



Safe Environments Directorate  
Healthy Environments and Consumer Safety Branch  
Health Canada  
269 Laurier Avenue West, 5th Floor  
Ottawa, ON K1A 0K9

Stewart Lindale  
Director,  
Regional and Strategic Assessments  
Impact Assessment Agency of Canada  
160 Elgin Street, 22nd Floor  
Ottawa, ON K1A 0H3

April 04, 2025

Sent by email to: [regionalrof-cdfregionale@iaac-aeic.gc.ca](mailto:regionalrof-cdfregionale@iaac-aeic.gc.ca)

**Subject: Health Canada and Public Health Agency of Canada's response to the Impact Assessment Agency of Canada's request to update the Federal Authority Advice Record for the Ring of Fire Regional Assessment**

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Dear Stewart Lindale,

Thank you for your letter dated March 10, 2025, requesting Health Canada to provide an update to the Federal Authority Advice Record (FAAR) for the Ring of Fire regional assessment (RA). On January 22, 2021, and November 30, 2023, Health Canada and the Public Health Agency of Canada (PHAC) provided input to the original and updated FAARs, respectively, in support of the Impact Assessment Agency of Canada (the Agency)'s design of the RA process and the development of the terms of reference.

Health Canada participates in the RA process as a federal authority under the *Impact Assessment Act*. Health Canada makes available specialist or expert information or knowledge in its possession, and coordinates input from the PHAC, as required, at the request of the Agency.

Health Canada and PHAC have considered the proposed goal of the assessment cited in your letter and provided updated input, where appropriate, in the attached FAAR. Grey shading indicates text that was not modified from the 2023 submission. Health Canada and PHAC can provide, upon request, available expertise on issues within their mandates and federal jurisdiction. Given the breadth and depth of potentially relevant expertise within Health Canada and PHAC, the availability of relevant experts will be sought upon receipt of specific requests from the Regional Assessment Working Group.

Should you have any questions concerning Health Canada and PHAC's response, please contact the undersigned.

Sincerely,

Greg Carreau  
Director General, Safe Environments Directorate  
Healthy Environments and Consumer Safety Branch, Health Canada  
[greg.carreau@hc-sc.gc.ca](mailto:greg.carreau@hc-sc.gc.ca)

- Cc: Sally Gibbs, A/Director General, Environmental Health, Consumer Products and Pesticides Directorate, Regulatory Operations and Enforcement Branch (ROEB), Health Canada
- Cc: Timna Gorber, Director, Health Equity Policy Division, Strategic Policy Directorate, Science Policy and Integration Branch, PHAC
- Cc: Miranda MacPherson, Director, Chemicals and Environmental Health Management Bureau, HECSB, Health Canada
- Cc: Chantal Roberge, National Director, Environmental Health Program (EHP), ROEB, Health Canada
- Cc: Kelsey Lucyk, Manager, Intersectoral Partnerships and Initiatives, Health Equity Policy Division, PHAC
- Cc: Heather Jones-Otazo, Manager, Environmental Assessment and Contaminated Sites Division, HECSB, Health Canada
- Cc: Sue-Jin An, A/Manager, EHP, ROEB, Health Canada

**Annex 1: Federal Authority Advice Record for the Regional Assessment in the Ring of Fire Area**

**ANNEX 1****Regional Assessment in the Ring of Fire Area****March 10, 2025 Federal Authority Advice Record****Response due to [regionalrof-cdfregionale@iaac-aeic.gc.ca](mailto:regionalrof-cdfregionale@iaac-aeic.gc.ca) by April 4, 2025**

Department/Agency	Health Canada and Public Health Agency of Canada
Lead RA Contact(s)	Heather Jones-Otazo
Full Address	269 Laurier Avenue West, 3 <sup>rd</sup> Floor Ottawa, ON K1A 0K9
Email	<a href="mailto:ia-ei@hc-sc.gc.ca">ia-ei@hc-sc.gc.ca</a>
Telephone	647-965-6729
Alternate Departmental Contact	<a href="mailto:ia-on-ie-on@hc-sc.gc.ca">ia-on-ie-on@hc-sc.gc.ca</a>

**PART 1** – In providing your responses to the items below, please include any relevant information on associated Indigenous, public or other consultation or engagement activities and identify any partners or collaborations.

