



Ms. Debra Myles
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Impact Assessment Agency of Canada

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Submitted online: iaac.regionalrof-cdfregionale.aeic@canada.ca

Dear Ms. Myles:

Re: Information Sheet: Planning the Regional Assessment in the Ring of Fire Area (Project Reference Number 80468)

Please consider this letter as our formal response to the current request for input from the Impact Assessment Agency of Canada (IAAC) to support development of the Terms of Reference and Potential Agreement for the Regional Assessment (RA) of the Ring of Fire region in northern Ontario.

We are submitting this request in our capacity as scientists with Wildlife Conservation Society (WCS) Canada with 15 years of experience in the region of question. We are also engaged in the federal and provincial processes for the individual project assessments relevant to the Ring of Fire including of Marten Falls Community Access Road Project (MFCARP) (Reference number: 80184) and Webequie Supply Road Project (WSRP) (Reference number: 80183).

Minister Wilkinson approved an RA of the Ring of Fire based on the following¹:

- Inform future project-specific federal impact assessment and decisions. This could include, for example, current proposals for the WSRP and the MFCARP in the Ring of Fire.
- Development and climate change has the potential to cause adverse effects within federal jurisdiction including fish, fish habitat, and migratory birds under the Migratory Bird Convention Act and wildlife listed under the Species at Risk Act.
- Inform potential impacts, including cumulative impacts of development and climate change on First Nations across Treaty No. 9 and their rights.
- A regional assessment is an opportunity to collaborate with jurisdictions including Ontario and First Nations and include others in the planning and conduct of the assessment.

¹ <https://iaac-aeic.gc.ca/050/documents/p80468/133830E.pdf>

- A regional assessment is an opportunity to address the public interest and concerns about impacts of development and climate change in the region, including cumulative social and ecological effects.

Before providing responses to the questions on the Information Sheet and our recommendations, we take this opportunity to highlight the key aspects of an RA that need to be considered in order to meet the federal Minister's stated reasons for supporting an RA:

1. An RA must inform and guide future activities and decision-making in the Ring of Fire region.

- a. The RA must include future scenarios that go beyond individual project-based impacts as a means to evaluate cumulative change as well as identify desirable futures and outcomes.
- b. While the IAA requires projects undergoing federal project-level assessment to consider the results of the RA (IAA, s.22(p)), neither Ontario nor First Nations have the ability to carry the results of the RA forward. As such, identification of key policy and decision-making windows in the Ring of Fire are necessary to support the integration of RA and project-level impact assessment (IA) into as comprehensive and coordinated an approach as possible, including other decision-making processes in the region, such as land use planning, policy and regulatory processes.

2. An RA in the Ring of Fire must address the multi-jurisdictional context (e.g., through cooperation agreements).

- a. The RA involves more than just the federal government: Ontario and First Nations have relevant powers and jurisdiction. Cooperative approaches to RA that involve Ontario and First Nations actively in one comprehensive assessment process are preferred. A cooperation agreement with Ontario and the First Nations in the Ring of Fire Region should be developed for the RA.

3. The RA must include commitments by the federal government to sustain outcomes associated with planning, monitoring, and project assessment.

- a. An RA should create new governance institutions that support the multi-jurisdictional context and reflect a reimagined Treaty relationship between Canada, Ontario, and First Nations across Treaty No. 9
- b. Sustaining the outcomes of the RA can include formal mechanisms (e.g., legislative requirements, permits for development); more informal mechanisms through the establishment of a regional body or committee tasked to carry out

development of a cumulative effects framework, sustainability test, or a climate change test; or through an Indigenous-led program such as the Guardians.

4. **The RA must meet the federal government's commitments to UNDRIP as well as the 2017 "Principles respecting the Government of Canada's relationship with Indigenous peoples" and inform federal decision-making under its authority (e.g., IAA, Fisheries Act, etc.).**
 - a. The current call for a moratorium by some First Nations around the process for development in the Ring of Fire² highlights the immediacy and importance of this issue.
5. **The RA must consider all human activities, how they interact with each other, and how they affect the social-ecological systems, including the interactions with climate change.**
6. **The scope of an RA must be defined by the social-ecological systems in the Ring of Fire since this also affects the selection of values, the assessment of impacts on those values, and the possible futures envisioned for the region. First Nations must be involved in the scoping of the RA.**
7. **As mandated by the IAA for project-level assessments, the RA in the Ring of Fire must broaden focus from biophysical impacts to include social, health, economic, and cultural impacts to support decision-making about current projects based on their ability to maximize net contributions to sustainability in the region.**

We have considered these key issues in our comments in response to the request for information by IAAC: 1) Goal and outputs of the regional assessment; 2) Engagement; 3) Terms of Reference & Potential Joint Agreement; and, 4) Information & Knowledge.

1. Goal and outputs of the regional assessment

Recommendation 1: IAAC reconsider the proposed goal and outputs of the RA by co-creating them with First Nations.

The current goal is insufficient in terms of addressing governance, Indigenous rights and responsibilities, cumulative effects, scenario planning, desired economic, ecological, and social outcomes and thresholds, and sustainability in a comprehensive way. We suggest the goal of

² <https://www.timminspress.com/news/local-news/mushkegowuk-chiefs-call-for-moratorium-on-development-within-ring-of-fire>

the RA could be to provide a comprehensive examination of the interrelationships of ecological, biophysical, social, cultural, economic conditions, and Indigenous rights and responsibilities, including traditional land use and harvesting of natural resources and decision-making by First Nations, regulatory, and planning authorities in the Ring of Fire.

An RA in the Ring of Fire will only be credible, accountable and authoritative if it is undertaken in a meaningful and equitable way with First Nations communities. This requires the creation of institutions that can empower First Nations to exercise authority and jurisdiction through negotiated cooperation agreements between Ontario, Canada, and First Nations and/or a First Nations Governing Authority established by the First Nations themselves.

We suggest that a more equitable process would be to co-create the goal and outputs of the RA with First Nations based on a regional vision. While Ontario has various policy documents describing Ontario's vision for the far north³, there has been no similar consideration for First Nations and their vision for the future and how a federally-led RA supports that vision.

Outputs of an RA in the Ring of Fire should include:

- A plan for meaningful First Nations roles, participation, and decision-making in the RA including through new governance pathways and institutions relevant to the context.
- A co-created regional vision.
- A set of guiding principles for the conduct of the RA.
- Identify all human activities in the region.
- A framework to support future impact assessments and regulatory decision-making.
- An examination of the cumulative effects of multiple land use and climate change considered through co-created scenarios of development and conservation.
- Establish economic and social-ecological thresholds and outcomes.
- A positive contribution to sustainability test and an alternatives assessment that encourages activities that support the regional vision.
- A plan for meaningful public participation.

³ <https://www.ontario.ca/document/growth-plan-northern-ontario>

2. Engagement

Recommendation 2: IAAC must address COVID-19 and community crises affecting First Nation priorities and engagement for both project-level impact assessment and the RA in the Ring of Fire.

We have heard from many groups, including First Nations, that the current deadline for input on this critical element of the RA was too short, particularly given COVID-19 and ongoing engagement with project-level impact assessments with Ontario and IAAC. Also, a number of First Nations have called for a moratorium in the Ring of Fire “until a proper protection plan through a comprehensive study (s) based on best science and Traditional Ecological data is implemented for the globally significant carbon rich Hudson Bay Lowland within the Mushkegowuk Territory”². We support this call, and suggest that addressing our Recommendations 1 and 3 could also address some of the concerns expressed by the First Nations Chiefs in calling for a moratorium.

WCS Canada’s preferences for our own engagement include being considered scientists with expertise in the region, including research on key species and cumulative impacts, with implications for environmental assessment, land use planning and species recovery. We support and collaborate with a number of First Nations on research and community-based monitoring, including in the Ring of Fire area. We also partner with academic and government researchers conducting ecological and social research in the region.

3. Terms of Reference & Potential Joint Agreement

Recommendation 3. The Terms of Reference and/or an Agreement for the RA in the Ring of Fire should be co-created with First Nations out of respect and acknowledgement of Indigenous rights and authority in the region.

A purpose of the IAA includes respect for Indigenous rights and authority and promotion of cooperation with Indigenous Peoples. Federal IA governance structures and processes should support Indigenous jurisdiction (Expert Panel Report, 2017, 5) and the 2017 Principles respecting the Government of Canada’s relationship with Indigenous Peoples. In addition, the endorsement of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and recent federal legislation introduced to implement it, affects the relationship with Indigenous Peoples in Canada, particularly articles about self-determination and the requirement for free, prior, and informed consent (FPIC) on matters that affect Indigenous Peoples.

In the Ring of Fire, First Nations relationships with the provincial and federal government is based on Treaty No. 9 and the understanding of First Nations that this Treaty was about sharing the land, not surrendering it (Long 2010). An RA in the Ring of Fire will only be credible,

accountable and authoritative if it is undertaken in a meaningful and equitable way with First Nations communities. This requires the creation of institutions that can empower First Nations to exercise authority and jurisdiction through negotiated cooperation agreements between Ontario, Canada, and First Nations and/or a First Nations Governing Authority established by the First Nations themselves.

