ECCC Response to Targeted Questions for Federal Analysis

The review by the Impact Assessment Agency of Canada (IAAC) is focused on the key issues that are relevant for federal impact assessment decision-making, specifically adverse federal effects and public interest factors. Regarding the adverse federal effects, IAAC aims to understand where standard mitigation measures would apply and the Proponent's proposed mitigation seems appropriate, where existing legislative frameworks can be leveraged, and where oversight and protections from federal and provincial laws can build confidence that effects would be managed and potentially impacted Indigenous communities would be consulted or engaged.

To support IAAC's review of the draft Impact Statements and preparation of the draft Impact Assessment Report, please provide responses to the targeted questions in the table. IAAC assigned questions to federal authorities and provincial ministries of the Government Review Team (GRT). (A list of acronyms is included at the end of this document.) The targeted questions are designed to seek specific feedback and input to further IAAC's analysis of the key issues for preparation of the draft Impact Assessment Report.

When responding to these questions, please consider not only Marten Falls Community Access Road Project (the Project), but also Northern Road Link Project and Webequie Supply Road Project. As these three proposed projects are within the same geographic region, please advise of possible distinct considerations when responding to the questions. IAAC will consider the responses to the targeted questions and seek patterns in problem solving when conducting its analysis for all three road projects to ensure efficiency of the assessment processes.

When completed, please return this form to the Marten Falls Community Access Road Project inbox, martenfalls@iaac-aeic.gc.ca.

Identifier (GRT member)	Question	GRT Member Response
Effects to Fish and Fish Habitat		
The Marten Falls Community Access Road Project (MFCAR) draft Impact Statement (dIS) shows that the Local Study Area (LSA) includes the project footprint and extends 2.5 km from the centreline of the preferred route alternative with a 500-m buffer for any areas outside of this, such as aggregate sites and worker camps. The Regional Study Area (RSA) includes the catchment areas of the three watersheds (Upper Albany-Makokiban, Lower Ogoki, and Upper Albany-Muswabik) crossed by the Project. **<u>Fish:</u>** With respect to **fish**, IAAC is of the view that injury or mortality to fish species identified by Indigenous communities (e.g., burbot, brook trout, lake sturgeon, lake whitefish, northern pike, and walleye) from construction and maintenance works, as well as impacts from fishing pressures, may be addressed through standard mitigation measures and other requirements stipulated by federal mechanisms under the *Fisheries Act* and provincial legislative frameworks such as provincial permitting of in-water works (e.g., approvals under *Lakes and Rivers Improvement Act* and/or *Public Lands Act*) and protections through licensing under *Fish and Wildlife Conservation Act*. Appendix G of the dIS identifies **suitable habitat to support 37 fish species** in the LSA, six of which are noted as fish species of importance to Indigenous communities. These six fish species were identified in lakes and large rivers and may be present at the proposed large water crossing locations, for example at the **three largest crossings** for MFCAR (the Albany River crossing and the two Ogoki River crossings). The dIS also shows that suitable habitat for lake sturgeon, a species of special concern under the *Species at Risk Act* (SARA) and Ontario's *Endangered Species Act, 2007*, is present at the three largest crossings. IAAC has previously consulted the Canadian Aquatic Species at Risk database and is not aware of any other aquatic species at risk likely to be present in the study areas. According to the Proponent, **potential effects to fish** include injury or mortality from blasting near waterbodies and from in-water work; changes to survival, reproduction and distribution from the placement of waterbody crossing structures affecting access to fish habitats; and reduced population levels due to increased public access to angling areas. IAAC has also received comments from Indigenous communities that they are concerned about increased angling pressure on fisheries. **Mitigation measures** for effects to fish that the Proponent has proposed (in Appendix G) include minimize the use of explosives and conduct blasting operations outside of sensitive periods; adhere to best practices to salvage and relocate fish away from work areas; follow best practices to avoid sensitive fish habitats as much as possible (e.g. use appropriate timing window for in-water work); and maintain water flows and safe fish passage. Also, the Proponent indicated that it is developing a policy for non-Indigenous personnel on shift or at the construction camps in regard to any fishing activities to address potential angling pressure.		

Identifier (GRT member)	Question	GRT Member Response
	Fish habitat: With respect to **fish habitat**, IAAC is of the view that adverse changes to fish habitat from in-water construction and maintenance works at **minor** water crossings (i.e. culverts and clear span bridges), may be addressed through standard mitigation measures and other requirements stipulated by federal mechanisms under the *Fisheries Act*, and provincial permitting of construction activities (e.g., approvals under Ontario's *Lakes and Rivers Improvement Act*, *Aggregate Resources Act* and *Public Lands Act*). Adverse changes to fish habitat from in-water construction and maintenance works at **major** water crossings (i.e. multi-span bridges, such as those proposed at Albany and Ogoki rivers), where fish habitat is anticipated to be harmfully altered, disrupted or destroyed, as well as works affecting wetlands that support fish habitat may be addressed through federal and provincial mechanisms, such as, authorization pursuant to the *Fisheries Act*, and provincial permitting of construction activities noted above. The Project has a linear footprint that crosses multiple watersheds. According to the dIS, habitat overprinting would occur at the proposed water crossings. The proposed **45 permanent crossings** would include **10 major crossings** that require multi-span bridges containing in-water piers, **13 crossings with culverts** and **22 with clear span bridges**. The dIS indicates that the 10 major water crossings, including the Albany River crossing and the two Ogoki River crossings, would account for approximately 73%, or about 6 hectares (ha) of the approximately 8.3 ha total fish habitat that would be destroyed or permanently altered by the Project. The proposed **24 temporary crossings** would include **6 major crossings** that require multi-span bridges containing in-water piers, **6 crossings with culverts** and **12 with clear span bridges**. The dIS indicates that the temporary crossings would account for an additional 4.4 ha of impacted fish habitat. **Potential effects to fish habitat** include changes to habitat quality and quantity through physical alteration of waterbodies and watercourses; changes to riparian vegetation; changes from the release of sediment at watercourse crossings; changes from the placement of watercourse crossing structures; changes in channel morphology; and changes in hydrology. **Mitigation measures** for effects to fish habitat that the Proponent proposed include timing windows; buffer zones; erosion and sediment controls; and project design to maintain downstream flows and fish passage. **Federal and provincial frameworks for fish and fish habitat:** IAAC understands that water crossing design, construction, operation and maintenance is managed through provincial frameworks under the *Lakes and Rivers Improvement Act* and/or *Public Lands Act,* usually in accordance with standard guidelines available to proponents, and with the option for MNR to place conditions on the proponent where appropriate. One purpose of the *Lakes and Rivers Improvement Act* is to provide for the management, perpetuation and use of fish. IAAC understands that as lake sturgeon are of special concern, they do not receive special protections under the *Endangered Species Act, 2007*, but may be eligible for provisions to help with their protection and recovery. DFO will review water crossings for potential effects to fish and fish habitat and will determine whether a Letter of Advice is sufficient or if an authorization with conditions may be required under the *Fisheries Act*. IAAC also understands that DFO and MNR sometimes cooperate on the review of water crossings. IAAC also understands that aggregate pits, which require permits issued under the *Aggregate Resources Act*, and other project activities may require permits to take water under the *Ontario Water Resources Act,* a provincial framework that considers water availability, ecosystem needs and impacts on water users in decision-making.	
FFH-01 (DFO)	Considering the proposed mitigation measures (See Appendix G for all mitigation measures proposed by the Proponent), is it reasonable to conclude that 1) the local fish populations would be self-sustaining, and 2) there would be little to no non-negligible adverse changes to habitat function or productivity in the LSA and RSA from construction and/or maintenance of the proposed water crossings that would affect populations of Valued Component fish species? Please explain your response to each of the two conclusions, describing any distinct considerations/conditions associated with the project-related stressors on the fish populations and the different types of water crossings (e.g. multi-span bridge, culvert, clear span bridge) at their proposed locations and, as necessary, describe any uncertainty.	