#### 1. MANDATE AND AREA(S) OF EXPERTISE

*Clearly outline the mandate of your department or agency and detail your area(s) of responsibility or expertise that may be related to the regional assessment*

As federal authorities under the *Impact Assessment Act* (IAA), Health Canada and the Public Health Agency of Canada (PHAC) will support the Impact Assessment Agency of Canada (the Agency) on regional assessments (RAs) by providing specialist or expert information or knowledge in their possession (expertise) and by completing and presenting any new analysis of health-relevant datasets. The Agency ultimately determines how to use the expertise provided by Health Canada or PHAC.

Health Canada can provide human health expertise in the following areas:

- Air quality;
- Recreational and drinking water quality;
- Traditional foods (country foods);
- Noise;
- Methodological expertise in conducting human health risk assessment;
- Methodological expertise in conducting health impact assessment (HIA);
- Electromagnetic fields;
- Radiological emissions; and
- Public health emergency management of toxic exposure events.

In addition to the expertise routinely provided on project-specific impact assessments (IAs), Health Canada can also provide technical support on the following activities upon request:

- Design and delivery of outreach programs for public and Indigenous groups to increase awareness of potential risks, health impacts and mitigation strategies related to radon, chemicals, air quality and water quality;
- Development and provision of technical guidance and training to support sound management of contaminated sites;
- Design, implementation and interpretation of results related to human biomonitoring studies; and
- Design, implementation and interpretation of results related to climate change impacts on the health of Canadians, their communities and their health systems, to facilitate effective adaptation. Health Canada

also provides related, ongoing technical support through its participation in meetings, a community of practice, and development of resources and guidance.

PHAC has expertise on the social determinants of health approach, positive mental health, and health equity<sup>1</sup>, and may provide that expertise through Health Canada, upon request from the Agency. Additionally, Health Canada collaborates with Indigenous Services Canada (ISC)'s First Nations and Inuit Health Branch on areas of expertise pertaining to First Nations peoples' health, such as drinking water quality on reserves, country foods and food security, certain social determinants of health, and community health and wellness programs and services.

## 2. REGULATORY AUTHORITIES

*List and summarize the nature of the regulatory authorities of your department or agency in relation to physical works or activities in the Ring of Fire area.*

Neither Health Canada nor PHAC have a regulatory role with respect to major development projects subject to the IAA.

## 3. EXPERT INFORMATION OR KNOWLEDGE

*List and summarize the specialists or expert information or knowledge that your department or agency has that may be relevant to the regional assessment. Include all research, reports and data sets in this response inventory.*

### **Specific to the Ring of Fire area**

Health Canada's internal subject matter expert groups identified few instances of Health Canada or PHAC research, reports or data sets specific to the Ring of Fire area. Knowledge in the general vicinity is typically limited to that provided by project proponents during various federal environmental or IA processes. Work directly relevant to the area includes:

- Health Canada's HealthADAPT program supported the development of climate change and health vulnerability and adaptation assessments for the seven health units within Northern Ontario<sup>2</sup>, including the Porcupine Health Unit, from 2019 to 2022. The main deliverable of the project is a report<sup>3</sup> providing an overview of the health impacts of climate change in Northern Ontario, including regional vulnerabilities and health risks from climate change, along with current capacity and possible mitigation strategies<sup>4</sup>;
- Health Canada piloted the EnviroScreen<sup>5</sup> methodology (developed by the California Environmental Protection Agency) in the Northern Ontario context. The methodology integrates publicly available environmental, social, economic and health data and uses a scoring system to compare public health units. Alternative scoring based on environmental indicators only are also available at the secondary watershed level. This work was presented at the 2023 conference of the Indigenous Centre for Cumulative Effects<sup>6</sup>;
- Health Canada's Environmental Health Program conducts outreach and awareness activities on environmental health risks that are relevant to Indigenous peoples in Northern Ontario. Specific activities that may be relevant to the RA include:
  - participation in the First Nation Housing conferences in the Thunder Bay region as presenters and tradeshow exhibitors in years 2018, 2023 and 2024;
  - collaborations with Indigenous organizations in Northern Ontario to deliver Health Canada's environmental health messaging on indoor air quality and household chemicals; and

<sup>1</sup> Available at: <https://www.canada.ca/en/public-health/services/health-promotion/population-health/what-determines-health.html>

<sup>2</sup> Available at: <https://www.canada.ca/en/health-canada/programs/health-adapt.html>

<sup>3</sup> Northern Ontario Climate Change and Health (NOCCH) Collaborative. 2022. Climate Change and Health in Northern Ontario. Available at: <https://www.nwhu.on.ca/wp-content/uploads/2022/10/Climate-Change-and-Health-in-Northern-Ontario-August-2022.pdf>

<sup>4</sup> Indigenous Services Canada also funds First Nation community-designed and driven projects related to climate change adaptation in the Ring of Fire area.

