

Environment and Climate Change Comments on Ring of Fire Regional Assessment Draft Agreement/Terms of Reference

February 16, 2022

Comment #	Draft Agreement Section	Issue	Recommendations
1	Throughout	Both of the terms “traditional knowledge” and “Indigenous Knowledge” are used throughout the Draft Agreement. However, only “Indigenous Knowledge” is defined in the Definitions.	The terms “Traditional Knowledge” and “Indigenous Knowledge” should both be defined and consideration given to using one term consistently, and we suggest that it always be capitalized.
2	(pg 2) Definitions NEW text re: definitions for Cumulative Effects (CE), Cumulative Effects Assessment (CEA) & Cumulative Effects Assessment and Management (CEAM) recommended 1.2b “Identifying and recommending mitigation measures and other potential and innovative approaches for addressing potential positive and adverse effects (both project-specific and cumulative, including potential impacts on Indigenous peoples) as part of future decision-making for mine development activities, in a manner that fosters sustainability”	The addition of definitions related to cumulative effects would provide clarity to the Draft Agreement and ensure that the four key aspects of cumulative effects (human activities, natural processes, space and time) are addressed. ECCC recommends adoption of the Canadian Council of Ministers of the Environment definitions (CCME, 2014), and further recommends specifying that effects of climate change should be addressed as a part of cumulative effects. This region is expected to continue to experience relatively strong shifts in climate over the coming decades, which will form part of the context in which future IAs must be assessed. Including consideration of climate change in the RA will help inform future IAs. Canadian Council of Ministers of the Environment (2014). Canada-wide definitions and principles for cumulative effects. https://ccme.ca/en/res/cedefinitionsandprinciples1.0e.pdf	ECCC- recommends that additional definitions for CE, CEA & CEAM be added to the Definitions (pg 2), and is proposing definitions as follows: “Cumulative effect” means a change in the environment caused by multiple interactions among human activities and natural processes that accumulate across space and time. Natural processes will include a consideration of climate change. “Cumulative effect assessment” means a systematic process of identifying, analyzing and evaluating cumulative effects “Cumulative effects assessment and management” means the identification and implementation of measures to control, minimize or prevent the adverse consequences of cumulative effects.”
3	(pg 4 and throughout) Throughout the document including section 1.2 b,c, 2.1, 2.2, 2.3 etc.	The whereas clauses and the goal of the RA both specify that future mine developments <i>and</i> other physical activities in the Ring of Fire (RoF) should be considered in the RA (“ WHEREAS the Governments of Canada and Ontario wish to enhance the effectiveness and efficiency of impact	ECCC recommends edits to the text as indicated below. Deletions are shown as strikethroughs and additions are in red text.

	<p>Here as an example for 2.0 Scope of the Regional Assessment, Section 2.1: Given the known mineral resources and mining potential of the Assessment Area, the Regional Assessment will focus on future mine development activities and their potential effects, as these types of activities are considered the most likely future physical activities to be proposed and carried out in this region in the foreseeable future.</p>	<p>assessments for future mine development and other physical activities in the area centered on the Ring of Fire mineral deposits in northern Ontario.”; Goal: “To provide information, knowledge and analysis regarding mine development activities and other existing and future physical activities in the Ring of Fire and their potential effects”). However, the Scope and Objectives b) and c) of the RA specifically narrows the focus of the RA to mine development activities only. This will limit the usefulness of the RA to inform future IAs, by not addressing the potential effects of other types of development that can reasonably be expected in the RoF region. Potential physical activities in the RoF could foreseeably include mineral exploration, additional roads, powerlines or other power related infrastructure and other infrastructure to support mine development activities. Mineral exploration in particular (which may involve building a network of exploration roads/trails, drilling pads, use of explosives, temporary camps etc.) can add significantly to cumulative effects of physical activities, especially for species sensitive to human activity, like caribou.</p>	<p>2.1 Given the known mineral resources and mining potential of the Assessment Area, the Regional Assessment will focus on future mine development activities but will also consider other physical activities mine development activities and their potential effects; as these types of activities are considered the most likely future physical activities to be proposed and carried out in this region the Ring of Fire in the foreseeable future. Although it is not possible to predict with any certainty the specific nature, location or timing of such mineral development and activities physical activities, the regional assessment will consider the types of existing and future physical activities that are most likely to occur, based on the mineral deposits that are known to be present and the manner in which they could be developed. In doing so, the Regional Assessment will also consider the relationship of, and potential interactions between, the potential effects of future mine development and physical activities with those of other existing and future activities, including the potential for resulting cumulative effects (see Appendix B, Section 2.2, Item h).</p> <p>A definition of ‘physical activities’ and ‘other existing and future physical activities’ will likely need to be added and should include at a minimum, all types of activities potentially subject to IA and activities likely to add to cumulative effects such as mineral exploration.</p> <p>Changes in line with recommendations made for section 2.1 as an example should be done throughout the document to meet overall goal of the RA.</p>
4	<p>(pg 4)</p> <p>Assessment Priorities Section 2.3</p> <p>a) Surface and ground water (quality and quantity), including wetlands (peatlands)</p>	<p>Wetlands, including peatlands, provide important functions and ecosystem services beyond water quality benefits, including climate mitigation and adaptation and carbon and methane storage. They provide important habitat for wildlife, including migratory birds. Wetlands also provide valuable information on potential sites of contaminant accumulation in the environment and provide information on the movement of contaminants into the food web.</p>	<p>ECCC recommends that the Assessment Priorities, Section 2.3 (pg 4) be edited to remove reference to wetlands from bullet point a, and to include a new assessment priority related to wetlands, as follows, with deleted text as strikethrough and new text in red:</p> <p>a) Surface and ground water (quality and quantity), including wetlands (peatlands)</p>