The following approach draws from Scott et al. (2020) and is the basis for a process and approach for the RA in the Ring of Fire, specifically the creation of a Committee and relevant Advisory Groups. We suggest a multi-jurisdictional Agreement would be developed to conduct the RA and would establish the following institutions and their duties, obligations, rights and commitments. The TOR might then focus on the work of the Committee.

Structure/Organization

The Committee

In the Ring of Fire, the RA will be led by a Committee. Committee members would be co-appointed by the federal government, the Ontario government (represented by MECP), and the Indigenous Governing Authority (represented by First Nations in the region). The Committee conducts the RA and is supported by a Secretariat comprised of the IAAC, along with provincial and First Nation staff. The Secretariat should be co-chaired by the IAAC and the Indigenous Governing Authority.

Indigenous Governing Authority

Scott et al. (2020) provide guidance regarding governance in the Ring of Fire. First, they acknowledge that the people in the communities are the real authority in the region. Second, they define the Indigenous Governing Authority (IGA) as “a collective of affected First Nations, rather than one of the existing tribal councils or regional organizations”. They suggest that proximity to mineral deposits is inappropriate for determining the expected impacts and extent of consultation obligations. Finally, they suggest that the five remote communities within Matawa homelands and the downstream communities in the Mushkegowuk homelands be considered for the IGA.

In terms of process under the IAA, Scott et al. (2020) recommend that the federal government establish an “agreement” under s. 114(1)(e) between the Minister and an IGA as a partner jurisdiction under s.93(1)(a). Based on this, partner jurisdictions such as the IGA can participate in the “joint establishment of a committee to conduct the assessment and the manner in which the assessment is to be conducted” (s.93(1)(a)(i)).

Scott et al. (2020) note that for an IGA in Treaty No. 9 to meet the definition of “jurisdiction” under s.2 of the IAA, the Government has to finalize the Indigenous Cooperation Regulations, which are listed as “planned/anticipated” according to the “Forward Regulatory Plan”⁴.

It is inappropriate for us or the government to define which communities should be included in the IGA. Instead, we support a First Nations-led process to determine the composition, role, and function of the IGA. We suggest that a variety of ecological, social, cultural, and economic factors related to First Nations current and future vision for the region as well as the mineral claims and infrastructure routes be considered to support First Nations decisions regarding governance and composition of the IGA.

Advisory Committees

The multi-jurisdictional Agreement to establish the Committee to conduct the RA should also recognize the following to support the Committee:

- An Indigenous Advisory Panel or similar. This panel should include Indigenous scholars, Indigenous Knowledge holders, and Elders. Scott et al. (2020) also emphasize that Elders should be an integral element of all stages of decision-making in the RA. The Agreement should require the Committee to reach consensus with this panel or circle. The Committee would meet with the Indigenous Advisory Panel in ethical space (Ermine 2007, Bannister et al. 2019) as defined by the Elders, Indigenous scholars, and Knowledge holders and as agreed to by the Committee.
- An independent scientific advisory panel including social and natural scientists as well as experts bridging Indigenous and science-based knowledge systems with expertise in the region or similar social-ecological contexts.
- A multi-interest committee or working group that includes individual companies and industry association representatives, government officials, environmental organizations and community members (including Indigenous Peoples) with an interest in the Ring of Fire.
- A youth panel or similar. This panel should include youth from the affected communities associated with IGA among others and work closely with the Elders in relation to the Committee’s program of work.

While the above is a proposed model to address governance in the Ring of Fire for the purpose of the RA, the Agreement should also contemplate governance institutions and processes after the RA is completed.

⁴ <https://www.canada.ca/en/impact-assessment-agency/corporate/acts-regulations/forward-regulatory-plan/forward-regulatory-plan-2019-2021.html>

The Agreement should also:

- Identify and make clear the governance arrangements and resources for the RA (described above). In the Ring of Fire, we recommend the Committee be created by appointees from the federal and Ontario governments and an IGA appointed by First Nations in the region. The Agreement should authorize the Committee to engage with relevant experts including an Indigenous Advisory Panel or similar, a science advisory panel, and a multi-stakeholder advisory group. A Secretariat would support the Committee in its work.
- Identify the key decision makers and their roles and responsibilities. Decision makers in the Ring of Fire include the federal government, the government of Ontario, and First Nations.
- Commit key decision-makers to integrate the results of the RA in future decision making about the region. The Agreement should outline the commitment by each decision maker to integrate the results and recommendations of the RA into current and future decision making about development and protection in the region by Ontario, federal, and First Nations for a sustainable future.
- Identify an objective and credible assessment authority based on decision-making in the Ring of Fire region. The assessment authority must consider and respect jurisdiction. In the Ring of Fire, we recommend the Committee conduct the assessment, engage in meaningful First Nations and public engagement with financial resources from the provincial and federal governments and support from the Secretariat. The Committee would provide its recommendations to IAAC, MECP, and First Nations affected by developments in the Ring of Fire.
- Identify anticipated activities and outcomes of the RA. We suggest these could include:
 - Developing a consistent process for coordinated information management.
 - Developing a cumulative effects assessment framework.
 - Supporting community-based research and monitoring in the region (may include fish and wildlife monitoring, peatlands and wetlands research, carbon modeling).
 - Conducting research that advances baseline information and fills knowledge gaps while prioritizing Indigenous Knowledge and analysis of information, including principles and ethics of applying Indigenous Knowledge in the RA.
 - Supporting the development of a report on Indigenous Knowledge about the region.
 - Developing scenarios for future development and conservation given climate change.
 - Developing a multi-jurisdictional partnership approach to identifying ecological, social, and economic stressors and their indicators in the region using both scientific knowledge and Indigenous Knowledge.

- Meetings concerning the RA, including the Committee, and their frequency and who is responsible for setting agendas and providing updates.
- Communications and guidance around openness and transparency, public sharing, management and access of information, and providing updates to websites and other public spaces where appropriate.
- Financial and secretariat support for the participants of the RA including the Committee. Funding should be made available for First Nations. Federal and provincial agencies will cover the costs of their employees to engage in the RA.

Recommendation 4. The Terms of Reference and/or an Agreement should be consistent with best practices in RA.

Minister Wilkinson approved the RA for the Ring of Fire for a number of reasons, including the ability to address cumulative effects of multiple developments such as roads and mines as well as climate change which is occurring at a greater rate in the far north and already impacting First Nation communities, ecosystems, and ecosystem services such as a climate regulation. These impacts affect fish and wildlife and First Nations rights, some of which fall under federal jurisdiction and a duty to care as it engages with project-level impact assessment as well. The opportunities to collaborate and involve others in the RA demands new governance institutions and relationships with First Nations that does not have precedence in northern Ontario. Finally, the public interest in the region has been largely ignored to date except within the narrow scope of project-level impact assessment processes by Canada and Ontario around roads, namely the WSRP and MFCAP. We suggest that for the RA to deliver on these commitments, it must be developed to address the unique ecological, social and economic aspects of the Ring of Fire. That limited experience with RA at the federal level and the absence of any regional planning in northern Ontario demands attention to best practices in RA from across Canada.

Blakley et al. (2020) reviewed RA practice in Canada and highlighted the following outcomes:

- Opportunities to advance good governance through visioning, leadership, learning and collaborative research and management.
- Opportunities to address socio-economic impacts at the regional scale prior to specific project-based negotiations.
- Opportunities to address cumulative effects that can in turn add value to development approval processes.
- Opportunities to break down silos of government and management, particularly as they impact social-ecological systems.

We suggest these outcomes should inform the content of the TOR and/or an Agreement for the RA in the Ring of Fire. In addition, the TOR should direct the Committee to complete the following as part of the RA. We provide more details on each in Appendix 1.


1. Develop a plan for meaningful First Nations roles, participation and decision making.
2. Develop Guiding Principles for its work.
3. Co-create a regional vision for a sustainable future of the region.
4. Define the spatial and temporal scope.
5. Identify all human activities in the region.
6. Identify objectives and assessment criteria for current and future activities.
7. Develop a set of co-created scenarios of development and conservation.
8. Develop a regional cumulative effects framework and examine the cumulative effects of multiple land use and climate change considered through co-created scenarios of development and conservation.
9. Develop a positive contribution to sustainability test and alternatives assessment, encouraging activities that support the regional vision.
10. Establish economic and social-ecological thresholds and outcomes.
11. A framework to support future impact assessments and regulatory decision-making.
12. Develop a plan for meaningful public participation.

4. Information & Knowledge

We provide a set of resources, including references associated with our submission, in Appendix 7.

In closing, we have provided feedback on what the RA for the Ring of Fire should include and how it should be conducted, particularly in relation to governance and First Nations. We look forward to discussing our submission. Please feel free to contact us below.

Yours sincerely,



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Appendix 1. Guidance on how to deliver TOR components

In this Appendix, we offer guidance to the Committee on how to deliver these components (process) and our recommendations on what should be considered under each respective component of the TOR.

Develop a plan for meaningful Indigenous roles and responsibilities: A proposed objective of the RA is to respect Indigenous rights, promote cooperation with Indigenous Peoples, and uphold Indigenous rights and authority through other government commitments including UNDRIP, obligations stipulated in Section 35 of the *Canadian Constitution Act*, and the Principles respecting the Government of Canada's relationship with Indigenous peoples. More specifically, the TOR should direct the Committee to develop a plan for Indigenous consent as a process of reconciliation and how this will be accomplished. The Committee should also acknowledge the ongoing state of social emergency including in response to climate change.