<sup>5</sup> Available at: [https://planetaryhealth.shinyapps.io/ON\\_Enviro\\_Screen/](https://planetaryhealth.shinyapps.io/ON_Enviro_Screen/)

<sup>6</sup> Available at: <https://icceconferencecaec.ca/2023/>

- support to Environment and Climate Change Canada and Ontario's Ministry of Environment, Conservation and Parks to expand fine particulate matter (PM<sub>2.5</sub>) monitoring in Northern Ontario for wildfire smoke forecasting and monitoring. This includes reaching out to First Nation communities (e.g., Marten Falls, Webequie, Kasabonika Lake, Kingfisher Lake, Kitchenuhmaykoosib Inninuwug) for installation of low-cost PM<sub>2.5</sub> sensors at local airports<sup>7</sup>.

#### **Information that may be applicable to the Ring of Fire area**

Information or knowledge collected outside the area or at a larger scale may nevertheless be pertinent to the RA. General information or knowledge on IA is available as follows:

#### **Health Canada IA-specific Research:**

Health Canada's Impact Assessment program continues to address knowledge gaps and support novel scientific efforts that contribute to the health-related knowledge and expertise provided to reviewing bodies during IA processes. The following completed studies may yield specialist or expert information or knowledge relevant to the Ring of Fire RA:

- Developing science-based advice through systematic reviews to inform Health Canada's advice on the health effects of noise under the IAA<sup>8,9,10,11</sup>
- Canadian perspectives on environmental noise survey<sup>12,13,14</sup>
- Investigating the strength of evidence related to noise annoyance and biomarkers associated with adverse health: A systematic review of the human literature<sup>15</sup>
- Environmental scan to identify best practices related to the integration of gender-based analysis plus (GBA Plus) in HIA<sup>16</sup>
- Grounding resource development and infrastructure projects in HIA and GBA Plus<sup>17</sup>

In addition, the following studies in progress may yield research outcomes relevant to the Ring of Fire RA in the future:

- Canadian perspectives on environmental noise survey - cycle 2;
- Inhalation toxicological reference values for selected critical minerals: Exploratory work;
- Noise annoyance as a risk factor for biological markers of allostatic load;
- Modelling environmental noise in rural and non-rural Canada;

<sup>7</sup> Available at: <https://aqmap.ca/>

<sup>8</sup> Sivakumaran *et al.* 2022. Impacts of Noise Exposure on Risk of Developing Stress-Related Health Effects to the Cardiovascular System: A Systematic Review and Meta-Analysis. *Noise and Health*, 24:107-129. Available at: <https://pubmed.ncbi.nlm.nih.gov/36124520/>

<sup>9</sup> Sivakumaran *et al.* 2022. Impacts of Noise Exposure on Risk of Developing Stress-Related Obstetric Health Effects: A Systematic Review and Meta-Analysis. *Noise and Health*, 24:137-114. Available at: <https://pubmed.ncbi.nlm.nih.gov/36124522/>

<sup>10</sup> Sivakumaran *et al.* 2022. Impact of Noise Exposure on Risk of Developing Stress-Related Metabolic Effects: A Systematic Review and Meta-Analysis. *Noise and Health*, 24:215-230. Available at: <https://pubmed.ncbi.nlm.nih.gov/36537446/>

<sup>11</sup> Sivakumaran *et al.* 2022. Effect of Sleep Disturbance on Biomarkers Related to the Development of Adverse Health Outcomes: A Systematic Review of the Human Literature. *Journal of Sleep Research*, e13775. Available at: <https://pubmed.ncbi.nlm.nih.gov/36330773/>

<sup>12</sup> Michaud *et al.* 2022. A comparison of self-reported health status and perceptual responses toward environmental noise in rural, suburban, and urban regions in Canada. *The Journal of Acoustical Society of America*, 151:1532-1544. Available at: <https://pubs.aip.org/asa/jasa/article/151/3/1532/2838078/A-comparison-of-self-reported-health-status-and>

<sup>13</sup> Michaud *et al.* 2022. Annoyance toward transportation and construction noise in rural suburban and urban regions across Canada. *Environmental Impact Assessment Review*, 97. Available at: <https://www.sciencedirect.com/science/article/pii/S0195925522001470?via%3Dihub>