Identifier (GRT member)	Question	GRT Member Response
FFH-02 (DFO)	Please confirm or clarify the context provided above about frameworks and instruments under the *Fisheries Act* that may provide oversight to construction and maintenance of the different types of water crossings (e.g. multi-span bridge, culvert, clear span bridge) and other project activities and components, as they relate to fish and **fish habitat**. Have any other relevant frameworks and instruments been missed? Please describe whether and how each of the frameworks may provide a means to address potential project-related effects to fish and fish habitat (such death of fish or the harmful alteration, disruption or destruction of fish habitat). For example, are conditions sometimes placed on approvals to ensure appropriate timing windows are adhered to, adequate flows are maintained for safe fish passage, best practices are implemented for salvage and relocation, erosion and sedimentation are managed effectively, and changes to riparian vegetation are minimized? For your department's management frameworks, is Indigenous consultation incorporated into the decision-making, and if yes, how does your consultation contemplate effects to Indigenous fishing?	
FFH-03 (MECP)	Please confirm or clarify the context provided about frameworks and instruments under the *Endangered Species Act, 2007* and *Ontario Water Resources Act* that may provide oversight to water crossings and other project activities and components, such as water taking and discharge for various uses, as they may relate to fish. Have any other relevant frameworks and instruments been missed? Please describe whether and how each of the frameworks may provide a means to address potential project-related effects to fish and fish habitat (such as effects to water quality and hydrology, as well as pollution that may harm fish). For example, are conditions sometimes placed on approvals to ensure water quality and hydrology is maintained and pollutant discharges that could affect fish are managed? For your ministry's management framework, is Indigenous consultation incorporated into the decision-making, and if yes, how does your consultation contemplate effects to Indigenous fishing?	
FFH-04 (MNR)	Please confirm or clarify the context provided above about frameworks and instruments under the *Aggregate Resources Act*, *Lakes and Rivers Improvement Act* and *Public Lands Act* that may provide water resource protections and oversight to water crossings and other project components, such as aggregate pits, as they relate to fish (including the water resources on which the fish depends). Have any other relevant frameworks and instruments been missed? Please describe whether and how each of the frameworks may provide a means to address project-related effects to fish and fish habitat (such as effects on the perpetuation and use of fish or on ecosystem needs of water). For example, are conditions sometimes placed on approvals to ensure appropriate timing windows are adhered to, adequate flows are maintained and obstructions avoided to safeguard fish passage, and changes to riparian vegetation are minimized?	

Identifier (GRT member)	Question	GRT Member Response
	For your ministry's management frameworks, is Indigenous consultation incorporated into the decision-making, and if yes, how does your consultation contemplate effects to Indigenous fishing?	
FFH-05 (MNR)	IAAC understands that local angling pressure and fisheries are managed provincially through mechanisms such as fishing seasons, catch limits and licencing rules. Please specify the mechanisms and their legislation and regulations that could apply in the region, including any fisheries management planning and fisheries monitoring, now or in the future, as well as indicate whether Indigenous consultation and knowledge are incorporated into adaptive management approaches and decision-making.	
FFH-06 (DFO)	As noted above, IAAC understands that in-water construction and maintenance works at permanent and/or temporary **major** water crossings (such as those proposed at Albany and Ogoki rivers) would require a *Fisheries Act* authorization. Please confirm or clarify this understanding. Would a *Fisheries Act* authorization also be required at permanent and/or temporary **minor** water crossings? Should offsetting be needed as part of a *Fisheries Act* authorization, what is the likelihood that offsetting would be feasible within the same watershed as the loss or alteration (or more specifically, within reach of the local fish populations affected)? Please also describe how Indigenous and provincial input acquired through the impact assessment or permitting engagement may inform preferred offsetting locations. In the event that offsetting may be required, what specific instructions or requirements can you share at this time to help the Proponent prepare an offsetting plan?	

Effects to Migratory Birds

IAAC is of the view that adverse changes to migratory birds and their nests and eggs from construction and maintenance works may be addressed through federal guidance to minimize risk of contravening the *Migratory Birds Convention Act*, and Crown land work permits under Ontario's *Public Lands Act* for land clearing and use of provincial Crown land may offer protections to migratory birds and their habitats.

Appendix L of the MFCAR dIS identifies **six bird groups as Valued Components** with at least one species of migratory birds selected as a proxy for each Valued Component.[1] The Valued Components are forest birds (e.g., red-eyed vireo); raptors (e.g., bald eagle); shorebirds (e.g., wilson's snipe); waterfowl and waterbirds (e.g., mallard); bog/fen birds and other wetland birds (e.g., palm warbler, common yellowthroat, northern waterthrush, sora); and finally a group of 12 birds that are migratory, species at risk listed under Schedule 1 of *Species at Risk Act* (SARA), and species at risk listed in Ontario's *Endangered Species Act, 2007*. (Details are found in Appendix L.)

Based on the Proponent's data, the percentage of **suitable habitat for the Valued Components** in the Local Study Area (LSA) and Regional Study Area (RSA) that would be lost due to overprinting by the Project, is expected to be small, ranging from 0 to 3.3% of suitable habitat lost in the RSA. The Proponent defines the LSA as the area that is 3 km on either side of the right-of-way of the route alternatives, and the RSA is the area that is 11 km on either side of the right-of-way of the route alternatives.

Project construction would result in road cuts and sand and gravel pits that **may provide nesting habitat** for bank swallows. Similarly, large culverts installed as part of project design may provide suitable habitat for the barn swallows. The Proponent also indicated that the common nighthawk density may be positively correlated with human disturbance, therefore it is expected that project construction may attract more common nighthawks to the area. IAAC notes that bank swallow is listed as a threatened species on the Species at Risk in Ontario List under the *Endangered Species Act, 2007*, a legislative framework which protects both the bird and its habitat. Within this

[1] A few proxies are migratory birds that are not protected by the *Migratory Birds Convention Act* (e.g., Bald Eagle, Peregrine Falcon, Rusty Blackbird and Short-eared Owl).