We suggest that the Committee as conceived in this Discussion Document as well as the governance structure proposed in this document is an important way of recognizing and respecting the expertise and authority of First Nations impacted by the Ring of Fire.

In-community hearings, translations, and meaningful consultation, accommodation and consent also include informing the community, Chief and Council, relevant Tribal Councils (e.g., Matawa, Mushkegowuk), and political tribal organizations such as Nishnawbe Aski Nation (NAN) of when and how their input is considered and justify any departures from their input and recommendations.

Guiding Principles: The TOR would instruct the Committee to develop the guiding principles for the RA. These should be co-created with First Nations who have an interest in the Ring of Fire and must include all the Matawa and Mushkegowuk communities. The guiding principles should also consider the current social emergency and crises in many First Nation communities throughout the region, consider ceremony, and be conducted in ethical space in a trauma-informed way. We make the following recommendations to the Committee as guiding principles for conducting their work across Treaty No. 9⁵:

- Advancing reconciliation through actions.
- Acknowledge and consider the ongoing state of social emergency for First Nations in the region.
- Honouring the Treaty.
- Respect for Indigenous rights, laws, and authority.
- Honouring Indigenous languages of First Nations.

⁵ https://ethics.gc.ca/eng/tcps2-eptc2_2018_chapter9-chapitre9.html

- Learning and upholding the integrity of Indigenous Knowledge Systems and protection of Indigenous Knowledge.
- Establishing and maintaining mutual trust, respect, and meaningful consent throughout the process.
- Caring about individual and community well-being.
- Embracing humility and proceeding with precaution.
- Meaningful public engagement and deliberative dialogue.

Co-create a regional vision: The TOR should direct the Committee to develop a regional vision for a sustainable future for the region. A regional vision considers ecological, social, cultural, health, and economic factors specific to the region. We recommend that the vision emerges from a facilitated and resourced First Nations visioning exercise with a parallel public consultation process in order to identify issues, aspirations and concerns. The process should include discussions with First Nations, the public, experts, industry, governments, and other stakeholders about the future of region. We suggest that the regional vision could be the same as the goal of the RA.

Define the spatial and temporal scope: The TOR should direct the Committee to specify the temporal and spatial scope of the RA. First Nations should determine the relevant spatial and temporal boundaries with respect to ecological, social, cultural, health, and economic factors and consider past, present and future shared exclusive occupation among communities given a history of colonization, racism, and assimilation. The Committee shall produce a Draft Scoping List and Boundaries with input from the science advisory panel and Indigenous Advisory Panel. The scoping document and maps will be shared back with First Nations and the public for input and advice prior to releasing a final Scoping List and Boundaries document.

- We recommend that the spatial boundaries for ecological systems and services include the secondary watershed boundaries of the Winisk, Ekwan, Attawapiskat, and Albany (Appendix 2) in addition to boundaries that are socially and culturally meaningful and defined by First Nations in the region (Appendix 3).
- Temporally, we recommend pre-industrial use is the baseline to be compared with relevant periods related to changes associated with natural disturbance (e.g., fire) (Appendix 2) and in government policies and human land use (Appendix 3). This could include pre-colonization, the early fur trade, the fish and hare period, colonization to signing of Treaty No. 9, the period from signing Treaty No. 9 to Section 35 in the *Constitution Act*, and from 1982 to today, among others.
- At the futures end of the temporal scope, we suggest the concept of Seven Generations⁶ may be useful and most ecological and climate modeling considers 50-100 years into the

⁶ <https://www.ictinc.ca/blog/seventh-generation-principle>

future. Finally, the desired futures should include post-industrial activities (e.g., mining) with known legacy effects associated with orebodies, including un-remediated wastes and community dependencies (Atlin and Gibson 2018). Temporal boundaries based on the social, health, cultural, and economic values need to be developed with the First Nations (Appendix 3).

Identify all human activities in the region and encourage activities that are consistent with the regional vision:

Given the scope of the RA, the TOR should direct the Committee to consider all human activities. We recommend including the major extraction industries including mines and mineral exploration, forest harvesting, renewable energy development such as hydroelectric development, and the roads and infrastructure, including broadband communications, necessary to access and extract the resources (e.g., Musetta-Lambert et al. 2018). Other activities include hunting, fishing, trapping, and tourism.

Other land uses include protection, including under different governance pathways, such as Indigenous Protected Areas (IPAs) and Dedicated Protected Areas (DPAs) identified under the *Far North Act, 2010*. These activities and land uses should be considered in various scenarios, or stories about the future of the region (see below), under current and future climate change (McDermid et al. 2015, Yeung et al. 2018). Some of these land uses and activities are described in more detail in Appendix 4.

Identify objectives and assessment criteria that support the regional vision: The TOR should direct the Committee to use meetings, hearings, commissioned expert reports and recommendations from the Indigenous Advisory Panel, public input, among others, to develop a set of objectives and assessment criteria for each of the human activities in the region. In the Ring of Fire, we recommend the Committee be responsible for identifying the objectives as well as defining the principles and criteria for each within the RA. These should be made public along with justification for any changes from recommended input.

Objectives could include:

- Advance baseline information and state of knowledge for the Ring of Fire while reflecting the dynamic nature of the social-ecological system and different knowledge systems (see Appendix 2 and Appendix 3 regarding baselines).
- Respect Indigenous rights, promote cooperation with Indigenous Peoples, and uphold Indigenous laws, rights and authority (Appendix 3).
- Advance Indigenous-led protection and conservation of intact peatlands and boreal forest to meet Canada's mid- and long-term climate and biodiversity targets (Appendix 2).

- Recommendations for desired economic and social-ecological outcomes and thresholds for forms of development based on scenarios (Appendix 4) and cumulative effects assessment (Appendix 5).
- Advance reconciliation and restoration of Indigenous law and legal traditions as part of Indigenous Knowledge Systems.
- Recommendations for lasting, quality business and employment for First Nation communities.
- Supporting informed decision-making around possible future forms of development and management with First Nations (Appendix 3).
- Maintaining terrestrial biodiversity at multiple scales, including cultural and ecological keystone species and sustainable wildlife populations (Appendix 2 and Appendix 3).
- Maintaining freshwater biodiversity across multiple scales, including healthy freshwater fisheries that are safe to eat (Appendix 2 and Appendix 3).
- Developing a positive contribution to sustainability test (see below).
- Water quality and quantity, including surface, groundwater, and drinking water, among others (Appendix 2).

Develop a set of future scenarios for the region: The TOR should direct the Committee to use meetings, hearings, commissioned reports and analyses, and recommendations from the Indigenous Advisory Panel and public, among others, to develop a set of future scenarios that can contribute to the regional vision (e.g., Duinker and Greig 2007, Musetta-Lambert et al. 2018, Steenberg et al. 2019). These should include the status quo or business-as usual together with desirable scenarios that could be promoted, undesirable ones to avoid, and other possible ones to anticipate opportunities and/or risks. The scenarios would be developed by the Committee based on community, advisory group, and public input. Scenarios will support the ability of the Committee to consider development and protection trajectories given current and future climate change. The desirable futures scenarios would also contribute to clarifying/specifying sustainability-based criteria for evaluation of options. Timelines for this work may be useful to specify in the TOR.

Develop a regional cumulative effects assessment framework: The TOR should direct the Committee to develop a cumulative effects assessment framework at the same spatial and temporal extent of the RA and support the development of regional baselines. A series of discussion papers based on expertise from Indigenous Knowledge holders and scientists, hearings with First Nations, meaningful public participation, and Indigenous-led consultation, among others could be used to identify and prioritize key issue and values based on both scientific and Indigenous Knowledge Systems. The Commission should be authorized to commission expert reports and analyses (e.g., market analyses) to support the creation of a regional cumulative effects framework (Appendix 4). Timelines for this work may be useful to specify in the TOR.

Develop a positive contribution to sustainability test and alternatives assessment: The TOR should direct the Committee to develop the contribution to sustainability criteria relevant to the Ring of Fire and to meet the purposes of the IAA including criteria to address other considerations under s.63 in the IAA. Initial framing and application of these criteria will be required in the RA in evaluating options for development scenarios, future governance requirements, and other key matters including monitoring. Criteria can include those identified in Gibson et al. (2020) as well as specific criteria relevant to the region through engagement with First Nations, the public, and experts. These criteria can be used to consider trade-off rules in future scenarios and pathways.

Develop a plan for meaningful public participation: The TOR should include the principles of meaningful public engagement outlined in the MIAC submissions to the Expert Panel appointed in 2016 to review Canada's environmental assessment processes as well as the submission from the Environmental Planning and Assessment Caucus of the Canadian Environmental Network⁷. More specifically, the TOR should direct the Committee to meaningfully engage with the public and experts by developing a draft and final public participation plan with comment periods. The plan would include standards for public engagement including: comment periods and in-person discussions and dialogue sessions; participant funding; and, public acknowledgement of how comments were addressed as well as justification for departure from these recommendations. The participation plan will also identify and describe the opportunities available for public engagement.