		<p>Reference: Strack, M., Hayne, S., Lovitt, J. <i>et al.</i> Petroleum exploration increases methane emissions from northern peatlands. <i>Nat Commun</i> 10, 2804 (2019). https://doi.org/10.1038/s41467-019-10762-4</p>	<p>g) wetland ecosystem services, including wildlife habitat and carbon/methane storage of peatlands</p>
5	<p>(pg 4)</p> <p>Assessment Priorities Section 2.3</p> <p>b) Woodland caribou</p> <p>Definitions</p>	<p>It is not clear whether the “Woodland Caribou” Assessment Priority includes Eastern Migratory Caribou. Amend the Assessment priority to include this Designated Unit.</p> <p>The Ring of Fire area is used by eastern migratory caribou, and development in the area is likely to alter their use. We do not currently know the impact of development of eastern migratory caribou. Given the lack of information and uncertainty about eastern migratory caribou, it is important to include it and to identify the need to better understand the potential effects of development on this species (E.g. refining boundaries of the southern portion of species distribution in Ontario and space use close to RoF).</p> <p>ECCC recommends either clarifying the ecotypes of caribou to be considered by the RA, or generalizing the assessment priority to simply ‘caribou’. There are two ecotypes of caribou in the RoF area, Boreal Caribou and Eastern Migratory Caribou. In addition, local communities may have a different approach to identifying different types of caribou.</p> <p>Boreal Caribou is listed as Threatened under the federal Species at Risk Act (SARA), and occurs in the RoF region and the surrounding area year-round. Eastern Migratory Caribou is assessed as Endangered by Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and is under consideration for listing under SARA. Eastern Migratory Caribou occurs in the RoF region and surrounding area in winter, and migrates to the Hudson Bay coast and as far west as Manitoba to calve. Boreal Caribou and Eastern Migratory Caribou, which have very different life histories and requirements, will be affected differently by existing and future physical activities in the RoF, and will potentially need different mitigation measures. Without clarifying the ecotypes to be addressed, there is the potential that these differences will be overlooked.</p> <p>Study Area:</p>	<p>ECCC recommends the following text be added to the definitions: “Woodland Caribou includes both Woodland Caribou (<i>Rangifer tarandus</i>), Boreal population and Caribou (<i>Rangifer tarandus</i>), Eastern Migratory population.”</p> <p>OR</p> <p>Change the assessment priority from “Woodland Caribou” to “Caribou” and add to the definitions:</p> <p>“Caribou includes both Woodland Caribou (<i>Rangifer tarandus</i>), Boreal population and Caribou (<i>Rangifer tarandus</i>), Eastern Migratory population.”</p> <p>ECCC also recommends that the Study Area for Caribou (Boreal Woodland and Eastern Migratory) includes Ontario boreal caribou ranges. The Ring of Fire mining claims are located in the Missisa range, and it is reasonable to expect that cumulative effects of road and mine development will affect adjacent populations in the James Bay, Ozhiski, Nipigon and (possibly) Pagwachuan caribou ranges. Caribou are wide-ranging animals, and cumulative effects should be considered over these relatively large areas.</p>