Identifier (GRT member)	Question	GRT Member Response
framework, IAAC understands that the Proponent would be expected to avoid and mitigate impacts to the bank swallow and its habitat by means such as adhering to guidance outlined in Ontario's Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario[2]. In addition, other **mitigation measures** have been proposed by the MFCAR Proponent to avoid incidental take and minimize habitat loss. Those include following ECCC's *Guidelines to avoid harm to migratory birds*; avoiding high quality habitats and sensitive areas for migratory bird species at risk; minimizing direct loss of vegetation communities; avoiding the nesting periods for vegetation clearing and construction activities; implementing non-intrusive pre-clearing nest surveys if vegetation clearing is required during the migratory bird nesting season; conducting wildlife sweeps; inspecting bridges and culverts for birds and/or nests and obtaining a damage permit under the *Migratory Bird Regulations, 2022*, when required, as per the Ontario Ministry of Transportation's *Environmental Protection for Migratory Birds;* posting and enforcing of appropriate speed limit during operation and maintenance; maintaining material stockpiles at 70 degrees or less to deter bank swallow nesting; and implementing buffer zones for nests and indicated nests, where possible. In addition, a Terrestrial Biodiversity Offset Plan would be developed to work towards no net loss of migratory bird habitat.		
MB-01 (ECCC)	Considering implementation of the mitigation measures proposed by the Proponent to avoid harm or incidental take, does ECCC concur that effects to individual migratory birds and their nests and eggs in the LSA and RSA would be low? Please explain your response and describe any uncertainty. If of a different view, please explain ECCC's view on its predictions on the likely residual effect to migratory birds, and their nests and eggs. This should include a prediction for the likely scenario and worst-case scenario based on available information.	Based on information provided by the Proponent in Appendix L of the dIS, and provided that the mitigation measures proposed by the Proponent are implemented and effective (but see caveats, below), ECCC concurs that the effects to individual migratory birds and their nests and eggs, in terms of immediate physical harm or mortality, in the LSA and RSA are likely low. ECCC did not consider effects to migratory birds due to habitat loss or displacement as ECCC's views on these topics were not requested. There is a high degree of uncertainty in the ability to avoid harm or incidental take for the mitigation measure proposed by the Proponent in Appendix L of the dIS to conduct "non-intrusive pre-clearing nest surveys" if vegetation clearing is "required during the migratory bird nesting season". A definition of "non-intrusive" was not provided nor was information on the types of surveys that would meet this criterion. ECCC does not recommend pre-clearing nest surveys to determine nest occupancy as a mitigation measure to protect migratory bird individuals and their nests and eggs from vegetation clearing, or other construction and maintenance activities that may harm or disturb nesting birds, during the nesting season. As outlined in the *Guidelines to avoid harm to migratory birds*, nest searches are not recommended as the ability to detect nests is very low while the risk of disturbing or damaging active nests is high. There are specific conditions in which such surveys may be appropriate, such as if there are only a few possible nesting spots to search or if the activities will take place in 'simple' habitats like a lawn with a few isolated trees, or for colonial breeding species that can be located from a distance. As the project area is large with dense vegetation, the conditions under which nest searches may be appropriate are likely not present for most of the construction area for this project. If migratory birds are present during activities that are likely to disturb or damage active nests, the Proponent should take measures to decrease the likelihood of harming individuals, nests, and eggs. For example, ECCC recommends consideration of the following as outlined in the *Guidelines to avoid harm to migratory birds*: • Identify bird habitats likely to support nesting birds that may be affected by vegetation clearing or other construction and maintenance activities. • Identify migratory birds likely to be found in these habitats, for example by conducting point count surveys.

[2] https://files.ontario.ca/bansbmpenpdffinalv.1.117mar17.pdf

Identifier (GRT member)	Question	GRT Member Response
		• Identify the time periods when these species are likely to be nesting. • If migratory bird nests are likely to be occupied where work is planned, activities that could disturb or destroy nests should be avoided, adapted, rescheduled, or relocated; the best way to avoid disturbing or destroying active nests is to avoid conducting harmful activities during the breeding season. • If a nest containing a migratory bird or egg is disturbed despite the above measures, halt activities in the area, move away and avoid disturbing surrounding vegetation or making a trail to and from the nest, protect the nest with a buffer zone, and avoid the area until the young have naturally left the vicinity of the nest. • It is not recommended to mark nests using flagging tape or similar materials as this may increase the risk of predators finding the nest; if necessary, flagging tape can be placed at the limits of the buffer zone. • The setback distance for the buffer zone will vary based on the degree of tolerance of the species, previous exposure of the birds to disturbance, the level of disturbance, and the landscape context; setback distances should be established based on the distance at which the bird becomes alert to the activity. For further information, see Table 2 Examples of lower and higher risk levels for the factor associated with protection of nests, in *Guidelines to avoid harm to migratory birds*. Activities associated with higher risk levels, such as clearing vegetation in migratory bird nesting habitat during the nesting season, may lead to residual effects to migratory birds, and their nests and eggs, as well as contravention of the *Migratory Birds Convention Act* (MBCA) and *Migratory Birds Regulations* (MBR). One exception to this is nest searches for Schedule 1 migratory birds, specifically Pileated Woodpecker and Great Blue Heron. Nests of these species are protected year-round under the MBR, and cannot be damaged, destroyed or removed unless the Proponent has provided a notice through the Abandoned Nest Registry that the nest is not in use and the nest has remained unoccupied by a migratory bird from the time the notice is received by ECCC for the duration of time indicated in the Schedule 1 for that species (24 months for Great Blue Heron, 36 months for Pileated Woodpecker). The Proponent states: "If pileated woodpecker nest cavities are found during wildlife sweeps, the nests will be registered in the Abandoned Nest Registry and monitored for a minimum of 36 months to determine if the nests are actively being used by migratory birds. Any trees with a pileated woodpecker nest will not be removed until they are determined to be inactive for at least 36 months after discovery." (Appendix L, PDF page 307). ECCC recommends similar mitigation measures in relation to Great Blue Heron nests. See more info on Schedule 1 Migratory Birds here: Fact sheet: Nest Protection under the Migratory Birds Regulations, 2022 - Canada.ca. Another mitigation measure that contributes to uncertainty is the unknown implementation of the measure proposed by the Proponent: "The Project will be routed to avoid high quality habitats and sensitive areas for migratory bird species at risk to the extent feasible". These are areas where species at risk individuals and their nests and eggs may be more at risk of direct harm due to construction of the road. Further information

Identifier (GRT member)	Question	GRT Member Response
		on how such areas were (or will be) identified, their locations in relation to the proposed route, and how the Project was (or will be) routed to avoid these areas would help reduce uncertainty.
MB-02 (ECCC)	Considering that the Project could create new nesting habitat for certain migratory bird species, such as the barn swallow, bank swallow and common nighthawk, would the mitigation measures proposed by the Proponent be protective of these migratory birds and their nests and eggs during the life of the Project? If not, please provide other best practices or mitigation measures that can be applied to the Project and have proven to be protective of these migratory birds known to occur in areas with human disturbances. Please confirm the standard practices that the Proponent may implement to prevent new establishment in unsafe areas with human disturbances and to protect the migratory birds.	**Common Nighthawk** It is possible the general mitigation measures proposed by the Proponent to protect migratory birds and their nests and eggs would not be protective of Common Nighthawk and their nests and eggs if the project creates new nesting or roosting habitat that is hazardous due to construction activities or operation of the road. As the potential creation of new nesting or roosting habitat for species like Common Nighthawk has not been considered in the draft IS, ECCC recommends the Proponent monitor potential nesting and roosting areas in proximity to the road, and other areas of active development, for Common Nighthawk activity. Note that, as outlined in MB-01, nest searches are not recommended. If monitoring indicates Common Nighthawk presence or use of areas on or near the road, or in areas of active development, the Proponent should take measures to decrease the likelihood of harming individuals, nests, and eggs. For example, ECCC recommends consideration of the following: • Erect road signs or speed bumps to lower vehicle speeds during the active season. • Use deterrents such as noise makers or visual deterrents such as reflective or holographic tape or streamers, or predator decoys. • If nesting is observed or suspected, avoid construction and maintenance activities during the active season in that area. To increase the likelihood of preventing Common Nighthawk from nesting or roosting in development and roadside areas, ECCC recommends the following measures: • Landscape along roads and other development areas using taller trees and bushes to make these areas less suitable to Common Nighthawk for nesting, and to cause birds to fly higher. • Maintain undisturbed areas of high-quality natural nesting habitat within the PSA, such as sandy areas (e.g., dunes, eskers, and beaches), open forests (e.g., mixed-wood and coniferous stands, burns, and clearcuts), wetlands (e.g., bogs, marshes, lakeshores, and riverbanks), gravelly or rocky areas (e.g., outcrops, barrens). ECCC advises that such measures should also be considered in relation to the Northern Road Link and Webequie Supply Road projects. **Barn Swallow and Bank Swallow** Provided that the mitigation measures proposed by the Proponent, and the guidance outlined in Ontario's Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario, are implemented and effective, ECCC concurs that these measures would likely be protective of Bank Swallows and their nests and eggs.

