamish* proposed protected area or the *Broadback Watershed Conservation Plan*, as the case may be.

QC 44 In section 7.8.3 of the impact assessment statement, the proponent briefly describes hunting, fishing and trapping activities in general. Drawing on information provided by tallymen, the proponent must describe the activities they practise within their traplines (location of camps, species harvested, period of year activities are practised, etc.).

Identification and assessment of impacts

Given the incomplete description of the biophysical environment provided in the impact assessment statement, a more thorough assessment of impacts is needed. In addition, the proponent must identify a threshold of irreversibility for each impact determined.

QC 45 Based on the potential habitats in the local assessment area identified in QC 24, the proponent must indicate the wildlife habitat losses caused by the road's construction.

¹ <http://www.gcc.ca/pdf/Broadback-Watershed-Conservation-Plan-English-Version.pdf>

QC 46 Based on the potential habitats in the local assessment area identified in QC 26, the proponent must indicate the habitat losses for animal and plant species designated as rare or threatened, or likely to be so designated, caused by the road's construction.

QC 47 The proponent must specify not only the project's impacts on species of special interest to the Crees, but also on the Crees' use of those species.

Even though the impact assessment statement mentions that almost 20% of the local assessment area is covered by peatlands, no information is provided as to the distance and surface area of wetlands affected by the project.

QC 48 For each wetland affected by the project, the proponent must indicate the type and surface area of the wetland lost to the road's construction. It is recommended that the surface area be calculated applying a 30-m-wide buffer strip either side of the road. In addition to the direct loss of peatland to the road infrastructure, it is a known fact that disturbances in peatlands can have indirect hydrological impacts over a distance of 30 m.

According to Garneau and van Bellen (2016), carbon build-up in peatland is nine times higher than in forest soils. Their study shows the importance of peatland for carbon storage and greenhouse gas emissions reduction. If changes in soil use are not carefully predicted, stored carbon may be released into the atmosphere.

QC 49 Based on the study by Garneau and van Bellen (2016), the proponent must assess the amount of carbon currently stored in peatlands identified in QC 48 and what it represents in terms of annual CO₂-equivalent emissions. The proponent must specify the volume of stored carbon that will be affected by the project and, if applicable, propose management methods to prevent or minimize the release of carbon stored in peatland soils.

The consultations with tallymen revealed the existence of spawning grounds in the local assessment area. However, the proponent makes no relation between these spawning grounds and the work to be carried out in watercourses.

QC 50 The proponent must indicate which structures will affect occurring fish species, their habitat and spawning grounds, and assess the impacts on the spawning grounds.

Table 11.1 in the answers to supplementary questions indicates that crossing #2009-26 will restrict the watercourse (reduce its width) by more than 20%. According to a tallymen, there is a spawning ground in this watercourse.

QC 51 The proponent must describe the impact of the watercourse narrowing on the spawning ground, the fish species and its habitat.

The proponent provided only a partial answer to supplementary question #1. It neglected to discuss the anticipated economic spinoffs (direct and indirect) of its project, particularly for the region's Cree and non-Native communities.

QC 52 The proponent must round out and update the information provided in its answer to Question 1 (COMEX) in the document dated December 2009.

QC 53 Given that the proponent plans to use oversized trucks to transport timber, which could mean a smaller fleet than if standard-size trucks were used, does the proponent expect this to have an impact on the number of jobs for timber transportation and on the regional economy?

Impacts on woodland caribou

The proponent largely underestimates the impacts on woodland caribou, considering that the species uses more than a 6-km area around Lake Ruth.

QC 54 Based on the information provided in QC 33, the proponent must explain how widening of the road and the resulting increase in road use are liable to amplify the impact on the migratory behaviour of woodland caribou.

QC 55 The proponent must indicate whether the proposed road runs through heavily used areas delineated in QC 32. This includes whether the road is liable to create a barrier that will prevent or restrict caribou movement between heavily used areas (impact on connectivity of heavily used areas) or, more broadly, jeopardize exchanges between the Assinica and Nottaway herds.