Provide lessons learned from the RA given the unique social and ecological context: The TOR should direct the Committee to report on experiences and lessons learned from this RA process, including reflections on the scope of assessment, public and Indigenous engagement, meeting its objectives and terms, timelines, and any other matters the Commission deems relevant and helpful to the future conduct of regional assessment. In its reflections, the Commission should be guided by the principle of continual and mutual learning.

⁷ http://rcen.ca/sites/default/files/epa_caucus_submission_to_expert_panel_2016-12-14.pdf

Appendix 2. Ecological Context for Spatial and Temporal Boundaries

An RA for the Ring of Fire should consider the unique ecological context and globally significant values including species, ecosystems, and ecosystem services as well as their relationships and interactions to justify the relevant spatial and temporal scope of the RA. We present this material as separate from the social context for the purposes of this document, but they are interconnected as social-ecological systems.

Values⁸

Based on our understanding of the published scientific literature as well as research in the region, we have identified the following ecological values that could be used to help define the spatial and temporal scope of the RA:

- **Ecological integrity measured through size of highly valued ecosystems** including the largest single extant block of boreal forest free from industrial development anywhere in the world (Far North Science Panel 2010); the largest wetland complex in North America comprised of open and treed fens, bogs, and palsas (Hudson Bay Lowlands) (Abraham and Keddy 2005); and, some of the largest naturally flowing rivers remaining in the world, including the Winisk, Ekwan, Attawapiskat and Albany Rivers (Marshall and Jones 2011).
- **Ecological integrity measured through intactness of highly valued ecosystems** that support dynamic processes at multiple scales necessary for boreal and sub-arctic communities. These include wildfires, flood and forest succession, and predator-prey relationships (Far North Science Panel 2010).
- **Ecological integrity measured through sustainable population metrics of highly valued species**
 - Species of conservation concern that are considered at-risk by Ontario and Canada including populations of species at risk such as migratory and boreal ecotypes of caribou⁹, wolverine¹⁰, the Southern Hudson Bay subpopulation of polar bears¹¹, and the Southern Hudson-James Bay population of lake sturgeon¹².

⁸ Values reflect the desirability of a certain end-state. They may be abstract and can serve as guiding principles for decision-making about behaviour, people, and events at an individual and social level (De Groot and Steg 2007).

⁹ https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/rs_boreal_caribou_revised_0811_eng.pdf

¹⁰ https://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Wolverine_2014_e.pdf

¹¹ <https://www.ontario.ca/page/polar-bear-recovery-strategy>

¹² https://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Lake_Sturgeon_0807_e.pdf

- Home-range, seasonal, and migratory movements and life processes of species. For example, there are well defined ranges for caribou in the far north with relevant, but dated information on resource selection and movement information; wolverine winter home ranges for Ontario are at the high end of published ranges for North America, with those of males averaging 2,563 km² and females 428 km² (Dawson et al. 2010); and lake sturgeon which can live to be > 100 years of age and require watershed-level assessment (Haxton and Cano 2016).
- WCS Canada surveys have shown that the ecotone between the Hudson-James Bay Lowlands and Boreal Shield where the Ring of Fire is located is disproportionately important for wolverine and to sedentary and migratory ecotypes of caribou (Poley et al. 2014). The Ring of Fire overlaps with the Missisa Range (caribou) which include the transition between the Hudson Bay Lowlands and the Ontario Shield ecozones¹³.
- The Missisa Range contains higher amounts of peatland systems in the east and a more aggressive fire regime in the west. The Integrated Range Assessment by Ontario's Ministry of Natural Resources and Forestry in 2014 concluded that risk to caribou ranges remaining sustainable was "intermediate" in the Missisa Range⁴⁹. A cumulative effects assessment would need to consider current and potential impacts from development and fire on caribou. The relatively poor condition of caribou ranges within the Area of Undertaking, where industrial forestry is the chief driver of disturbance, underscores the need for proactive consideration of caribou populations in the far north, particularly in the context of growth-inducing development into this sensitive region.
- Fish biodiversity measures as well as population indices for freshwater fishes that are important cultural and ecological keystone species, including lake sturgeon, lake whitefish, brook trout, and walleye (McDermid et al. 2015, Chetkiewicz et al. 2017).
- Bird population indices and trends given the importance of the area for migratory boreal birds that is also connected to a globally significant migratory flyway for waterfowl and shorebirds along the James Bay and Hudson Bay coasts (Abraham et al. 2011).
- Almost no non-native or invasive species (Far North Science Panel 2010).

¹³ <https://www.ontario.ca/page/state-woodland-caribou-resource-report-part-2>

- **Ecological integrity measured and monitored through contaminant loads in ecological systems**
 - Concentrations of some contaminants including chromium, arsenic, and mercury have been found to be in excess of baseline standards for safe human consumption and are of potential concern for some vulnerable populations consuming fish across the Ring of Fire region (Lescord et al. 2020). As such, local and regional human health impacts need to be considered due to bioaccumulation in large-bodied and predatory fish that people catch and eat, particularly First Nations (Tang et al. 2013, Webster et al. 2015, Lescord et al. 2019, 2020).
- **Metrics for ecosystem services** including provisioning services for healthy and functioning social-ecological systems such as fish, wildlife, plants, and freshwater that are the foundation for social and economic systems and are the basis of food sovereignty and inherent, Aboriginal and Treaty rights of First Nations in the region. For example, Kilgour et al. (2016) recommended metrics associated with fish communities, fish populations, benthic macroinvertebrates, plants and supporting aquatic variables, such as water and sediment quality.
- **Metrics for regulating ecosystem services** including climate regulation. For example, carbon stored within intact peatlands is globally significant for their role in regulating climate given the large amounts of atmospheric carbon dioxide sequestered since deglaciation (Harris et al. in preparation).
- **Ecological integrity and connectivity within existing provincial and federal protected and conserved areas, including Indigenous Protected and Conserved Areas (IPCAs)¹⁴**, including those being supported by the federal government under the Pathway to Target 1 processes and funding (e.g., Kitchenuhmaykoosib Inninuwug, Moose Cree First Nation); areas identified as Dedicated Protected Areas under Ontario's *Far North Act, 2010*; areas identified through traditional land use, language, and other culturally-appropriate methods as being important for First Nations for cultural and spiritual reasons including village sites, navigable waters, and portage routes; existing Ontario protected areas and conservation reserves; and, other designations including Ramsar sites, Important Bird Areas and Key Biodiversity Areas.

Temporal boundaries

The RA should consider temporal boundaries for scenarios, modeling and cumulative effects based on the following ecological aspects of systems, species, and services in the region:

¹⁴ <https://bit.ly/2GVU0TU>
 WCS CANADA
 344 BLOOR STREET WEST, SUITE 204
 TORONTO, ONTARIO, M5S 3A7, CANADA

- Fire, insects, diseases, and their interactions are the most important natural drivers of boreal ecosystem dynamics, including rejuvenation, biogeochemical cycling, maintenance of productivity, and landscape variability (Brandt et al. 2013).
 - In the boreal portions of the region, fire regimes where they are not impacted by industrial forestry range from between 50 and 187 years in upland coniferous forest and 63 and 210 years in mixedwood and hardwood forest on the Ontario Shield portion of the Ring of Fire. The Far North Science Panel (2010) suggested the average fire interval is 175 years although fire is suppressed near remote communities and infrastructure.
 - In the lowlands portion of the region, fire return intervals are much longer and average 800 years (Crins et al. 2009, Far North Science Panel 2010).
- Climate variability causes vegetation to change at centennial, millennial, and longer time scales through permafrost thawing and slumping among other processes (Crins et al. 2009, Far North Science Panel 2010, Brandt et al. 2013).
- In the HBL regions of the Ring of Fire, the rates of land emergence due to isostatic rebound are over a metre per century, the highest in North America (Far North Science Panel 2010).
- Given climate change scenarios and our work in ALCES® we recommend scenarios consider 50-100 years into the future (Appendix 3).

Baselines

An RA should also consider the appropriate baseline for the ecological components of the RA given the spatial and temporal scope. Ecological baselines should be based on knowledge of the historical range in natural variability associated with ecosystem characteristics at different scales and be supported by both science and Indigenous Knowledge of the past and present condition of the region.

Threats

An RA should identify the direct and indirect threats that can be considered in scenario development, cumulative effects assessment, and sustainability assessment including:

- **Region-opening developments (direct/indirect).** The multi-generational potential of the Ring of Fire mines and infrastructure has been promoted by industry, the Ontario government, and some First Nation communities, making it “foreseeable” that this region will undergo intensive development at some point. However, such claims have not been accompanied by analyses of how these projects could proceed and the extent to which they will change the nature and dynamics of the social, ecological, and economic context of the region (e.g., Johnson et al. 2019).
- **Piecemeal land use planning (indirect).** Due in part to the lack of commitment to land use planning at any scale, development is approved with little or no consideration of the

region and no connection to current provincial (e.g., growth planning for the north, transportation policy) or federal (e.g., climate change, biodiversity) policy.