Identifier (GRT member)	Question	GRT Member Response
		If similar best practices for Bank Swallow were effectively applied to Barn Swallow nests and nesting habitat, these measures would likely be protective of Barn Swallows and their nests and eggs. Note that under SARA, Barn Swallow residences include both occupied and unoccupied nests. The Proponent states that Barn Swallow and Bank Swallow were not detected in any surveys and no suitable habitat was identified within the RSA, however they also state that climate change is expected to move the distribution of these species further north. With this context, ECCC recommends the Proponent monitor potential nesting areas for these species and implement the above measures and best practices if nesting activity is observed or suspected. ECCC advises that such measures should also be considered in relation to the Northern Road Link and Webequie Supply Road projects.
MB-03 (MECP)	Are there provincial mechanisms, such as an overall benefit permit under the *Endangered Species Act, 2007* and conditions of approval under the *Environmental Assessment Act*, that can help to minimize effects to birds, including migratory birds and vegetated habitats suitable for migratory birds? Please specify and describe the mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
MB-04 (MNR)	Are there provincial mechanisms, such as the Crown land work permits under the *Public Lands Act*, that can help to minimize effects to birds, particularly migratory birds, and their habitats? Please specify and describe the mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Effects to Current Use of Lands and Resources for Traditional Purposes - Changes to Game Birds That Support Indigenous Hunting		
Based on the information provided by the MFCAR Proponent in the dIS, IAAC understands that the populations of bird species of importance to Indigenous communities are expected to remain self-sustaining and ecologically effective in the Regional Study Area. (The Regional Study Area is defined as the area that is 11 km on either side of the right-of-way.) Of note, IAAC is aware that Indigenous communities potentially impacted by the Project have indicated that they hunt ducks, geese and grouse.		
CU-01 (MNR)	Does MNR find it reasonable for the Proponent to conclude that the direct loss of habitat caused by the Project would not reduce the abundance or availability of bird species for hunting by the Indigenous communities? Please explain your response and describe any uncertainty with the Proponent's conclusion and your response. If viewed differently from the Proponent, please explain what MNR predicts the likely change would be in abundance and availability of birds for hunting, and why. If there are ways the change can be reduced, suggest them, and explain how these would change the outcome.	
Effects to Current Use of Lands and Resources for Traditional Purposes - Changes to Caribou That Support Indigenous Hunting		
IAAC expects non-negligible adverse changes to caribou and their habitat.		

Identifier (GRT member)	Question	GRT Member Response
Caribou: IAAC understands that Indigenous communities hunt boreal caribou for consumption and subsistence, along Attawapiskat River, around McFaulds Lake, along Muketei River, and within the Asheweig River, Ekwan, Winisk and Attawapiskat watersheds. IAAC notes that boreal caribou are protected on private and provincial Crown land in Ontario under the *Endangered Species Act, 2007* (ESA). IAAC understands that this framework aims to achieve an overall benefit to the species through implementation of permit conditions that would allow an adverse change to caribou or its habitat. IAAC also understands from the *Endangered Species Act Submission Standards*[3] that overall benefit actions that focus on the local population or habitat adversely affected by an activity are preferred in decision-making. Further, IAAC notes that the province would consult Indigenous communities prior to making decisions under the ESA, including consultation undertaken as part of the environmental assessment. The MFCAR Proponent indicated that linear infrastructure would increase the **presence of caribou predators**. The dIS suggests that sensory disturbance during construction and maintenance activities likely would result in avoidance; however, predation of caribou still is expected to occur. The MFCAR proponent has identified the following **mitigation measures** to address increased predation from the presence of linear features: minimizing vegetation clearing; maintaining vegetation under 2 m along linear features; minimizing width of linear features; including switchbacks and bends in temporary roads; installing visual barriers in areas used by predators; and implementing adaptive management during the operation phase. Sensory disturbance to caribou is anticipated over the life of the Project. The MFCAR Proponent suggested that **sensory disturbances** during the construction phase **may impact caribou behaviour** and may be encountered up to 5 km from the Construction Disturbance Area (CDA). (The CDA is the project footprint, including roadway and ancillary features.) In addition, the Proponent suggested that sensory disturbances, from road traffic would occur up to 500 m from the CDA, during the operation phase. Sensory disturbances from future mining trucks would be focused primarily in the southern (north-south) portion of the road, whereas caribou habitat is more prevalent in the northern (east-west) portion of the road. The Proponent has identified the following **mitigation measures for sensory disturbance** during the construction and operation phases of the Project: avoiding disruptive construction activities during sensitive window; noise abatement, emission and pollution control equipment on machinery; and enforcement of speed limits to reduce noise from traffic. **Caribou habitat:** Information from the MFCAR dIS identified pockets of category 1 type boreal caribou habitat in the northern portion of the road corridor. The habitat extends up to the James Bay and Hudson's Bay coasts (Appendix M, Figure 5-15 and Figure 5-18). The MFCAR Proponent indicated that project construction would result in minimal **loss of boreal caribou habitat** in the caribou LSA and the RSA. (The Proponent defines the caribou LSA as the area that is 10 km on either side of the right-of-way of the route alternatives, and the caribou RSA includes the provincial Missisa, Ozhiski, Nipigon and Pagwachuan ranges.) The Proponent has indicated that 6.6% and 0.2% of category 1 habitat would be removed from the LSA and RSA, respectively, and has identified **mitigation measures** to further minimize effects of habitat loss. Measures include, minimizing vegetation clearing; maintaining connectivity, function and quality of compatible habitat; revegetating cleared areas; and implementing methods to speed up vegetation regrowth. In addition, a terrestrial offsetting plan, with a purpose to achieve a net increase in functional caribou habitat, was proposed by the Proponent.		
CU-02 (ECCC)	How does ECCC work with MECP to protect caribou not on federal lands that are important to Indigenous Peoples?	From a regulatory perspective, caribou management and protection within the MFCAR project area is primarily the responsibility of Ontario. Responsibility for wildlife conservation in Canada is shared between the federal, provincial, and territorial governments. The SARA was designed to work collaboratively with provincial and territorial legislation to protect species at risk. Under SARA, the federal government is responsible for migratory birds and aquatic species at risk wherever they occur, as well as terrestrial species at risk found on federal lands. Under these