<sup>14</sup> Michaud *et al.* 2023. Chronic Sleep Disturbance among Adult Canadians: Associations and Implications to the Evaluation of Noise Impacts under Canada's Impact Assessment Act. *Environmental Impact Assessment Review*, 101:1-11. Available at: <https://www.sciencedirect.com/science/article/pii/S0195925523000756?via%3Dihub>

<sup>15</sup> Senerth *et al.* 2024. A Systematic Review and Meta-Analysis of Noise Annoyance as a Determinant of Physiological Changes Linked to Disease Promotion. *International Journal of Environmental Research and Public Health*, 21:956-986. Available at: <https://www.mdpi.com/1660-4601/21/7/956>

<sup>16</sup> Sax *et al.* 2021. Environmental Scan to Identify Domestic and International Good Practices to Integrate SGBA+ in Health Impact Assessment. Available at: <https://www.criaw-icref.ca/publications/environmental-scan-sgba/>

<sup>17</sup> Waheed *et al.* 2022. Grounding Resource Development and Infrastructure Projects in HIA and GBA Plus. Available upon request to: [ia-ei@hc-sc.ca](mailto:ia-ei@hc-sc.ca)

- Bioaccessibility and bioavailability of mercury in country foods and potential implications for Health Canada advice on risk assessment from mercury in country foods; and
- Health effect pathways applicable to major resource development projects within the Canadian context.

Datasets and scientific articles of relevance to IAs, which have been created and authored by Health Canada, are being onboarded onto the Government of Canada's Open Science Data Platform<sup>18</sup> for direct access by external stakeholders. Searching this platform may yield secondary information applicable to the Ring of Fire or may provide examples of methodologies to capture useful primary data for the RA.

#### **Health Canada Guidance for IAs:**

Health Canada has published a series of guidance documents for evaluating the health impacts of major projects on the following topics:

- Human health risk assessment<sup>19</sup>;
- Air quality<sup>20</sup>;
- Drinking and recreational water quality<sup>21</sup>;
- Country foods<sup>22</sup>;
- Noise<sup>23</sup>; and,
- Radiological impacts<sup>24</sup>.

Health Canada has developed interim guidance on methodological best practices in HIAs of major projects under the IAA<sup>25</sup>. This guidance supports the review of federally-designated projects and complements the Agency's practitioner guide, titled *Analyzing Health, Social and Economic Effects under the IAA*<sup>26</sup>. Between 2022 and 2024, a draft version of Health Canada's interim HIA guidance document was distributed for the purpose of gathering external feedback.

#### **PHAC expertise on the social determinants of health approach:**

A social determinants of health approach is important in identifying and describing the causal chain linking determinants/factors to the risk factors that determine health outcomes. This approach recognizes that health is more than the absence of disease, and is a state of overall well-being that is impacted by many factors, including the social and physical environment and Indigenous views of health. This approach places emphasis on factors from the individual level (health-related behavioural and biological factors); community and social environment level (service access and social, cultural and economic factors); and systemic level (structural and equity factors). Relevant social determinants of health to be considered in the RA should be selected based on community input if possible, to reflect the setting and circumstances of the impacted communities.

<sup>18</sup> Available at: <https://osdp-psdo.canada.ca/dp/en>

<sup>19</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-6-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf)

<sup>20</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-1-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf)

<sup>21</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Drinking and Recreational Water Quality. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-2-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf)

<sup>22</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-5-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf)

<sup>23</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Noise. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-3-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf)

<sup>24</sup> Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Radiological Impacts. Available at: [https://publications.gc.ca/collections/collection\\_2024/sc-hc/H129-54-4-2023-eng.pdf](https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-4-2023-eng.pdf)

<sup>25</sup> Health Canada. 2024. Interim Guidance Document: Health Impact Assessment of Designated Projects under the Impact Assessment Act. Available at: <https://www.canada.ca/en/health-canada/services/publications/healthy-living/interim-guidance-health-impact-assessment.html>

<sup>26</sup> Available at: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html>

#### 4. POLICIES, PROGRAMS OR INITIATIVES

List and summarize the past, current and planned policies, programs or initiatives of your department or agency that may be relevant to the regional assessment. Include an outline of related funding initiatives in this response and provide information on geographic locations, next steps and timing for the program/initiative.