QC 56 Road construction elicits avoidance behaviour in woodland caribou, not only during the actual construction, but also during subsequent road use. The proponent must explain how construction of forest road L-209 Nord will affect the relative probability of caribou occurrence discussed in QC 35.

QC 57 At the scale determined in the information provided in QC 36, the proponent must compare the disturbance level before and after the road's construction, indicating if there is a significant change in the probability (%) that the woodland caribou population in the assessment area will be self-sustaining. Calculation of the disturbance level after the road's construction must include borrow pits the proponent plans to use and the surface areas of cutting areas covered in the 2013-2018 forest management plan.

QC 58 In quantifying the habitat loss for woodland caribou caused by the road's construction, the proponent must take functional habitat loss into account. The latter must be evaluated for a width of 4.5 km either side of the proposed road.

Mitigation measures

The proponent discusses various measures to mitigate the project's environmental and social impacts, but additional information is needed regarding the measures' implementation.

- QC 59 The proponent must discuss the planned mitigation measures to reduce the impact of the road's construction and use on the wildlife species of special interest to the Crees identified in QC 47.
- QC 60 With regard to the mitigation measure discussed in section 9.2.1.1 of the impact assessment statement, and in light of its answer to Question 5 (COMEX) in the document dated December 2009, the proponent must explain where it is at in its evaluation of the possibility of transporting timber in the fall or winter. It must also indicate the source of the information used to determine this mitigation measure and explain in what way conducting operations in winter would have positive effects for gestating females.
- QC 61 The proponent must define new mitigation measures in light of its reassessment of impacts on woodland caribou. Special attention must be given to measures to prevent caribou displacement during construction work in core areas near the road corridor that are used by species during critical periods of the year (e.g. late winter/early spring or calving/post-calving).
- QC 62 Section 9.2.4 of the impact assessment statement deals with peatlands and wetlands. The fact that peatlands abound in Northern Québec is not a reason not to plan measures to mitigate the impact on wetlands. Given that peatlands represent an important carbon sink, the proponent must explain how it plans to employ the mitigation hierarchy of "avoid, minimize, offset" in this road project.
- QC 63 In section 9.2.6 of the impact assessment statement, the proponent says that sedimentation barriers will be installed in drainage channels. The proponent must explain the planned monitoring measures to ensure the barriers are effective.
- QC 64 As indicated in section 11.3 of the answers to supplementary questions, the dismantling of culverts at crossing #2009-06 will lead to a large increase in suspended solids in the watercourse. The proponent must explain the planned measures to mitigate this impact downstream of the work.
- QC 65 In section 9.2.7 of the impact assessment statement, the proponent says that the opening up of Category II lands is a major concern for the Cree Nation, but that no mitigation measure can be taken because Barrette-Chapais is obligated to harvest timber in this territory. However, during a meeting with the tallymen of traplines W-10, W-10A, W-12 and W-22 held on January 15, 2009, the proponent told the tallymen that it did not have a problem with designing the road so that it ends before the boundary of Category II lands. Does this position still hold?
- QC 66 According to section 9.2.11 of the impact assessment statement, the only mitigation measures planned will be to reduce the impact of accidental hydrocarbon spills. The proponent must discuss the planned measures for reducing the risk of spills on the ground or in watercourses.

QC 67 Apart from inviting all Cree enterprises to participate in the project (invitation made at the public hearing in Oujé-Bougoumou on June 1, 2010), has there been any developments regarding the involvement of Cree enterprises or workers in the road's construction? Can the proponent guarantee that Crees will be hired for this project?

Environmental monitoring

QC 68 The purpose of an environmental and social monitoring program is to make sure that the mitigation measures put in place are effective and the impact assessment conducted was adequate so that adaptive impact management measures can be implemented. Following the guidelines set out in section 6 of the directives for the project, the proponent must submit an environmental and social monitoring program, with emphasis on monitoring the effectiveness of mitigation measures for woodland caribou. The monitoring program can be carried out with other partners if necessary.

6. References

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the Ministère du Développement durable, de l'Environnement, de la Faune et des
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