[3] https://www.ontario.ca/page/endangered-species-act-submission-standards

Identifier (GRT member)	Question	GRT Member Response
		conditions, certain SARA prohibitions protecting individuals and residences (e.g., nests or dens) of endangered, threatened and extirpated species apply automatically. ECCC is committed to working collaboratively with the provinces and territories on the recovery and conservation of boreal caribou. ECCC regularly meets with Ontario's Ministry of the Environment, Conservation, and Parks to discuss and collaborate on shared interests including the protection and recovery of species at risk and their habitat in Ontario as it relates to federally listed terrestrial species at risk. In particular, the governments of Ontario and Canada are currently implementing an agreement for the conservation of caribou, boreal population in Ontario (https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/conservation-agreements/agreement-conservation-caribou-boreal-ontario-2022.html), signed in April 2022 under sections 10 and 11 of the SARA. The agreement provides a framework for both governments to work collaboratively, and with Indigenous and non-Indigenous partners, to sustain or improve the environmental conditions necessary to maintain and recover self-sustaining local populations of boreal caribou in Ontario. The agreement includes several key commitments to support boreal caribou conservation and is backed by investments from both Canada and Ontario. Implementation of the agreement has been informed by ongoing engagement with Indigenous Peoples and stakeholders. The conservation agreement does not directly address collaboration on federal or provincial impact/environmental assessment processes or permitting and does not currently provide a forum for collaboration on these matters. While collaboration through the agreement on caribou conservation and recovery in Ontario is different from project-specific collaboration, ECCC welcomes the opportunity to work with MECP on this project and other development projects that may impact caribou to support meeting federal recovery objectives as well as effective analysis and mitigation of potential effects.
CU-03 (MECP)	Based on information from the MFCAR dIS (Appendix M, Figures 5-15 & 5-18), IAAC has observed that the distribution of boreal caribou would not be as affected by the Project as it may be by the Northern Road Link and Webequie Supply Road Projects. Considering implementation of the proposed mitigation measures described in the MFCAR dIS (including an offsetting plan), what is MECP's view on whether these measures would minimize changes to caribou behaviour and distribution and any associated effect on resource availability for caribou hunting? Please confirm whether the proposed mitigation measures would be effective for all three projects individually, as well as for all projects from a cumulative perspective. If the road project(s) were to change caribou behaviour and distribution, how and where may caribou presence change through the seasons? Please confirm how caribou distributions may change in the area, including, along Attawapiskat River, around McFaulds Lake, along Muketei River, and within the Asheweig River, Ekwan, Winisk and Attawapiskat watersheds. Please explain your response and describe any uncertainty with the Proponent's conclusion and your response. With available information, what are	

Identifier (GRT member)	Question	GRT Member Response
	MECP's predictions for likely and worst-case scenario changes in resource availability for caribou hunting?	
CU-04 (MECP)	Are the proposed mitigation measures to minimize predation of caribou reasonable? Please explain your response and describe any uncertainty with the conclusion and your response. Are there provincial mechanisms, such as an overall benefit permit under the ESA and conditions of approval under the *Environmental Assessment Act*, that can help to minimize effects to caribou from increased predation? Please describe the mechanisms.	
CU-05 (MECP)	Is IAAC's understanding of the ESA framework correct? Please clarify any misunderstanding of the framework. How could provincial mechanisms, such as those under the *Endangered Species Act*, help to sustain caribou herds of the ranges within which the proposed roads would occur? For example, in what scenarios would overall benefit actions that do not focus on the local population or habitat be accepted in a permitting decision? How likely is it that these scenarios may be encountered on the road projects? Please respond for each project individually, as well as for all projects from a cumulative perspective. Please describe how the perspectives of potentially affected Indigenous communities would be acquired and considered in determining appropriate offsetting locations and measures for the potential ESA permit.	
CU-06 (MECP)	Are there other provincial mechanisms, such as conditions of approval under the *Environmental Assessment Act*, that can help to minimize adverse changes to caribou? Please specify and explain the mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Effects to Current Use of Lands and Resources for Traditional Purposes - Changes to Other Terrestrial Wildlife That Support Indigenous Hunting and Trapping		
According to the MFCAR dIS, Indigenous communities have shared that 14 furbearer and 3 ungulate species of traditional importance can be found in the LSA. Further, the dIS indicates that a small percentage of furbearer and ungulate habitats, which include upland and wetland habitats, would be lost within the CDA. Based on the Proponent's data, furbearer and ungulate habitats appear prevalent throughout the LSA and RSA. (The Proponent defines the LSA for non-ungulates and furbearers other than the wolverine as the area that is 3 km on either side of the right-of-way and the RSA is the area 11 km on either side of the right-of-way. The Proponent defines the LSA for the wolverine and ungulates as the area that is 10 km on either side of the right-of-way, and the RSA as the wildlife management units that intersect the LSA.) (Figure Appendix J, Figure 5-3). As such, the MFCAR Proponent expects residual effects to furbearer and ungulate populations to be low with the application of mitigation measures. The proposed **mitigation measures** include avoiding sensitive sites, to the extent feasible; reclaiming temporarily cleared areas at the end of the construction phase; doing vegetation clearing and grubbing outside of sensitive periods; minimizing CDA size (e.g., use existing access roads where possible); implementing buffer zones around waterbodies and riparian habitats; and posting signs in areas where wildlife is regularly observed. These findings from the dIS suggest to IAAC that there would be limited impacts to the abundance and availability of furbearers and ungulates used for Indigenous trapping and hunting.		
CU-07 (ECCC)	How does ECCC work with MECP to protect wildlife (other than caribou) not on federal lands that are important to Indigenous Peoples?	Aside from caribou, none of the other furbearers or ungulates identified in the dIS as being important to Indigenous Peoples are listed under SARA. As such, ECCC has no mechanism for involvement in their protection. Protection of these non-SARA listed wildlife species is the sole responsibility of Ontario.

Identifier (GRT member)	Question	GRT Member Response
		ECCC advises that this information would similarly apply to the Northern Road Link and Webequie Supply Road Projects, provided that other species listed under SARA are not added to the list of species of importance to Indigenous Peoples.
CU-08 (MNR)	Does MNR find it reasonable to conclude that habitat loss caused by the Project would reduce by a small margin the abundance or availability of furbearers and ungulates (other than caribou) used for traditional purposes (trapping and hunting) by Indigenous communities in the local study area? Please explain your response and describe any uncertainty with the conclusion and your response. If your view differs from that of the Proponent, please explain what MNR predicts the likely outcome would be for abundance and availability of wildlife for hunting, and why. If there are other ways the change can be reduced, suggest them, and explain how these would change the outcome.	
CU-09 (MTO)	What provincial mechanisms, including road design requirements and standards, may minimize likelihood for vehicular collisions with terrestrial wildlife (e.g. road signs, speed limit enforcement, etc.). Please specify and describe the mechanisms and their legislation and regulations, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
CU-10 (MECP)	Are there provincial mechanisms, such as an overall benefit permit under the *Endangered Species Act, 2007*, that can help to minimize changes to the abundance and availability of furbearers? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
CU-11 (MNR)	Are there provincial mechanisms, such as the Crown land work permits under the *Public Lands Act*, that can help to minimize changes to the abundance and availability of furbearers and ungulates? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Effects to Current Use of Lands and Resources for Traditional Purposes - Changes to Vegetation That Support Indigenous Plant Harvesting		
IAAC expects small changes to the abundance and availability of native plants that are harvested by Indigenous communities. The MFCAR dIS indicates that the Indigenous communities harvest native plant species for consumption and medicinal purposes. Fifty-six traditional plant species were identified in the LSA. (The Proponent defines the LSA as the area that is 3 km on either side of the right-of-way, and RSA as the area that is 11 km on either side of the right-of-way.) The dIS also indicates a small percentage of vegetation loss within upland and wetland habitats in the LSA (Appendix J, Figure 5-3). The Proponent expects adverse changes to vegetation and harvesting to be low with the application of mitigation measures. Proposed **mitigation measures** include limiting vegetation clearing to within the 100-m right-of-way; minimizing vegetation clearing in sensitive ecosystems; implementing measures to promote natural regrowth; and performing vegetation clearing in winter months.		