- **Climate change is occurring much faster in the north (direct/indirect).** For example, greatest temperature changes are projected in the far north of Ontario, with increases as high as 10 °C above 1971–2000 baseline levels by the 2080s while the Hudson Bay Basin is likely to experience the highest degree of warming, between 2.6 to 10.3 °C above the baseline by the 2080s (McDermid et al. 2015).
- **Changes to wildfire regimes (direct).** Due in part to climate change, increased forest and peat fires will affect a number of ecosystems, species, and ecosystem services (e.g., climate regulation) (e.g., McLaughlin and Webster 2014, Gonsamo et al. 2015, Harris et al. in preparation).
- **Direct and indirect impacts to ecosystems and species.** This can include habitat loss, fragmentation, mortality due to legal and illegal hunting and fishing, among others.
- **Lack of policy instruments for recognition and protection of globally significant ecosystems and ecosystem services including Indigenous-led approaches (direct/indirect).** Provincial and federally recognized protected areas in the far north region represent only ~11% of an area the size of Alberta and representing nearly 42% of Ontario. The *Far North Act, 2010*, made commitments to protecting at least 50%, but this is currently being revised. At the same time, some First Nations identified areas that should be Dedicated Protected Areas through land use planning processes with Ontario. Only protected areas identified by Pikangikum First Nation¹⁵ have been recognized under provincial legislation to date. In general, there is no provincial support for Indigenous Protected Areas. Land use planning that could consider the current and future rate, intensity and types of development and protection in the region has not been conducted. Federal commitments to protection targets (e.g., 25% by 2025) have not been translated to regional targets in the far north in Ontario.

Process considerations

Values, baselines, and threats need to be co-created and corroborated with First Nations. Relevant indicators or metrics associated with these values should be developed with First Nations to consider both a conventional set of indicators and unique indicators relevant to First Nations. Input from the scientific advisory panel and the Indigenous Wisdom Advisory Panel on both process and outcomes would be required.

We suggest that methods for measuring and monitoring these indicators should be developed at the same time. We recommend community-based research and monitoring with First

¹⁵ <http://govdocs.ourontario.ca/node/14149>

Nations, supported by both science and Indigenous research methodologies to mobilize the best available knowledge from scientific and Indigenous Knowledge Systems.

Appendix 3. Social Context for Spatial and Temporal Boundaries

An RA for the Ring of Fire should consider the unique social-ecological context (e.g., First Nations population, communities, traditional territories/homelands) of the relationships and interactions between First Nations and the ecological systems in the region, as well as the relationships with non-Indigenous peoples, jurisdictions, and processes.

The actual values must be co-developed with First Nations to determine and finalize the relevant spatial and temporal scope for social impacts. Based on the published social science literature and comparable research in northern, remote, Indigenous lands, we suggest the following social/cultural values may be important in the Ring of Fire to define the spatial and temporal boundaries of the RA. The scientific advisory panel and the Indigenous Advisory Panel should also provide input on these values.

Values

Indigenous rights: Aboriginal and Treaty Rights. The Ring of Fire region is a homeland for *Anishinabeg* and *Omuskego* peoples who have lived on the land for millennia. Their own systems of Indigenous knowledge and worldviews enable them to maintain and cultivate relationships with the land, water, and wildlife. First Nations' relationships with the federal and provincial governments are shaped by Treaty No. 9. Treaties codify sacred promises between First Nations and the Crown. In the far north, First Nations have long maintained that they did not give up rights and title to their homelands, maintain governance and stewardship over what is now the far north in Ontario, and oppose unilateral decisions made by government, industry, and others about their homelands (Long 2010). In general, rights include a range of components informing when, how, where and why harvesting activities take place and these are informed by cultural and spiritual considerations. Aboriginal and treaty rights are enshrined in Section 35 of the *Constitution Act, 1982*.

Broadly, the considerations of the impacts of development in the Ring of Fire on the rights of Indigenous Peoples within the RA should not be focused on "reasonable justifications for infringement" of Indigenous rights in the "public interest". Instead, a regional approach should be an opportunity for Ontario and Canada to build relationships with First Nations that reflect the federal government's "Principles respecting the Government of Canada's relationship with Indigenous peoples" and commitments to the UN Declaration on the Rights of Indigenous People (UNDRIP)¹⁶ as well as Calls to Action under the Truth and Reconciliation Commission¹⁷. These include the right to maintain and strengthen Indigenous relationships with the land, water, and other values (Article 25), the right to develop and control the land, water, and other values (Article 26), the right to conserve and protect the environment (Article 29), and the right

¹⁶ https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

¹⁷ http://nctr.ca/assets/reports/Calls_to_Action_English2.pdf

to determine priorities and strategies for development and uses of the lands, waters, and other values (Article 32).

More narrowly, the most commonly discussed aspects of Indigenous rights is focused on how current and potential development proposals for mines, mineral exploration, and roads, will impact hunting, fishing, trapping, and gathering of traditional or medicinal plants, and the use of wood and water. Increased accessibility of the area to Indigenous and non-Indigenous peoples can lead to overharvesting and poaching, introduction of invasive and non-native species, mobilization of contaminants within aquatic systems, habitat loss and fragmentation, and mobilization of contaminants and sediments into freshwater systems while increased accessibility is likely to impact cultural sites important for the First Nations (O'Faircheallaigh 1998, Peerla 2005, Adam et al. 2012, Southcott and Natcher 2018). In general, rights include a range of components informing when, how, where and why harvesting activities take place and these are informed by cultural and spiritual considerations. Values such as access to land, clean water, healthy animals and plants are highly relevant to all of the broad categories of values below.

There should be more explicit attention both in the process as well as the outcomes of the RA around the effects of intergenerational abuse and trauma, including stress, depression, anxiety and unresolved grief due to residential schools, racism, and genocide. Values based on principles in the Calls for Justice of the Missing and Murdered Indigenous Women and Girls (MMIWG)¹⁸ should also be included below as well as in the process for the RA.

Social and community well-being. More conventional values may include infrastructure, housing, health, education, population growth, social services, safety and crime including perceptions of these values. Cultural values may include cultural practices with Elders, Knowledge holders, and youth; Indigenous speakers and language programs; protection of cultural sovereignty whether spaces, practices, medicines and traditions, ways of knowing, ceremony and honouring the birth, burial and village sites of ancestors; cultural heritage values as defined by First Nations themselves; and conventional cultural heritage values in federal and provincial processes.

Human health. Values could include water quality and quantity (e.g., access to potable drinking water), sanitation, air quality (e.g., mold, emissions), occupational health and safety, Elder care, suicide rates and prevention services, access to health services, substance use, traffic levels and noise, food security and food sovereignty (e.g., contaminant levels in fish, wildlife, waters and

¹⁸ https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Calls_for_Justice.pdf?fbclid=IwAR0yVRw8LNQX4nLnOcRKB7qQd1wCYMybSO6LpRpy18M_4Lp3NswEI2WEMg

lands including current levels of mercury, arsenic, selenium, and hexavalent chromium among others), and a focus on cultural safety¹⁹ within healthcare²⁰ and other services.

Economic. Values may include employment numbers and diversity of livelihoods; education and training, including for women and youth; direct economic benefits including income; cost of living indices; Indigenous-owned businesses; revenue sharing; industrial vs. community use of infrastructure, including winter and all-season roads; and impacts to subsistence and traditional economies.

Governance. Values may include community consultation and other First Nation decision-making protocols, community engagement, measures of social license for development and protection, capacity to deal with non-Indigenous processes or outside influences, community leadership, both measures as well as perception, and availability of information and awareness in the community about projects, processes, and impacts to individuals and their community.

Temporal boundaries

An RA should consider the temporal boundaries for the social components-based timeframes that are meaningful for First Nations. These could include the following: pre-colonization; the period of numbered treaty making and the introduction of the *Indian Act*; Treaty No. 9 to the inclusion of Section 35 in the *Constitution Act, 1982*; and, from 1982 to present-day, including recommendations from the Royal Commission on Aboriginal Peoples (RCAP) and the Truth and Reconciliation Commission (TRC). Meaningful futures for temporal scoping could be based on Indigenous concepts such as Seven Generations, but must be developed with First Nations if the RA is to be meaningful and authoritative in the region.

Baselines

An RA should also consider the appropriate baseline for the social-ecological components of the RA. Social baselines should be based on knowledge of the pre-colonial and colonial characteristics of First Nations communities and their relationships to what is now known as Ontario and Canada jurisdictions. Social baselines based on Indigenous Knowledge Systems including Natural Law, Indigenous languages, and Indigenous governance systems should also be established, including the effects of past and current climate.

Importantly, many of the conventional socio-economic indicators used in impact assessment when considering First Nations communities reflect the outcomes of generations of racism, assimilation and colonialism imposed on First Nations by federal and provincial governments. Data collection and typical social science methods are neither objective nor unbiased given this

¹⁹ Cultural safety goes beyond the idea of cultural “appropriateness” and demands the incorporation of services and processes that empower Indigenous Peoples.

²⁰ <https://www.ipac-amac.ca/downloads/core-curriculum.pdf>

context. Social baselines must consider how this context and history has contributed to the current “baseline” in many First Nation communities. Indigenous research methods should be considered (e.g., McGregor 2018). The charge to the Committee would be to recommend what should be developed and protected to improve the situation for current and future generations, including the current social crises and COVID-19 impacts on communities.