		<p>In our previous input for the FAAR, ECCC researchers identified that, for boreal caribou, ECCC’s most recent analysis of demographic-disturbance relationships¹ and all provincial analyses use range boundaries defined by Ontario. The federal recovery strategy² considers a single Ontario Far North range. Our scientific opinion is that a Study Area that includes Ontario caribou ranges in the vicinity of proposed development would be sufficient for Regional Assessment. The Ring of Fire mining claims are located in the Missisa range, and it is reasonable to expect that cumulative effects of road and mine development will affect adjacent populations in the James Bay, Ozhiski, Nipigon and (possibly) Pagwachuan caribou ranges. Caribou are wide-ranging animals, and cumulative effects should be considered over these relatively large areas.</p> <p>A study area for the combined caribou ecotypes will therefore need to extend north of the provincial or federal boreal caribou ranges in order to include the winter range of eastern migratory caribou relevant to cumulative effects of existing and future physical activities in the RoF.</p> <p>¹https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.13637</p> <p>²https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/woodland-caribou-boreal-2019.html#toc3</p>	
6	<p>(pg 4) Assessment Priorities Section 2.3 New assessment priority</p> <p>Definitions</p>	<p>The omission of species at risk (SAR) from the list of Assessment Priorities introduces the risk that the RA will be much less useful to individual IA projects, less relevant for cumulative effects interpretations, and impair the relevance of the RA to important federal and provincial mandates. Under the federal <i>Species at Risk Act</i> (SARA), ECCC has and will continue to recommend that SAR are included in individual IAs, including those in the RoF region, based on the SAR that are likely to be effected by specific projects.</p> <p>Individual projects typically have direct and sometimes long-term effects on SAR. While individual project assessments may be able to address the local, direct effects to SAR that occur within the project footprint, addressing</p>	<p>ECCC recommends adding “Species at Risk (other than caribou)” as an assessment priority to section 2.3.</p> <p>AND</p> <p>Add to the definitions: “Species at Risk are defined as including species listed as Extirpated, Endangered, Threatened or Special Concern under the federal Species at Risk Act (SARA) or under Ontario’s Endangered Species Act (ESA).</p> <p>OR</p>