Identifier (GRT member)	Question	GRT Member Response
CU-12 (MNR)	Does MNR find it reasonable to conclude that vegetation loss caused by the Project would reduce by a small margin the abundance or availability of habitats suitable for the identified traditional plants in the LSA? Please explain your response and describe any uncertainty with the conclusion and your response.	
CU-13 (MNR)	Are there mechanisms under the *Public Lands Act* (e.g., Crown land work permits) that can help minimize vegetation loss, and particularly reduced availability of traditional plant species, within the LSA? Please specify and describe the mechanisms, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Effects to Current Use of Lands and Resources - Impact on Indigenous Hunting, Trapping and Plant Harvesting		
IAAC is of the view that hunting and plant harvesting by the Indigenous communities could continue, considering the proposed mitigation measures to protect resource availability and safe area access, as well as the related legislative frameworks discussed in the table sections on migratory birds, game birds, caribou, other terrestrial wildlife and vegetation. In addition, IAAC understands that the *Fish and Wildlife Conservation Act, 1997*, regulates hunting, trapping and fishing activities in Ontario. As such, the legislative framework would help to manage pressures from hunting and trapping in the local and regional study areas by non-Indigenous hunters and trappers. Regarding impact on trapping, IAAC is of the view that the Project would have a limited impact on the use of trapline tenures known to be held by Indigenous persons. IAAC understands that the sizes of the trapping areas held by the license holders are large compared to the size of the Construction Disturbance Area[4] (CDA). According to the dIS, the CDA is approximately 12,665 ha and the Project would intersect seven trapline areas (GE 138, GE 148, GE 153, GE 154, GE 157, GE 159 and GE 164). Community members from Ginoogaming First Nation had identified four tenures as important to community members GE138, GE 150, GE153 and GE 210; however, GE 150 and GE 210 are outside the Local Study Area and not anticipated to be affected by the Project. The dIS indicates that the CDA would overlap a very small amount of the trapline tenures, i.e., less than one percent of each tenure (0.25% of GE 138; 0.06% of GE148; 0.01% GE153 ; 0.04% of GE154; 0.01% of GE 157; 0.008% of GE 159 and 0.044% of GE 164). In addition, the dIS indicates that Aroland First Nation had identified five of their commercial traplines intersect with the Regional Study Area and that the commercial trapping areas overlap approximately 1651 ha (or 13%) of the CDA. In addition to the **mitigation measures** to minimize adverse changes to the availability of furbearers, IAAC notes that the Proponent proposed to notify the trapline tenure holders on construction activities, and would allow safe access to license holders through the CDA to continue their trapping activities. The Proponent also proposed to prohibit its personnel from possessing and using firearms, as well as to implement an environmental protection plan that would include measures to control and restrict public access to the area access roads, install signage, and set speed limits within the CDA.		
CU-14 (MNR)	To what extent could the *Fish and Wildlife Conservation Act, 1997* address increases in pressures on wildlife resources in the local and regional study areas, from non-Indigenous hunters and trappers. Are there other provincial mechanisms that could help to address potential increases in hunting and trapping pressures, such as policies that set harvesting quotas and how many licences may be available? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
CU-15 (MNR)	Are the measures proposed by the Proponent, including the measures to minimize adverse changes to the availability of furbearers, reasonable to mitigate effects to trapping activities by the Indigenous trapline tenure holders, such that the practice could continue and continue with safe access to trapping areas?	

[4] CDA is described as the area of direct disturbance from the construction and operation of the Community Access Road. The following activities are expected to take place exclusively within this area: roadway clearing and the construction of borrows, bridges, laydown areas, worker camps, aggregate sites, and associated temporary and permanent access roads. There right-of-way associated with the Community Access Road is 100 metres wide and would be cleared for construction.

Identifier (GRT member)	Question	GRT Member Response
	Are there provincial mechanisms, such as the Crown land work permits under the *Public Lands Act*, that can help to minimize effects to trapping? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
CU-16 (MECP)	Are the measures proposed by the Proponent, including the measures to minimize adverse changes to the availability of furbearers, reasonable to mitigate effects to trapping activities by the Indigenous trapline tenure holders, such that the practice could continue and continue with safe access to trapping areas? Are there provincial mechanisms, such as an overall benefit permit under the *Endangered Species Act, 2007*, that can help to minimize changes to the abundance and availability of furbearers, such as wolverine? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Impact on Structure, Site or Thing of Historical, Archeological, Paleontological or Architectural Significance		
IAAC is of the view that degradation or disruption to physical and cultural heritage resources and/or associated cultural practices from construction and maintenance works may be minimized through various means such as requirements under the *Ontario Heritage Act* to preserve found artefacts, protections for local fish and terrestrial wildlife (see context in fish and fish habitat section and the migratory birds section above, and the current use section below), as well as federal mechanisms that may minimize impacts to cultural practices (e.g., travel on navigable waters for community gatherings), such as approvals for works under *the Canadian Navigable Waters Act*. IAAC understands that the Proponent conducted a Stage 1 archeological assessment and partial Stage 2 archeological assessment of the sites for proposed major water crossings. Two archeological locations and one archeological site were identified through the partial Stage 2 assessment. The two archaeological findspots and one registered archaeological site recommended for avoidance and protection were identified. IAAC also understands that details on the identified findspots, materials and archeological site to be avoided and protected were submitted for registration under the *Ontario Heritage Act*, along with the assessment reports (which include recommendations on how to protect the sites).		
SST-01 (MCM)	Is it correct that for the Proponent to comply with the *Ontario Heritage Act*, the Proponent cannot conduct ground disturbance activities until your ministry issues a letter stating that the recommendations included in the archeological assessment report are compliant and that the report has been accepted by your ministry? If not correct, please specify and describe all relevant mechanisms and regulations that would apply to protect heritage resources of importance to Indigenous Peoples and how Indigenous consultation is incorporated? How may an interested Indigenous community access the assessment report?	
Change in Health Condition		
IAAC understands that human health risk from adverse changes in exposure to reduced air quality and elevated noise levels in the community of Marten Falls First Nation stemming from construction and maintenance activities on or near reserve lands may be minimized through federal and provincial mechanisms that set land use permit requirements under the *Indian Act* and Ontario's *Aggregate Resources Act* and Ontario's *Public Lands Act*.		