Threats

There are also a number of direct and indirect threats to these values that should be considered in the social cumulative effects assessment. Some of these include:

- **Social and community crises.** Many First Nations communities in the region are experiencing an ongoing state of social emergency which includes challenges such as youth suicide, substance use and housing crises, as well as a persistent lack of essential community infrastructure, including safe drinking water (Scott et al. 2020). Collectively, this has been referred to as an “ongoing genocide”. This is made even more obvious by the current COVID-19 pandemic, which has stretched the capacities of the communities to their limits. Nishnawbe Aski Nation (NAN) has developed a framework for decision making regarding easing restrictions across Treaty No. 9²¹. The ongoing state of social emergency must be addressed and the RA should enable communities to understand the impact of potential new projects and how they will mitigate the crises as well as enhance long-term social, cultural and ecological sustainability given climate change.
- **Threats of resource extraction projects on Indigenous women, girls, and 2SLGBTQIA people.** The MMIWG documented how resource extraction projects can lead to increased violence against Indigenous women, girls, and 2SLGBTQIA people, including the use of transient workers, harassment and assault in the workplace, rotational shift work, substance abuse, and economic insecurity²². The MMIWG noted the need for federal and provincial governments to fund research to better understand the relationships between resource extraction and violence and highlighted the need for expanded social infrastructure and service capacity in advance of projects.
- **Developments will impact Indigenous economies and practices affecting food sovereignty (direct/indirect).** Wildlife movement patterns, distribution, and abundance at multiple scales will be affected including through the introduction of invasive species, overharvesting and poaching, increased accessibility to Indigenous and non-Indigenous people, and mobilization of contaminants into freshwater systems.

²¹ <https://nancovid19.ca/?p=3648>

²² National Inquiry into Missing and Murdered Indigenous Women and Girls. (2019). *Reclaiming power and place. The final report of the national inquiry into missing and murdered indigenous women and girls*. The National Inquiry. https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final_Report_Vol_1a-1.pdf at 584

- **Boom and bust cycles and legacy effects of non-renewable resource development (direct/indirect).** Mines and mineral exploration can yield significant opportunities for First Nation communities in the form of jobs, training, and access to better services such as education and health. However, because minerals are non-renewable, such developments can also contribute to social, economic, and ecological problems for communities if not conceived, designed and managed as “bridges” to a sustainable future (Gibson 2014). Atlin and Gibson (2017) noted the need for a shift in impact assessment processes in the Ring of Fire to require “positive contributions to sustainability” as well as avoidance of adverse effects.
- **Climate change is occurring much faster in the north and already impacting communities (direct/indirect).** First Nation communities are already feeling the impacts of climate change and its impacts on their communities. For example, regular emergency evacuations due to wildfire and flooding, decreased viability and safety of winter roads and winter travel on the land, and shifts in fish and wildlife populations due to warming temperatures²³.
- **Climate change will affect the economic context for roads and other developments (direct/indirect).** First Nations may be responsible for the safety and liability for maintenance of roads and other developments into the future²⁴. Climate change will increase the size, return rate, and impact of wildfire with consequences for protecting and maintaining new and current infrastructure as well as the social and ecological systems that define the boreal and First Nations cultural values, rights, and responsibilities.
- **Lack of institutions to address governance in the Ring of Fire both within Matawa and Mushkegowuk communities (direct/indirect).** The Regional Framework Agreement²⁵ considered regional monitoring, infrastructure, revenue sharing and enhanced Matawa First Nations’ participation in impact assessment but did not produce any public outcomes. The current Ontario and federal approach is not acceptable to all Matawa communities. For example, Neskantaga First Nation and Eabametoong First Nation have stated clearly that they do not accept the current federal and Ontario environmental assessment processes for the Webequie Supply Road and Marten Fall Community Access Road Projects²⁶. In addition, there is a lack of engagement and governance institutions to address downstream impacts from the Ring of Fire. Weenusk, Kashechewan, Fort Albany, and Attawapiskat First Nations are equally important in

²³ <https://www.cbc.ca/news/canada/sudbury/climate-change-indigenous-knowledge-western-science-laurentian-university-1.5800815>

²⁴ <http://projects.thestar.com/climate-change-canada/ontario-ring-of-fire/>

²⁵ https://www.mndm.gov.on.ca/sites/default/files/rof_regional_framework_agreement_2014.pdf

²⁶ <https://www.northernontariobusiness.com/industry-news/mining/start-of-environmental-process-for-ring-of-fire-roads-anger-isolated-first-nations-941955>

decision-making about the Ring of Fire given the developments are located in the headwaters of the Winisk, Attawapiskat, and Albany Rivers. At the same time, formal requests in the past from the Mushkegowuk Council to the Ontario government for a regional approach to land use planning were not supported. More generally, First Nation communities often approach impact assessment as part of a larger vision or understanding of the land and their roles and responsibilities beyond the scope and scale of single projects (Booth and Skelton 2011, Noble 2016).

- **Lack of environmental planning in the Ring of Fire.** Land use planning in the Ring of Fire region remains controversial and incomplete. Some communities were engaged in land use planning under the *Far North Act, 2010*. The current government proposed to complete land use planning processes with these communities by December 31, 2020 while “winding down” land use planning with Weenusk First Nation and Kashechewan First Nation²⁷. Current proposals by Ontario propose revisions to the *Far North Act, 2010*. Ontario has no tools to address regional and cumulative impacts of projects on the social and ecological systems in northern Ontario, including Aboriginal and Treaty rights.

Process considerations

The RA process in general and the social components of the process should comply with the Nishnawbe Aski Nation Framework for Decision Making on Easing Restrictions in NAN Territory.

All the federal regulators as well as researchers working on the RA and studies to support the RA need to receive appropriate cultural competency training. Cultural safety²⁸ and a trauma-informed approach²⁹ must be undertaken within the RA.

Attention to distinctions within the social context must also be made in the RA, including self-identification, regional-specific information, residency (i.e., on reserve and off reserve), a gendered lens that includes 2SLGBTQQIA people, among others.

Relevant social, cultural, health, and economic indicators or metrics associated with these values should be developed by the First Nations communities with support of the scientific advisory panel and the Indigenous Wisdom Advisory Panel. This could include developing an understanding of the importance of a suite of conventional (e.g., socio-economic) indicators as well as unique indicators relevant to First Nations and their relationships to all their relations.

Methods for measuring and monitoring these indicators should be considered at the same time. We recommend community-based research and monitoring approaches with support

²⁷ <https://ero.ontario.ca/notice/013-4734>

²⁸ The creation of cultural safety requires, at a minimum, the inclusion of Indigenous languages, laws and protocols, governance, spirituality, and religion.

²⁹ Incorporating knowledge of trauma into all policies, procedures, and practices of solutions and services.

from social science and Indigenous research methodologies with First Nations to enable both science and Indigenous Knowledge Systems in the process. Current use and occupancy is not a sufficient indication of the significance of an area or region to First Nations. Traditional land use studies can also provide baseline data as well as identify areas that are important to First Nations for cultural and spiritual values.

Regional assessment could inform the cumulative social, ecological, and economic effects of known and anticipated projects, including roads and mines and must include Mushkegowuk communities downstream and “down muskeg”. The Ring of Fire is located in the upper reaches of several major watersheds that outlet to the highly sensitive and ecologically important James Bay and Hudson Bay coastal ecosystems within the homelands of a number of Mushkegowuk communities. This heightens the potential for cumulative social and ecological effects to occur outside of areas scoped by individual projects.

Appendix 4. Scenarios in the RA

The current proposed goal for the RA is, “to provide information and analysis regarding future developments in the Ring of Fire area and their potential effects in order to inform and improve future impact assessments and other planning and decision-making processes in a way that helps protect the environment, health, cultural, social, and economic conditions of the area while also creating opportunities for sustainable economic development.”³⁰

The RA should include a range of scenarios for development in the Ring of Fire, including infrastructure for roads and transmission, mines, regional water management, and construction staging and locations among others. These scenarios should be created with First Nations and considered within the regional cumulative effects assessment. They can also include alternative means of carrying out the developments, alternative sites or routes, etc. The scenarios should either build climate change in explicitly (e.g., how the land use is affected by climate change and how the land use contributes to climate change) or consider the scenarios under regional-scale climate change scenarios.

Blakley et al. (2020) noted that scenario-based approaches (e.g., Great Sand Hills assessment, Elk Valley Cumulative Effects Management Framework) are fundamental to regional CEA and to understanding cumulative change associated with current and future regional land use, climate change, and decision-making. By working with scenarios of different futures, and the pathways by which they are achieved, the focus shifts away from describing what cumulative effects have already occurred, and predicting those *most likely* to occur, while also exploring the anticipated consequences and most appropriate management responses under different circumstances. The goal of the scenario process is to provide information about what may be appropriate in subsequent land use planning, project-based assessment, and cumulative effects assessment and related decisions.

Examples that may be relevant to the RA include:

- Carlson and Brown (2015) used ALCES®, A Landscape Cumulative Effects Simulator and a series of scenarios to explore the potential consequences of land use in the western boreal region over the next 50 years. Three development rates were simulated: low (i.e., reduced or stagnant commodity prices); moderate (i.e., expected development rates); and high (i.e., robust and sustained commodity prices) and two scenarios were considered (adoption of stringent industry best practices and a hypothetical conservation area network based on minimizing foregone development potential).
- Musetta-Lambert et al. (2018) provide three scenarios, including the status quo, best-case and worst-case scenarios, for the boreal more broadly and considered trade-offs in

³⁰ <https://iaac-aeic.gc.ca/050/documents/p80468/136708E.pdf>

impacts and innovations across various industries similar to those that may be considered in the Ring of Fire.