Health Canada and PHAC have relatively limited resources to develop new information or programs in support of RAs under the IAA. Health Canada and PHAC's programs and initiatives may address the potential effects of development projects in the Ring of Fire region, which could exacerbate existing community challenges related to health and socio-economic conditions, including but not limited to:

- Increased use of drugs and alcohol;
- Increased pressure on existing addiction services for Indigenous communities; and
- Increased gender-based violence, harassment, and risks to sexual health from influx of non-reserve individuals.

For example, under the Government of Canada's Canadian Drugs and Substances Strategies<sup>27</sup>, Health Canada's Substance Use and Addictions Program (SUAP)<sup>28</sup> provides contribution funding to other levels of government and to community-led, Indigenous and not-for-profit organizations for a wide range of innovative and evidence-informed projects across the continuum of care, from prevention and harm reduction to treatment and recovery. Since 2017, SUAP has committed over \$750 million for more than 460 projects across Canada aiming to minimize substance use harms and improve health outcomes for Canadians. This includes providing over \$99 million towards more than 80 projects that are focused on or led by Indigenous groups and communities. While SUAP is currently fully subscribed and does not have funding available to fund new or existing projects, the SUAP can share information on aspects of the program focused on addressing health concerns identified by Indigenous communities related to the three bullets above.

Furthermore, starting in 2024-25, \$150 million was allocated over three years for an Emergency Treatment Fund (ETF)<sup>29</sup>, aimed at municipalities and Indigenous communities to address urgent needs arising from the opioid crisis. Administered by Health Canada, ETF functions as a separate and new funding stream under SUAP. ETF has finalized 61 Contribution Agreements that will provide approximately \$46 million to municipalities and Indigenous communities across Canada starting in 2025-26. One of these projects, The Pathways to Resilience: Marten Falls Comprehensive Healing and Treatment Program, led by Marten Falls First Nation was approved for \$1.9 million in ETF funding. The project is offering immediate intervention through a Mobile Response Unit staffed with trained counselors, providing crisis outreach, counseling, and culturally relevant programming, while also connecting individuals to treatment options. The aim of the project is to foster long-term recovery, resilience, and community health, bridging the gap created by the community's isolation and extended wait times for external healthcare services. Future ETF funding will be reassessed once the new government is in place, with a targeted Call for Proposals set to be revisited by September 2025. Similar to SUAP, ETF can also share program information relevant to addressing the health concerns expressed by Indigenous communities.

Additionally, PHAC administers the following funding and support programs:

- Youth Substance Use Prevention Program<sup>30</sup>, which invested \$20.2 million as part of the 2023 federal budget. The program was designed to promote overall health and well-being and to prevent substance use harms among youth, including Indigenous populations, by building protective factors, such as healthy relationships, safe environments, and school and community connectedness;
- Harm Reduction Fund<sup>31</sup>, which supports time-limited projects across Canada that will help reduce HIV and hepatitis C among people who share injection and inhalation drug-use equipment;

<sup>27</sup> Government of Canada. Canadian Drugs and Substances Strategy: Overview. Available at : <https://www.canada.ca/en/health-canada/services/substance-use/canadian-drugs-substances-strategy.html>

<sup>28</sup> Health Canada. Substance Use and Addictions Program. Available at : <https://www.canada.ca/en/health-canada/services/substance-use/canadian-drugs-substances-strategy/funding/substance-use-addictions-program.html>

<sup>29</sup>

Health Canada. Emergency Treatment Funding. Available at: <https://www.canada.ca/en/health-canada/services/substance-use/emergency-treatment-fund-2024.html>

<sup>30</sup> Public Health Agency of Canada. Youth Substance Use Prevention Program. Available at: <https://www.canada.ca/en/public-health/services/funding-opportunities/grant-contribution-funding-opportunities/youth-substance-use-prevention-program-stream-1-2023.html>

<sup>31</sup> Public Health Agency of Canada. Harm Reduction Fund. Available at: <https://www.canada.ca/en/public-health/services/funding-opportunities/sexually-transmitted-blood-borne-infections/applying-funding-harm-reduction-fund.html>

- 9-8-8: Suicide Crisis Helpline<sup>32,33</sup>, which was launched in November 2023 and offers trauma-informed and culturally appropriate suicide prevention and crisis support for everyone living in Canada; and
- Preventing Gender-Based Violence: the Health Perspective<sup>34</sup> investment, which provides funding for projects that prevent gender-based violence, and its impacts, from a health perspective.