	<p>regional-level cumulative effects to SAR are typically beyond the scope of individual project assessments. Due to the amount of projects expected within the assessment area, and the scale of new human activity in the wider region, there is the potential for regional-level effects on SAR in the RoF through cumulative effects of human activities and climate change on type, quantity and quality of habitat. The RA can enhance the effectiveness and efficiency of future IAs by providing a regional context for individual IAs to consider SAR and by identifying potential regional level effects and mitigations.</p> <p>Species assessed by COSEWIC as Endangered, Threatened or Special Concern are candidates for listing under SARA, and will be considered a SAR under the RA in the event a decision is made to list them.</p> <p>If 'species at risk (other than caribou)' are not included as an Assessment Priority, we recommend that Wolverine is included as an Assessment Priority.</p> <p>Wolverine is listed as Special Concern under SARA and Threatened under the ESA. Wolverine occur in the RoF and surrounding region at low density, but have large home ranges and large areas of movement (reviewed in Ontario Wolverine Recovery Team 2013), such that a single home range could be affected by multiple individual projects. Wolverine are also known to be sensitive to human activity, including roads. As both a scavenger and a predator, Wolverine are likely to be indirectly impacted by effects of human activities on their food sources, including caribou and moose. Therefore, Wolverine are particularly vulnerable to regional-level and cumulative effects of human activities, and mitigation of effects are not well-suited to individual project assessments. The RA can enhance the effectiveness and efficiency of future IAs by providing a regional context for individual IAs to consider Wolverine and by identifying potential regional level effects and mitigations.</p> <p>Ontario Wolverine Recovery Team. 2013. Recovery Strategy for the Wolverine (<i>Gulo gulo</i>) in Ontario. Ontario Recovery Strategy Series.</p>	Add "Wolverine" as an assessment priority
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		Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. vi + 66 pp.	
7	(pg 4) Assessment Priorities Section 2.3 New assessment priority	<p>Birds are a useful species that can be used to assess baseline and changes in contaminant levels in the environment. High trophic level birds can provide valuable information on the bioaccumulation and biomagnification of contaminants in the food web.</p> <p>The omission of birds from the Assessment Priorities, particularly migratory birds, introduces the risk that the RA will be much less useful to individual IA projects, less relevant for cumulative effects interpretations, and impair the relevance of the RA to important federal and provincial mandates. We recommend adding birds, with an emphasis on migratory birds, to the list of Assessment Priorities. Under the <i>Migratory Birds Convention Act, 1994</i> (MBCA), the federal government is mandated to protect and conserve migratory birds. ECCC has and will continue to recommend that birds, particularly migratory birds be included in IAs for individual projects, including those in the RoF in the future. Individual projects typically have direct and sometimes large-scale and long-term effects on birds. In addition, the cumulative, regional effects of human activities in the broader RoF region, including climate change, have the potential to affect birds and their habitat in a manner not addressed through individual project assessments. Regional-level mitigation strategies that address such cumulative impacts are beyond the scope of individual project assessments. Including birds in the RA will enhance the effectiveness and efficiency of future IAs, by providing a consistent regional context and guidance for individual projects to consider in assessment and mitigation strategies.</p>	ECCC recommends “Birds, including migratory birds” be added as a new assessment priority in section 2.3.
8	(pg 4) Assessment Priorities Section 2.3 New assessment priority	Greenhouse Gas (GHG) emissions will be released from peatland historic sinks as a result of land disturbances associated with mining development. Additional GHG emission sources will also need to be evaluated (E.g., mine construction, operation, including emissions associated with the increased truck and rail traffic, etc.).	ECCC recommends “Greenhouse Gas (GHG) emissions of development activities” be added as a new assessment priority in section 2.3.
9	(pg 4) 2.4 In conducting the Regional Assessment, the Committee will also	The definition of the Study Area(s) has the potential to influence the outcome of the RA, as the Study Area(s) define the area in which conditions and effects (including cumulative effects) on the assessment priorities will be identified and considered. Without guidance in the Agreement and	ECCC recommends that the Assessment Priorities, Section 2.4 (pg 4) be edited to clarify the definition of the study area as follows, with new text in red:

<p>define one or more Study Areas for the purposes of the description and analysis of the current environmental, health, cultural, social and economic conditions, and for the identification and consideration of potential positive and adverse effects (including cumulative effects) on the Assessment Priorities.</p> <p>A1.2 In conducting the Regional Assessment, the Committee will also define one or more Study Areas for the purposes of the description and analysis of the current environmental, health, cultural, social and economic conditions, and for the identification and consideration of potential positive and adverse effects (including cumulative effects) on the Assessment Priorities.</p>	<p>Terms of Reference, the definition of the Study Area(s) is open to ambiguity that could change the outcomes of the RA.</p> <p>The description of the Study Area(s) in A1.2 suggests they will be used for identifying and considering potential effects (including cumulative effects) on the Assessment Priorities. However, the objectives refer to the Study Area(s) only in Objective A, which addresses existing or current conditions and information gaps, not potential effects on Assessment Priorities. This ambiguity may lead to a narrower, and likely incomplete and inaccurate, consideration of potential effects on Assessment Priorities. Also, if Study Area(s) were to be defined entirely within the Assessment Area, the RA would be ineffective with respect to effects that extend beyond the Assessment Area boundary and would also be unable to assess the relative importance of effects in a regional context, thus replicating rather than helping to solve the issues individual projects face in this regard.</p> <p>Currently the committee is charged with identifying Study Area(s), but unlike with other aspects of the RA, the Agreement and Terms of Reference do not outline whether the committee is required to seek input into the identification of the Study Area(s). As the Study Area(s) will have a profound influence on the outcome of the RA, requiring input on their identification is likely to improve the outcome of the RA, and help to make the outcomes more generally acceptable and applicable.</p>	<p>a) The purpose of the Study Area(s) is clarified</p> <p>b) The geographic area over which the effects of physical activities are studied may be broader than the Assessment Area, and will be determined by the committee in consultation with advisory supports.</p> <p>c) An approach of concentric circles is considered for the design of the Study Area(s)</p> <p>To allow the RA to detect effects beyond the Assessment Area boundary, we recommend that when pre-existing ecologically defined boundaries are not suitable for defining Study Area(s), that they be defined as a series of concentric spaces around the Assessment Area. This would provide a foundation for sampling that aligned with expected diminishing effect intensity with distance from the physical activities; and, with appropriate sampling and modeling, serve as the basis for reliable comparisons to the Assessment Area.</p> <p>ECCC recommends edits to the text in section C1.2 as indicated below. New text is shown in red.</p> <p>A1.2 In conducting the Regional Assessment, the Committee will also define one or more Study Areas for the purposes of the description and analysis of the current environmental, health, cultural, social and economic conditions, and for the identification and consideration of potential positive and adverse effects (including cumulative effects) on the Assessment Priorities.</p> <p>h) An identification and analysis of key environmental, health, cultural, social or economic components, values and issues for the Study Area(s) with respect to potential effects on the Assessment Priorities, that should be considered in impact assessments for future mine development activities and other physical activities in the Assessment Area. This will include identifying and highlighting:</p>
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			<p>C1.1 Add e) the determination of the Study Area(s) to be considered in the RA</p> <p>C1.2 Add d) the determination of the Study Area(s) to be considered in the RA</p> <p>Advisory support groups could provide input to the number and distances of concentric spaces. It may be useful to determine a process or response when effects are observed that go beyond the concentric spaces (e.g. toxicity in river water and/or biota). Identifying study areas that are reliably representative of the Assessment Area is likely to be challenging and may be inefficient at providing resolution on impacts that have a gradient of effect across the Assessment Area boundary. Concentric spaces around the Assessment Area are more likely to be representative of the ecological conditions within the Assessment Area (i.e. serve as a regional context) and have the benefit of helping to resolve impact gradients.</p>
10	<p>(pg 4-5)</p> <p>2.0 Scope of the Regional Assessment</p> <p>NEW subsection re: temporal scope recommended.</p>	<p>The temporal scope of the Regional Assessment is not clearly defined in the TOR.</p> <p>Defining a temporal scope will allow for scenario analysis and would be beneficial to assessing cumulative effects (Duinker and Lorne 2007). Developing future scenarios that include human activities and natural disturbance (i.e., climate change scenarios) could be an important step in projecting, predicting, and modelling the impact of cumulative effects on Assessment Priorities.</p> <p>ECCC recommends that a reasonable temporal boundary for the assessment of cumulative effects would be 40 years after the life cycle of the future projects in the Ring of Fire study area because impacts of disturbance for boreal caribou persist for at least 40 years (https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/ri_boreal_caribou_science_0811_eng.pdf).</p>	<p>ECCC recommends that a subsection 2.6 under Section 2.0 Scope of the Assessment (pg 4-5) be added as follows:</p> <p>2.6 In considering the potential positive and adverse effects of future mine development activities and natural processes (e.g., climate change) the Regional Assessment will consider a temporal boundary of 40 years after the life cycle of proposed projects.</p>

11	(pg 4-5) 2.0 Scope of the Regional Assessment	Incorporation of climate change considerations in the Draft Agreement would be a useful starting point for evaluating how any future projects proposed for the area are resilient to, and at risk from, both the current and future impacts of a changing climate. This will improve understanding of current climate change and associated impacts in the region, and projections of future changes can inform resilience considerations in individual project designs. Further, it is an integral part of assessing cumulative effects from human activities and natural disturbance on Assessment Priorities, as per the Canadian Council of Ministers of the Environment definition of cumulative effects (CCME 2014).	ECCC recommends a subsection 2.7 be added under Section 2.0 Scope of the Assessment (pg 5) to include information on impacts of climate change, as follows: 2.7 In assessing and managing cumulative effects, the impacts of climate change will be considered.
12	(pg 7) 5.0 Advisory Supports to the Committee 5.4 These advisory supports will identify, provide and support the use and integration of Indigenous knowledge and scientific, technical and socio-economic information in the conduct of the Regional Assessment.	ECCC, as an “Advisory Support” to the Committee, may need guidance to identify, provide and support the use and integration of Indigenous Knowledge – how to do this respectfully and effectively is an emerging area of practice. ECCC scientists do not presently have sufficient experience to deliver on this commitment.	ECCC recommends adding the following text to section 5.4: “The Committee will ensure that training and guidance are provided to support this function.”
13	(pg 8) 7.0 Report and Records 7.6 The Committee will submit its final Report to the Ministers within 18 months of the public announcement of the appointment of its members by the federal Minister of Environment and Climate Change	The draft ToR provides an ambitious timeline of 18 months during which time it will define one or more Study Areas, develop and implement participation plans, compile and analyse data and information, produce a draft report, seek feedback and incorporate that into a final report. The issues that the committee will face in compiling the RA are complex, especially the cumulative effects and regional level effects. The risk of the timeline being this short is that the participation of advisory supports, such as ECCC, and others outlined in the TOR will be limited and/or the RA report will not be afforded the time required to develop meaningful and comprehensive recommendations. A longer timeline than 18 months will allow for a) more input from and participation by advisory supports, such as ECCC, and b) a deeper analysis of the complex problems to be considered by the committee.	ECCC recommends: The Study Area(s) are determined before the start of the 18 month timeline (this has the added advantage that those submitting information for consideration for the committee will be better able to scope their submissions to the extent of the Study Area(s)) OR Consideration be given to extending the timeline longer than 18 months.
14	(pg 8) 7.0 Report and Records	The draft agreement and ToR makes reference to making information used in conducting the RA available/accessible to the public. ECCC recommends that the agreement also covers data sharing agreements between	ECCC would appreciate, where possible, clarity on collaboration between the province and ECCC on data sharing and planning and