- In the far north in Ontario, Carlson and Chetkiewicz (2013) developed a set of land use scenarios for the region, including Ring of Fire developments, and considered the cumulative effects of the scenarios using a decision-support tool (ALCES®) on caribou range disturbance levels, wolverine habitat suitability indices, moose habitat suitability indices, and a qualitative watershed impact index. Data and models were based on the published literature.
- Chetkiewicz et al. (2017) used ALCES® and an expert-based approach to consider the likely impacts of climate change and either a low-growth or a high-growth development scenario on walleye, lake sturgeon, lake whitefish, and brook trout populations over a 50-year period. Developments that were considered included mining, forestry, hydropower, and the increase in roads and other linear features such as transmission associated with these industrial developments. We are currently considering the likely impacts of climate change and development scenarios on wolverine in the region through the use of survey data and resource selection functions.
- Rempel et al. (submitted) used ALCES® and an expert-based, literature approach to consider the cumulative impacts of potential land use and climate change scenarios in the far north and their interacting impacts on northern moose, caribou, and wolf populations. Potential land use scenarios were developed with expert opinion, literature, and various government datasets.

Factors to consider in terms of developing land use scenarios for the RA include:

- **Creating a business case for the mineral deposits.** While the Ring of Fire has been described as a world-class mineral resource based on the deposits of chromite, nickel and copper, there has been no public analyses on the potential economic return of extracting minerals from these deposits. Similarly, there is no evidence for global demand, nor a proven business case for these deposits given the social, ecological, and economic challenges of remote access as well as the availability of chromite elsewhere in the world³¹.
- **Identifying current and future mine projects.** In general, concerns relating to mining include loss of habitat, emissions of toxic elements resulting in the contamination of ecosystem components, and the release of particulates and acidifying substances (Mussetta-Lambert et al. 2018). Skogstad and Alahamar (2016) provided an overview of current and future mining in the Ring of Fire. While Noront Resources currently holds 85% of all claims within the Ring of Fire making it the largest claim holder³², Noront's

³¹ <https://www.theglobeandmail.com/business/article-the-road-to-nowhere-why-everything-youve-heard-about-the-ring-of/>

³² http://norontresources.com/?pressreleases&permitting_technical=1

Eagle's Nest Project³³ is not currently under federal assessment. The project has changed substantively from the initial project description (2012) which included a transportation corridor for twelve (35 tonne capacity) trucks to a trans-load facility each day with additional trucks delivering supplies to the mine site and to dispose of solid waste to licensed off-site facilities. In May 2019, the company announced Sault Ste. Marie will be the future home for a new ferrochrome processing plant³⁴. The RA should scope in smelters and any transportation facilities associated with mines and minerals in the Ring of Fire.

- **Developing all-season roads.** The far north region in Ontario is notable for its lack of established all-season infrastructure and relies on 3,200 km of winter roads to connect to the provincial network. Construction and upgrading of winter roads is occurring in some areas in part because of the changes in climate that are affecting winter road longevity and viability. A number of proposals have been made over the years about roads. For example, in 2016, four First Nation communities (Webequie, Eabametoong, Neskantaga, Nibinamik) received a combined \$785,000 from the federal and provincial governments to conduct the All-Season Community Road Study (ASCRS). According to newspaper reports, the roads considered by the community explicitly excluded industrial uses³⁵ with a preferred corridor/road that did not connect to the McFaulds Lake area due to unresolved issues and concerns expressed by some participating First Nations about mining development in the Ring of Fire area. Noront Resources Ltd. has also made numerous public statements about its intention to eventually develop chromite deposits including Blackbird and possibly Black Thor. As a possible scenario for industrial use of roads in the Ring of Fire, Cliffs Chromite Project presented a basecase of 50 to 100 truckloads of concentrate leaving the site each day during full production. Roads developed for nickel, and potentially chromite ore, need to be considered in a cumulative effects assessment. Northern Ontario's transportation network is made up of roads, winter roads, rail, air and waterways that connect people to jobs, services and tourist destinations across the region. Reliable and sustainable infrastructure also supports economic development in Northern Ontario.
 - The Northern Ontario Transportation Plan serves as a guide to Ontario's vision for building a modern and sustainable transportation system for people northern Ontario³⁶.
 - In the Ring of Fire, the lack of all-season roads, renders the mineral deposits "stranded". In general, transportation by rail, trucks, and pipelines are key

³³ <https://ceaa-acee.gc.ca/050/evaluations/proj/63925?culture=en-CA>

³⁴ <https://www.sootoday.com/local-news/breaking-sault-ste-marie-lands-ferrochrome-processing-facility-1427493>

³⁵ <https://www.cbc.ca/news/canada/thunder-bay/ring-of-fire-road-study-1.3730976>

³⁶ <https://www.ontario.ca/page/connecting-north-draft-transportation-plan-northern-ontario>

aspects of the metal and mineral industry in both moving raw materials to refineries and smelters and then delivering refined products to manufacturers within and outside of Canada (Canada Mining Innovation Council 2016).

- Infrastructure scenarios for the Ring of Fire for the purpose of mining were described in Millette and Commito (2015) and are considered to be “region-opening” and “growth-inducing” (Johnson et al. 2019). The cost of developing the critical road link and infrastructure was estimated at over \$2.25 billion in 2013³⁰.
- **Addressing impacts of all-season industrial vs. community access roads.** Roads planned for resource extraction, particularly for mines, create distributional impacts and inequities for communities because of their inherent proximity to some communities and land-based activities and not others (Jones and Lucas 2012). This means that the impacts of transport and infrastructure affect various communities and individuals within communities differently, depending on space, time or population sectors. For example, the impacts of noise can vary in severity as one moves away from roads and distributional effects can be cumulative, as in the combined effect of traffic noise and pollution or dust.

There are currently a number of infrastructure proposals either undergoing impact assessment or upcoming:

- **Webequie Supply Road Project (WSRP), Reference Number 80183³⁷.** The project description clearly states the expectation that this single project will ultimately be part of an all-season road connection between the McFaulds Lake area and the provincial highway system to “ensure/maximize the viability of mine developments”.
- **Marten Falls Community Access Road Project (MFCARP), Reference Number 80184³⁸.** The project description clearly states the expectation that there will ultimately be an all-season road connection between the Ring of Fire and the provincial highway system through the MFCARP. Similarly, the project description states that “it is in this scenario that the potential positive and negative cumulative effects of the Project on Indigenous communities would likely be realized or felt to the fullest” (page 41 of the MFCARP Description). As such, the Project already anticipates the likelihood of broader cumulative effects given existing and reasonably foreseeable future projects.
- **The Northern Road Link³⁹.** Considered to be “Phase 2” of the Marten Falls Community Access Road Project. The proposed road will connect the proposed Marten Falls

³⁷ <https://ceaa-acee.gc.ca/050/evaluations/proj/80183?culture=en-CA>

³⁸ <https://ceaa-acee.gc.ca/050/evaluations/proj/80184?culture=en-CA>

³⁹ <https://www.northernontariobusiness.com/regional-news/far-north-ring-of-fire/ontario-first-nations-agree-on-missing-link-road-to-the-ring-of-fire-2132065>

Community Access Road at the south end and to the proposed Webequie Supply Road at the north end. There is no formal proposal for this road project at this time.

- **Roads downstream.** In addition to the construction and upgrading of winter roads, other all-season roads are also being considered downstream of the Ring of Fire roads. For example, the Mushkegowuk Council has recently completed the All-Season Road Pre-Feasibility Study⁴⁰. As with winter road upgrades, these road projects may or may not be subject to impact assessment under Ontario's process and may not enjoy public input and review. These projects should inform and be informed by a regional assessment, particularly in consideration of the cumulative effects of roads.
- **Wataynikaneyap Power Transmission Project (Phase 1 and Phase 2)**⁴¹. The Wataynikaneyap Power Transmission Project is a First Nations-led project to build approximately 1,800 kilometres of transmission lines in northwestern Ontario to connect remote First Nations communities to the Ontario power grid. The project will reinforce the existing transmission grid to Pickle Lake (Phase 1) and expand grid service north of Pickle Lake and Red Lake to ultimately connect 17 First Nations communities (Phase 2). To date, this Project has received only a provincial assessment. Because the Ontario process does not consider cumulative effects, Phase 1 of the Project did not scope in Phase 2 even though the Project's description as well as Ontario's *Long Term Energy Plan* stipulates that Phase 2 depends on Phase 1. Importantly, this Project could support energy transmission for the Ring of Fire⁴².
- **Wunnumin H1RCI Compound Construction, Reference Number 80308**⁴³ refers to the construction of necessary infrastructure in Wunnumin Lake First Nation to serve as a base of operations for Hydro One Remotes Communities Inc. This project forms part of the bigger Wataynikaneyap Transmission Project above.