Identifier (GRT member)	Question	GRT Member Response
Based on the project layout, and considering the preferred route alignment, as well as the identified project activities and components, persons living on reserve would be exposed to higher noise and vibration levels and reduced air quality during project construction and maintenance activities. The exposures would be minimized through implementation of standard mitigation measures, such as best practices to minimize fugitive dust, air emissions and elevated noise levels (e.g., watering during drilling activities, maintaining equipment and vehicles according to manufacturer's specifications, implementing a no-idling policy, locating and operating equipment as far from receptors as possible, operating vehicles and equipment to minimize impulsive noise). Further, IAAC understands that there are legislative mechanisms, such as reserve land use permit under the *Indian Act* and work permits under Ontario's *Aggregate Resources Act* and Ontario's *Public Lands Act*, for conducting work on Crown lands and at aggregate sites, which would provide oversight on how work is done, including equipment and vehicle operations, to control air quality and noise levels.		
HH-01 (MNR)	IAAC understands that licences and/or permits for the aggregate sites would be required. Would the process require noise and vibration assessments to predict noise and vibration levels and identify measures for implementation at active aggregate sites near reserve lands to minimize human health risk to receptors on reserve?	
HH-02 (MECP)	For the Project, which provincial mechanisms could address air emissions, noise and vibration originating from outside the reserve, and thereby also address effects to the health of persons living on reserve from exposure to reduced air quality and elevated noise and vibration levels? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
HH-03 (ISC)	IAAC understands that ISC would require a land use permit issued under the *Indian Act*, for project activities to take place on reserve. Would the permit include requirements to protect human health from exposure to reduced air quality and elevated noise and vibration levels? Which health standards or guidance would ISC require in a land use permit to minimize exposure to reduced air quality and elevated noise and vibration levels? Are there other mechanisms that can help to minimize the human health risk from on-reserve project activities and components? Please specify and describe all relevant mechanisms and their legislation and regulations that would apply to the Project, as well as indicate whether Indigenous consultation is incorporated into the mechanisms.	
Considerations for analyzing public interest factors		
IAAC is of the view that the Project, also in conjunction with other reasonably foreseeable projects, could **benefit certain Indigenous communities**. There are Indigenous communities whose members view the Project and future development in the Ring of Fire area as a means of creating opportunities for their isolated communities. As part of the impact assessment, IAAC must provide information to decision-makers about the extent to which project effects contribute to Canada's ability to meet its environmental obligations and commitments in respect of climate change. IAAC's current view is that the Project would not contribute to the Government of Canada's ability to meet its environmental obligations; however, the Project, by providing infrastructure that supports creation of a critical mineral supply chain for advancing the green and digital economy, could contribute indirectly to Canada's ability to meet its **climate change commitments** in the long term. IAAC understands that peatlands are of cultural importance to Indigenous communities. Appendix I of the MFCAR dIS provides estimates of changes to the peatland availability, and functions such as carbon storage and flux expected during road construction. The Proponent indicated that the construction of MFCAR through peatlands would use a "floating road" construction methodology, thereby allowing groundwater movement below and through		

Identifier (GRT member)	Question	GRT Member Response
the road embankment and minimizing the need for stripping of peat and the associated release of stored carbon. Other mitigation measures include minimizing clearing widths in peatland ecosystems; limiting riparian vegetation clearing within 30 m of waterbodies where possible; locating temporary access roads, staging areas and camps in less sensitive ecosystems (such as upland ecosystems); avoiding peatland ecosystems for temporary features where possible; considering placement of culverts in peatland environments to ensure that pre-construction conditions are maintained for groundwater and surface water movement to the extent feasible; contouring disturbed areas to minimize soil and water erosion, promote natural revegetation, implement erosion and sediment control measures. IAAC also must provide information about the extent to which the Project would contribute to **sustainability**. Sustainability is the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations. The sustainability analysis will provide a clear weighing of the balance of positive effects and adverse federal effects. For the analysis, IAAC is considering various factors such as adverse changes to abundance and distribution of wildlife that support traditional activities of the Indigenous communities, adverse effects to Indigenous way of life (including culture, traditions, community health, cost of living and employability), as well as any positive economic and employment opportunities for Indigenous communities and economic benefits to the province of Ontario. In addition, the Proponent plans to prepare and implement a Vegetation Restoration Plan that would include measures for peatland restoration, including peat stockpile management, and a project-specific erosion and sediment control plan that would be developed in accordance with the Ontario Provincial Standard Specifications. For the peatlands study, the Proponent defined the Local Study Area (LSA) as the area that is 3 km on either side of the right-of-way, and the Regional Study Area (RSA) as quaternary watersheds that overlap peatlands LSA and is estimated to cover an area of approximately 1,118,154 ha (refer to Fig 4-1 in Appendix I).		
PIF-01 (ECCC)	IAAC's current view is that the Project would not contribute to the Government of Canada's ability to meet its environmental obligations; however, the Project, by providing infrastructure that supports creation of a critical mineral supply chain for advancing the green and digital economy, could contribute indirectly to Canada's ability to meet its **climate change commitments** in the long term. Does ECCC agree with IAAC's view? What is ECCC's view on how the three road projects may contribute to the Government of Canada's ability to meet its climate change commitments particularly in the long-term?	It is difficult to determine the potential contributions of projects that may result from the project infrastructure due to many uncertainties. Given the scope of this project, and understanding the GHG implications, it's difficult to state whether this project will contribute to Canada's climate change objectives or not due to the uncertainties inherent to potential future project development in the Ring of Fire. Overall, the project infrastructure could contribute indirectly to Canada's ability to meet its climate change commitments in the long term provided that the project infrastructure supports critical mineral projects where those projects would not have occurred without the project infrastructure, and where the materials are used directly in Canada to have a measurable reduction in GHG emissions or displace higher-emitting sources.
PIF-02 (ECCC)	From the perspective of environmental sustainability and considering the final route selection and proposed design for MFCAR, as well as implementation of the mitigation measures proposed by the Proponent, describe your department's views and any uncertainty regarding how much noticeable loss in key functions of peatland ecosystems in the LSA and RSA over the long-term could occur. Please include in your response peatland functions, such as: - Carbon storage - Wildlife, biodiversity habitat, and - Hydrology. Please explain your response and describe any uncertainty. With available information, what are ECCC's predictions for likely and worst-case scenario for maintaining peatlands function?	**Carbon Storage** The Proponent discusses the Project's impact on peatland ecosystems and carbon storage in Appendix S1 Atmospheric Report section 4.4.2.1.1.3.3 and section 7.3. The Proponent states that the disturbance of organic soils in peatlands is minimized by using the floating road technique which does not require excavation of underlying soils, but the soil's carbon sequestration capacities are expected to be impacted. Construction is expected to remove some peat from forest land. The Proponent stated that the peatlands are currently sources of carbon to the air, so the project will remove carbon emissions. However, peatlands, swamps and fens can be sources or sinks, and it is site-dependent with a high level of uncertainty. The Proponent could state that the impact on carbon sinks is zero, but stating they are removing sources of emissions is a generalization that cannot be backed up unless there were detailed, site-specific flux values from field studies or accurate studies from the same location as the project.

Identifier (GRT member)	Question	GRT Member Response
		Wildlife, Biodiversity Habitat Based on information provided by the Proponent in Appendices I, K, and L, and provided that the mitigation measures proposed by the Proponent are implemented and effective, the likelihood of a noticeable loss in species at risk (other than caribou) and migratory bird habitat functions of peatland ecosystems in the LSA and RSA over the long-term is likely low. ECCC has not factored into this advice effects to caribou as this advice, upon consultation with IAAC, has not been requested. The main pathway of effect for change to peatland habitat functions for species at risk (other than caribou) and migratory birds is through changes to hydrology, resulting in either (or both) wetter or drier conditions, which could change vegetation communities and other aspects that make current conditions suitable for the species that use peatland habitats. Provided that the Proponent is correct that after proposed mitigation measures the effects to peatlands related to changes in hydrology are negligible (Appendix I, PDF page 196) and that the current hydrological regime and flow of water (both surface and groundwater) can be maintained with the presence of the road, the likelihood of this pathway of effect altering peatland habitat functions would be low. **Hydrology** Access road construction over peatlands disrupts surface and subsurface water flows due to vegetation removal, peat compression, and the addition of mineral and/or geotextile layers. This commonly creates flooded conditions in upstream areas and dry conditions on the downstream side of the road. To minimize hydrological disruption, access roads through peatlands are best situated parallel to surface water flows, and common mitigation measures, such as floating roads and culverts, can be used to maintain hydrological connectivity. However, the effectiveness of floating roads can diminish with subsidence over time. Similarly, while culverts help support water movement, their effectiveness depends on factors such as local topography, proper installation, accurate sizing, road orientation, and wetland type. Ongoing monitoring is also required to ensure culvert functionality is maintained. Poor implementation may significantly disrupt peatland hydrology, depth to water tables, plant communities, and carbon cycling. To understand the uncertainty regarding noticeable loss in key functions of peatland ecosystems in the LSA and RSA over the long-term, the review completed by ECCC largely focused on *Appendix F: Draft Surface Water Technical Support Document* and *Appendix I: Draft Peatlands Technical Support Document* of the dIS. From a hydrology perspective, ECCC recognizes that the proposed mitigation measures may reduce the potential for significant long-term loss of key peatland functions; however, uncertainties remain. Based on the information provided by the Proponent, ECCC notes uncertainty regarding the following: • **Access Road Construction Method:** Appendix I proposes using a "floating road" method as a mitigation measure to reduce impacts on subsurface flows, and much of the peatland effects assessment assumes this approach will maintain pre-construction drainage patterns and groundwater conditions. In contrast, Appendix F assesses surface water impacts based on a