	<p>Data Sharing</p> <p>7.8 The Committee will ensure that the information that it uses when conducting the Regional Assessment is made available to the public through the Canadian Impact Assessment Registry or by other means.</p> <p>APPENDIX B Terms of Reference – Committee</p> <p>B1.6 Ensure that the information that it uses in conducting the Regional Assessment is accessible to the public.</p>	<p>organizations and individuals contributing to or participating in the RA. Participants will be able to provide better, more complete advice, if data sharing is facilitated among participants, as well as with the committee.</p>	<p>implementation of work to collect new biodiversity data in the RoF region.</p>
<p>15</p>	<p>(pg 14)</p> <p>Terms of Reference Other Considerations and Requirements</p> <p>l) Ensure that the information that it uses in conducting the Regional Assessment is accessible to the public. If the Committee receives information that it has agreed to keep confidential, the Committee shall keep that information confidential unless required to disclose the information by law.</p> <p>(pg 16) Objective A: Providing information, knowledge and analysis related to key, regional-scale environmental, health, cultural, social and economic conditions, values, and issues, with consideration and</p>	<p>The data management language in the Draft Agreement and TOR is not specific and binding as per Canada’s recent commitments in the Roadmap for Open Science, 2020. https://www.ic.gc.ca/eic/site/063.nsf/eng/h_97992.html</p> <p>A commitment to ‘FAIR’ principles would ensure that the outputs of the Regional Assessment are Findable, Accessible, Interoperable and Reusable. The demonstrated benefits of open science should also apply to the application of science in impact assessment and cumulative effects analysis. A commitment to FAIR principles is necessary to improve the transparency, inclusiveness, credibility and efficiency of the Regional Assessment and future impact assessments in the region.</p>	<p>ECCC recommends edits to the text under Terms of Reference, Other Considerations and Requirements (l) (pg 14) and Objective A (b) (pg 16) to resolve this issue, with new text to be added shown in red.</p> <p>(pg 14) Terms of Reference Other Considerations and Requirements</p> <p>l) Ensure that the information that it uses in conducting the Regional Assessment is accessible to the public in a way that is consistent with FAIR principles (i.e., findable, accessible, interoperable, reusable). If the Committee receives information that it has agreed to keep confidential, the Committee shall keep that information confidential unless required to disclose the information by law. When fully open data is not possible, the Committee shall ensure that the processes for obtaining permissions to access data are clear and efficient, where possible, to facilitate timely completion of analyses.</p>