Other land uses that need to be considered include:

- **Broadband communications projects across the far north in Ontario**⁴⁴.
- **Addressing the impacts of mineral exploration.** The area contains deposits of nickel, copper, platinum, palladium, zinc, diamonds, vanadium, and potentially gold. Although the economic returns are speculative, spending on exploration activities in the Ring of Fire total more than \$278 million⁴⁵. There are currently approximately 11,000 active mining claim units held by 19 companies and individuals, covering roughly 2,471 square kilometres in the Ring of Fire. The current approach to informing the public and First

⁴⁰ https://www.mushkegowuk.com/?page_id=3577

⁴¹ <https://www.ontario.ca/page/new-transmission-line-pickle-lake>

⁴² <http://www.noma.on.ca/upload/documents/mining-readiness-strategy.pdf>

⁴³ iac-aeic.gc.ca/050/evaluations/proj/80308

⁴⁴ <https://news.ontario.ca/en/release/57227/ontario-investing-in-reliable-internet-for-northern-ontario>

⁴⁵ <https://www.mndm.gov.on.ca/en/ring-fire>

Nations about mineral exploration fails to consider cumulative impacts on the land, water, and wildlife⁴⁶.

- **Considering other industrial developments such as forestry.** In general, the forestry industry includes silvicultural activities, wood processing, wood product manufacturing, pulp and paper, and other aspects of forest product production and delivery. However, it is the construction, maintenance, and use of skid trails and haul roads that impact the environment in forest harvesting operations (Webster et al. 2015). Impacts include habitat fragmentation, creation of unnatural gaps that species cannot or will not cross, enhanced predator efficiency, facilitate invasive species, change wind patterns and other local climate conditions, promotion of sedimentation and mobilization of contaminants in aquatic systems and impacts to hydrologic connectivity and patterns (Trombulak and Frissell 2000). Forestry roads also increase access by humans to previously inaccessible areas, potentially leading to adverse ecosystem impacts (Gunn and Sein 2000). In the far north in Ontario, Pikangikum First Nation (Whitefeather Forest)⁴⁷, Cat Lake and Slate Falls First Nations⁴⁸, and Eabametoong and Mishkeegogamang First Nations⁴⁹ identified forestry management areas within their community-based land use plans. It is anticipated that the construction of roads in the far north will also make forestry operations more viable.

Process considerations

Determining which scenarios are desirable or undesirable and what their ranking or priority is for the purpose of the RA should be determined with First Nations while recognizing well-established strategies led by Ontario in working with First Nations in the region. For example, the Ontario New Democrats' Indigenous Affairs critic, Sol Mamakwa, expressed concern that Ontario's approach to one-to-one agreements for the road projects was being used as a "divide and conquer approach."⁵⁰

The scenarios could be focused on areas of federal jurisdiction if Ontario does not collaborate in the regional assessment. But, while the resulting *strategies* would need to respect jurisdictional realities, the RA could include all potential or feasible scenarios so as to fully inform resulting federal decisions.

There are a number of silo effects that we expect will confound efforts to develop scenarios and regional CEA, including within institutions (federal and provincial government, First

⁴⁶ <http://docs.assets.eco.on.ca/reports/environmental-protection/2012-2013/2012-13-AR.pdf>

⁴⁷ <http://www.whitefeatherforest.ca/wp-content/uploads/2008/06/land-use-strategy.pdf>

⁴⁸ <https://www.ontario.ca/page/cat-lake-and-slate-falls-first-nations-community-based-land-use-plan>

⁴⁹ <https://www.ontario.ca/page/eabametoong-and-mishkeegogamang-first-nations-far-north-community-based-land-use-planning-terms>

⁵⁰ www.cbc.ca/news/canada/thunder-bay/regional-framework-ends-1.5261377

Nations) and across disciplines, particularly academic and research groups in academia and government. We suggest that a one-off RA in the Ring of Fire led by the federal government and lacking sustained connections to other initiatives will remain impotent in terms of addressing cumulative effects through monitoring and adaptive management for example. Processes that explicitly challenge these silos must be made explicit.

Appendix 5. Cumulative effects in the RA

The overall purpose of a cumulative effects framework developed in the RA should be to manage the cumulative effects of past, current and possible future human activities, in addition to climate change, on the values identified by the Committee.

A regional cumulative effects framework draws on a number of components of the RA, including:

- Context-setting based on the spatial and temporal boundaries (Appendix 1 and 2) to describe the current state of the region, including the extent to which cumulative effects in the past have conditioned the current environment (*sensu* baselines).
- Identification of values and appropriate indicators or metrics of relationships between social-ecological systems and human activities and climate change (Appendix 1 and 2).
- Assessment of the accumulated state of social-ecological conditions and human activities (Appendix 3) and climate change, including the identification of benchmarks and targets or future outcomes for the region.
- Examine the potential cumulative effects of future development scenarios and climate change, including ecological and social thresholds.

Blakley et al. (2020) highlighted a number of benefits of a regional cumulative effects framework that could be relevant to the RA:

- While regional CEA does not replace the need for CEA in project-based assessment, it can reduce the burden on First Nation proponents in addressing the cumulative effects of their road and transmission projects, particularly at the regional scale and on First Nation communities impacted (both positively and negatively) by the projects. This requires, however, that the regional CEA results actually influence, if not direct, decisions about current and future development projects.
- Providing guidance on cumulative effects and scientific information to projects and project-level impact assessment and establishing more relevant and comprehensive monitoring programs for projects.
- Providing context for the value of the projects, including their contributions to sustainability and desirable future outcomes for the region as well as other policy or planning objectives that may be relevant.
- Providing for broader involvement and engagement with First Nation communities to consider values, desirable futures, and the implications of development and protection.
- Supporting decisions to reject proposals that are incompatible with regional futures and visions while offering confidence in projects that are compatible.

There is also a need to integrate assessment, monitoring, and any management programs in the region under a regional framework in order to support the scientific assessment of cumulative change, inform land use planning and direct decisions about the approval and management of projects and undertakings. In the Ring of Fire, we have promoted a number of approaches to aquatic and terrestrial monitoring for the purpose of considering cumulative effects (e.g., stressor-based, effects-based, hybrid approaches in Burton and Chetkiewicz 2015 and Kilgour et al. 2016) as well as community-based monitoring (Raygorodetsky and Chetkiewicz 2017).

Process considerations

There are a number of challenges to regional CEA in an RA for the Ring of Fire including:

- Silo effects will confound efforts to develop a regional CEA, including within institutions (federal and provincial government, First Nations) and across disciplines, particularly academic and research groups in academia and government and natural and social science. While regional CEA could emerge inside a formal regulatory process at the federal level (e.g., RA under IAA), neither Ontario nor First Nations have processes that can take up the recommendations of the CEA under RA. Where possible, linkages between the CEA and policy and decision-making windows should be made explicit. Legislative reform of Ontario's *Environmental Assessment Act* to consider both CEA and RA and strategic assessments is critical. First Nations could also consider how the CEA results would be meaningful for their communities and visions for the future.
- Regional CEA without an agency with the authority for CEA implementation, including the ability to inform and direct project decisions in the Ring of Fire is problematic. In the event that Ontario does not participate in the RA, we suggest the Committee could still assess different land use scenarios to inform federal management and decision-making respecting fisheries, navigation and impacts on First Nations. This would include consideration of the full range of impacts, benefits, risks and uncertainties of the scenarios to inform future decision-making in the region.
- Good governance and supporting institutions, particularly within First Nations, is needed to advance regional CEA. The perception that this is a one-off RA in the Ring of Fire led by the federal government, but lacking sustained connections to other policy, planning, or governance institutions could render the CEA outcomes impotent.

Appendix 6. Public Engagement in the RA

A purpose of the IAA is “to ensure that opportunities are provided for meaningful public participation during impact assessment, a regional assessment or a strategic assessment.”

Public participation is not a one-size-fits-all process, meaning that while hearings play an important role, the public is involved in designing alternative processes that are appropriate for the circumstances and public’s needs. Written comment periods are not enough.

Meaningful public participation in the RA includes:

- Participation has to be early, ongoing and engaged at all levels of assessment.
- Public can understand how their input can influence process and outcomes.
- Participation must build public confidence in the process and the outcomes, including explanations of how comments were received, considered and reflected in decisions, rights of appeal, and trustworthy and independent advisory or review bodies.
- Opportunities for public comment are open to all interested parties, are varied, flexible, include openings for face-to-face discussions and involve the public in the actual design of an appropriate participation program.
- Formal processes of engagement, such as hearings and various fora of dispute resolution, are specified and principles of natural justice and procedural fairness are considered in formal processes.
- Ready access to the information and the decisions at hand is available and in local languages spoken, read and understood in the area.
- Technical information is summarized in plain language with the use of visuals and infographics where relevant.
- Participant assistance and capacity building is available for informed dialogue and discussion.

The tools for meaningful public participation are well described in a report produced by the former Regulatory Advisory Committee. These tools should be modified and adapted by the Committee to support the RA process by informing, consulting, involving, and collaborating with the public using several techniques ranging from briefings, presentations, and internet tools to public meetings and comment forms to advisory groups and task forces.

Process considerations

- Social emergency and crises in First Nation communities.
- COVID-19 impacts the ability of First Nations and the public to engage directly and requires virtual approaches and access to technology and internet capacity that are not appropriate given the potential impacts on social-ecological systems in the region.

- Participant funding is available.

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