Identifier (GRT member)	Question	GRT Member Response
		permanent road, which involves clearing a 60 to 100 m wide right-of-way of all trees, shrubs, surface litter, and organic materials. While mitigation measures and effects on valued components are independently discussed in each Appendix, the lack of clarity about which construction method will be used creates significant uncertainty for predicting long-term hydrological impacts on peatlands. Since each construction method can affect peatland hydrology differently, an accurate assessment of potential changes is not possible without consistency between assumed construction methods used to complete the effect assessment for different valued components. There is additional uncertainty regarding the long-term viability when using a floating road as a mitigation measure, given the potential for high vehicle traffic and heavy payloads. Appendix F anticipates peak traffic levels of 100 to 700 vehicles in 2046, which may compromise the effectiveness of a floating road over time. • **Access Road Culverts:** As part of the Construction Phase, specifically during detailed design, the Proponent proposes the placement of culverts in peatland environments with a particular emphasis on the installation of culverts in areas where the road runs perpendicular to the natural flow of surface water. These 'equalization culverts' differ from those characterized at defined water crossings, as they are intended to maintain hydrological connectivity. However, there is currently insufficient information on the criteria for determining culvert spacing, sizing, and installation depth to fully assess their potential to mitigate impacts on peatland hydrology. • **Residual Effects:** In Table 7-5 of Appendix I, the Proponent notes 'non-significant' residual effects to hydrology during all project phases and a level of 'high uncertainty' when characterizing residual effects to hydrology, based upon the application of a "floating road" design. Without further clarification on the access road construction methodology, ECCC can not comment on whether the proposed mitigation measures would be sufficient to address such level of uncertainty on residual changes to hydrology. • **Regional Study Area:** The effects assessments applicable to peatland hydrology (Appendices F & I) appear to not have been discussed beyond a local geographic context, Therefore, ECCC can not comment on the long-term noticeable loss in peatland hydrology with respect to the RSA since the discussions appear to be focused on the LSA. Overall, the level of uncertainty related to construction methodology, culvert placement, characterization of residual effects, and the long-term viability of specific mitigation measures (floating road), as provided within the dIS, remain high. Therefore, ECCC can not confidently assess likely and worst-case scenarios for maintaining long-term peatlands function with respect to hydrology within the LSA or RSA. It is recommended that the effectiveness of proposed mitigation measures and their potential impacts on all valued components be further discussed. ECCC acknowledges the Proponent's commitment to monitoring within the LSA and RSA throughout all project phases. ECCC emphasizes the importance of developing and implementing robust monitoring programs during and after project operations to minimize noticeable loss in key functions of peatland ecosystems in the LSA and RSA over the long-term.

Identifier (GRT member)	Question	GRT Member Response
PIF-03 (ECCC)	Is it reasonable to conclude that direct loss of peatland habitat, as well as changes to the peatland functions caused by the Project, would not reduce the abundance or availability of the following over the long-term: - habitats suitable for the identified traditional plants in the LSA; - furbearers and ungulates used for traditional purposes (trapping and hunting) by Indigenous communities in the LSA; and, - bird species used for traditional purposes (hunting) by the Indigenous communities in the LSA? Please explain your response and describe any uncertainty. With available information, what are ECCC's predictions for likely and worst-case scenario for maintaining peatlands function?	**Habitats suitable for traditional plants, and furbearers and ungulates used for traditional purposes** ECCC notes that none of the traditional plants, or furbearers or ungulates (except for caribou) identified in the dIS as being important to Indigenous Peoples are listed under SARA. As such, ECCC has no mechanism for involvement in their management nor expertise in their ecology. These species fall under the responsibility of Ontario. ECCC has not factored into this advice effects to caribou as this advice, in consultation with IAAC, was not requested. **Bird species used for traditional purposes** ECCC notes that the following bird species have been identified in the dIS as used for traditional purposes (hunting) by the Indigenous communities in the LSA: • blue goose • brant • Canada goose • ruffed grouse • snow goose • geese • ducks Note that Ruffed Grouse is not a migratory bird listed under the MBCA. The Proponent has not provided any information on potential effects related to the direct loss of peatland habitat, or changes to peatland function, specifically for these species. The Mallard was selected by the Proponent as "Representative of species identified as food sources for Indigenous communities including Canada goose, snow goose, brant, black duck, northern pintail, common loon, red-throated loon, and swan". Based on the information provided for Mallard, and assuming the identified mitigation measures are implemented and effective, effects related to the direct loss of peatland habitat, or changes to peatland function, are unlikely to reduce the abundance and availability of these species over the long-term. ECCC is unable to advise whether this information would be similar for the Northern Road Link and Webequie Supply Road Projects until the Impact Statements and mitigation measures for those projects have been reviewed.
PIF-04 (MECP)	Is it reasonable to conclude that direct loss of peatland habitat, as well as changes to the peatland functions caused by the Project, would not reduce the abundance or availability of the following over the long-term: - habitats suitable for the identified traditional plants in the LSA;	

Identifier (GRT member)	Question	GRT Member Response
	- furbearers and ungulates used for traditional purposes (trapping and hunting) by Indigenous communities in the LSA; and, - bird species used for traditional purposes (hunting) by the Indigenous communities in the LSA? Please explain your response and describe any uncertainty. With available information, what are MECP's predictions for likely and worst-case scenario for maintaining peatlands function?	
PIF-05 (MNR)	Is it reasonable to conclude that direct loss of peatland habitat, as well as changes to the peatland functions caused by the Project, would not reduce the abundance or availability of the following over the long-term: - habitats suitable for the identified traditional plants in the LSA; - furbearers and ungulates used for traditional purposes (trapping and hunting) by Indigenous communities in the LSA; and, - bird species used for traditional purposes (hunting) by the Indigenous communities in the LSA? Please explain your response and describe any uncertainty. With available information, what are MNR's predictions for likely and worst-case scenario for maintaining peatlands function?	
PIF-06 (NRCan)	Describe any positive effects that the road projects may have, considering economic sustainability and including any positive or negative consequences, and the associated uncertainties. For example, consider potential effects on the critical mineral supply chain; economic benefits at the regional, provincial and/or national level; and benefits to Indigenous communities in the Ring of Fire area.	

List of Acronyms for Members of the GRT

DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
ISC	Indigenous Services Canada
MCM	Ministry of Citizenship and Multiculturalism
MECP	Ministry of the Environment, Conservation and Parks
MNR	Ministry of Natural Resources
MTO	Ministry of Transportation
NRCan	Natural Resources Canada