	<p>integration of both Indigenous Knowledge and scientific information.</p> <p>b) A description of current environmental, health, cultural, social and economic conditions of the Assessment Area and Study Area(s). This description will be presented in a manner to be determined by the Committee, which in addition to the Committee's Report may include information in an electronic format (such as through a Geographic Information System (GIS) application).</p>		<p>(pg 16) Objective A: Providing information, knowledge and analysis related to key, regional-scale environmental, health, cultural, social and economic conditions, values, and issues, with consideration and integration of both Indigenous Knowledge and scientific information.</p> <p>b) A description of current environmental, health, cultural, social and economic conditions of the Assessment Area and Study Area(s). This description will be presented in a manner to be determined by the Committee, which in addition to the Committee's Report may include information in an electronic format (such as through a Geographic Information System (GIS) application) that will be findable, accessible, interoperable, and reusable (FAIR). When fully open data is not possible, the Committee shall ensure that the processes for obtaining permissions to access the data are clear and efficient, where possible, to facilitate timely completion of analyses.</p>
16	<p>(pg 14)</p> <p>Terms of Reference Identification of Information and Knowledge Gaps</p> <p>(pg 16) Objective A: Providing information, knowledge and analysis related to key, regional-scale environmental, health, cultural, social and economic conditions, values, and issues, with consideration and integration of both Indigenous Knowledge and scientific information.</p> <p>(pg 17) Follow-up program relates to Appendix B Section B2.3</p>	<p>Regarding integration of new information.</p> <p>The Ring of Fire region is poorly studied. Realistically, it will not be possible to address all the key information gaps or conduct a complete and scientifically defensible cumulative effects assessment within the period of the Regional Assessment. It will be important to ensure processes are developed by which new information, data and scientific research are made available for analysis and integrated into follow-up, cumulative effects assessments, and future impact assessments.</p>	<p>ECCC recommends an additional subsection under Terms of Reference, Identification of Information and Knowledge Gaps (pg 14) and Objective A (pg 16) to resolve this issue. New text is show in red as follows:</p> <p>(pg 14) Terms of Reference Identification of Information and Knowledge Gaps</p> <p>(Page # tbd) Make recommendations for a process by which new information, data and scientific research will be made available for analysis and integration into impact assessments going forward.</p> <p>(pg 16) Objective A: Providing information, knowledge and analysis related to key, regional-scale environmental, health, cultural, social and economic conditions, values, and issues, with consideration and integration of both Indigenous Knowledge and scientific information.</p>

	<p>B2.3 The Committee will also include the following in its Report: ... f) Recommendations for a Regional Assessment follow-up program to consider and incorporate any new or updated information that becomes available after submission of the final Report by the Committee, in order to help ensure that the Regional Assessment remains current and useful into the future and continues to fulfill the goal and objectives of the Regional Assessment as outlined in this Agreement.</p>		<p>(Page # tbd) Recommendations for a process by which new information, data and scientific research will be made available for analysis and integration into impact assessments going forward.</p> <p>ECCC recommends that Appendix B Terms of Reference Subsection B2.3 (pg 17) is expanded as follows. Additional text is bold red.</p> <p>ECCC recommends edits to Appendix B: Terms of Reference (pg 17) B2.3 as follows (new text in red):</p> <p>f) Recommendations for a Regional Assessment follow-up program that includes a plan for ensuring that information gathered in the follow-up program will be available for open, transparent, and robust cumulative effects analysis, accessible to rightsholders and stakeholders; and considers and incorporates any new or updated information that becomes available after submission of the final Report by the Committee, in order to help ensure that the Regional Assessment remains current and useful into the future and continues to fulfill the goal and objectives of the Regional Assessment as outlined in this Agreement.</p>
17	<p>(pg 14)</p> <p>Appendix B Terms of Reference Analysis of Effects, Mitigation and Follow-up</p> <p>f) Identify and consider the potential positive and adverse effects of future mine development activities in the Assessment Area on the Assessment Priorities identified in Section 2.3 of the Agreement.</p> <p>This will include consideration of: potential malfunctions or accidents; any cumulative effects that may result from</p>	<p>The Terms of Reference should explicitly mention the intent to develop alternative scenarios for future development with a specified time horizon</p> <p>Development of alternative scenarios of future development, including types and locations of development, will be an important outcome of the RA and will identify potential future impacts of development. Scenarios of future development will have a defined time horizon and will inform the proposed science framework and inform cumulative effects modelling by providing development scenarios to test. For example, scenarios of impacts associated with the development of all, half and one-quarter of the current mining claims and spatial/geographic sensitivity analysis.</p>	<p>ECCC recommends that Appendix B TOF part (f) (pg 14) be expanded into three distinct sections as follows, with new text in red:</p> <p>Analysis of Effects, Mitigation and Follow-up (pg 14)</p> <p>f) Identify and consider the potential positive and adverse effects of future mine development activities in the Assessment Area on the Assessment Priorities identified in Section 2.3 of the Agreement.</p> <p>This will include the development of a range of scenarios, to inform the assessment of cumulative effects over the defined time horizon.</p>

	the effects of mine development activities in the Assessment Area in combination with other physical activities that have been or will be carried out; and the result of any interaction between the effects referenced above.		This will include consideration of: potential malfunctions or accidents; any cumulative effects that may result from the effects of mine development activities in the Assessment Area in combination with other physical activities that have been or will be carried out; and the result of any interaction between the effects referenced above.
18	<p>(pg 14)</p> <p>Committee Activities and Requirements B1.6 f</p> <p>In conducting the Regional Assessment, the Committee will:</p> <p><i>Analysis of Effects, Mitigation and Follow-up</i></p> <p>f) Identify and consider the potential positive and adverse effects of future mine development activities in the Assessment Area on the Assessment Priorities identified in Section 2.3 of the Agreement.</p>	The analysis should consider not only the potential effects, but address to the extent possible the carrying capacity of the region for various effects – this could equally be included in the B1.6c, the description of existing conditions. Even if the analysis cannot conclude on the carrying capacity and the threshold for effects, it could provide valuable information to inform a future threshold development.	<p>ECCC recommends the following text in red could be added to B1.6:</p> <p>Identify and consider information on existing environmental, health, cultural, social and economic conditions within the Study Area(s) referenced in Appendix A. Describe the level of stress for each valued component under current conditions. Identify, where possible, thresholds where a valued component should not be further stressed without compromising its ecological functions in an important way. Where such thresholds cannot be clearly identified, provide a description of the importance of the ecological function of a valued component, what stressors are most likely to compromise that ecological function, the consequences of such compromises, and any indicators that could be used to monitor the valued component’s compromised function.</p> <p>ECCC recommends editing the text in section B2.2h) to add a new bullet iii) as below:</p> <p>iii. description of level of adverse cumulative effects that would compromise each valued component’s ecological function in an important way (e.g. the threshold or carrying capacity for the component, to the degree that it is possible to determine), and the indicators that provide information about proximity to such a level.</p>
19	<p>(pg 15)</p> <p>Appendix B – Terms of Reference</p>	As per section B1 of Appendix B, the committee is required to identify and consider the extent to which mine development activities would “hinder or	ECCC recommends editing the requirement in B1.6 i) to specify whether it relates to emissions and/or resilience commitments.

	<p>B1: Mandate and Activities of the Committee</p> <p><i>"Other Considerations and Requirements</i></p> <p>i) Identify and consider the extent to which mine development activities in the Assessment Area and their potential effects, would: a) contribute to sustainability; and b) hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change, and make recommendations on the manner in which future impact assessments should consider and address these factors." (p. 15)</p>	<p>contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change".</p> <p>It is not clear if this requirement refers solely to GoC climate change commitments with regard to emissions targets/policies, or also with regard to climate change resilience/adaptation. Both are specified in the Strategic Assessment of Climate Change (SACC; see section "2.1. Canada's climate change commitments").</p> <p>Note also that the SACC indicates that:</p> <p>"The strategic assessment of climate change may also apply to environmental reviews by other federal lifecycle regulators, and be used in regional assessments". (p.1)</p>	
20	<p>(pg 17)</p> <p>Appendix B – Terms of Reference – Committee</p> <p>B2: Committee Report</p> <p>"Objective C ...</p> <p>h) An identification and analysis of key environmental, health, cultural, social or economic components, values and issues with respect to potential effects on the Assessment Priorities, that should be considered in impact assessments for future mine</p>	<p>Climate change is not explicitly mentioned as a "disturbance".</p> <p>It is unclear if potential future climate change will be considered in the evaluation of possible cumulative effects in the region.</p> <p>Climate change may alter the occurrence of disturbances (e.g. forest fires) with or without developments.</p>	<p>ECCC recommends edits to the text in Section B2 bullet i) as indicated below. Deletions are show as strikethroughs and additions are in red text.</p> <p>i) ... and other natural or human-induced disturbances including climate change;</p>

<p>development activities and other physical activities in the Assessment Area. This will include identifying and highlighting:</p> <ul style="list-style-type: none">i. Any components, values, locations or times that may be particularly susceptible to further change as a result of past, on-going or future mine development activities and other natural or human-induced disturbances;ii. Any circumstances where the nature, location, timing and potential accumulation of these effects may result in potential cumulative effects (positive or adverse), and potential approaches to avoiding, creating, reducing or maximizing such effects, as applicable.” (p. 17)		
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