Relevant funding opportunities related to health promotion, positive mental health, infectious disease, social determinants of health, and chronic disease prevention may be available through PHAC<sup>35</sup>.

Finally, Health Canada recently partnered with the National Collaborating Centre on Indigenous Health (NCCIH) on Indigenous-led HIA resources. This initiative may yield deliverables relevant to the Ring of Fire RA in the future on the following topics:

- Indigenous community-specific frameworks of health and well-being, the implications of these frameworks for HIAs and the “pathways” approach to effects analysis;
- Indigenous perceptions of the current IA process, including gaps in available resources, and challenges in engaging with government and collaborating with industry; and
- National and international best practices for meaningful engagement of Indigenous communities in the IA process by industry, government, and consultants.

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5. Outline any additional responsibilities, information or knowledge and any partners or collaborations that have not been specified, above.

#### ***Health Canada’s Guidelines for the Protection of Human Health***

Health Canada participates in the development of guidelines for the protection of human health. Activities potentially relevant to the Ring of Fire area include:

- Providing human health-related guidance and advice to support an assessment of human health risks from multi-media exposures to metals [e.g. chromium (III and VI), nickel, copper, methylmercury] and other chemicals that may be associated with mining activities. The Department also collaborates with the Canadian Council of Ministers of the Environment to develop and update human health components of soil quality guidelines.
- Participating in the development of the *Canadian Ambient Air Quality Standards* (CAAQS) as part of the Air Quality Management System, including periodic reviews to enable continuous improvement in air quality. In support of updating the CAAQS for PM<sub>2.5</sub>, the Department published a report<sup>36</sup> that summarizes the health science for PM<sub>2.5</sub> in the context of ambient air pollution in Canada. Work is currently underway to review and update the CAAQS for fine particulate matter (PM<sub>2.5</sub>).
- Developing health-based air quality objectives (HBAQOs)<sup>37</sup> that represent the highest safe exposure levels for outdoor air pollutants of concern for human health. The HBAQOs will support all levels of government and other partners in managing air quality.
- Providing estimates of human exposure levels to air pollutants (e.g., PM<sub>2.5</sub>, nitrogen dioxide, sulphur dioxide, and ozone) at both local and national scales based on combined air quality data from

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<sup>32</sup> Public Health Agency of Canada. Government of Canada launches three-digit suicide crisis helpline. Available at:

<https://www.canada.ca/en/public-health/news/2023/11/government-of-canada-launches-three-digit-suicide-crisis-helpline.html>

<sup>33</sup> 9-8-8 Suicide Crisis Helpline. Available at: <https://988.ca/>

<sup>34</sup> Public Health Agency of Canada. Investment overview for Preventing Gender-Based Violence: The Health Perspective. Available at: [https://www.canada.ca/en/public-health/services/health-promotion/stop-family-violence/call-proposals-preventing-addressing-gender-based-violence-health-perspective-teen-youth-dating-violence-prevention/investment-overview.html#Equipping\\_providers\\_to](https://www.canada.ca/en/public-health/services/health-promotion/stop-family-violence/call-proposals-preventing-addressing-gender-based-violence-health-perspective-teen-youth-dating-violence-prevention/investment-overview.html#Equipping_providers_to)

<sup>35</sup> The current list of grant and contribution funding opportunities from PHAC are available at: <https://www.canada.ca/en/public-health/services/funding-opportunities/grant-contribution-funding-opportunities.html>

<sup>36</sup> Health Canada. 2022. Canadian Health Science Assessment for Fine Particulate Matter (PM<sub>2.5</sub>). Available at:

[https://publications.gc.ca/collections/collection\\_2022/sc-hc/H144-100-2022-eng.pdf](https://publications.gc.ca/collections/collection_2022/sc-hc/H144-100-2022-eng.pdf)

<sup>37</sup> Available at: <https://www.canada.ca/en/health-canada/services/air-quality/outdoor-pollution-health/standards-objectives/health-based-air-quality-objectives.html>

modelling and monitoring. The data may be useful in informing baseline air quality in the Ring of Fire area.

- Establishing and updating the *Guidelines for Canadian Drinking Water Quality (GCDWQ)*, in collaboration with the Federal/Provincial/Territorial Committee on Drinking Water.

### **Health Canada's Research Programs and Initiatives**

The following excerpts summarize information on initiatives that may be relevant to the Ring of Fire RA. Publications associated with some of these initiatives may be available or forthcoming. Further details may be obtained upon request.

1. *Indoor air quality and the effects on children's respiratory health in First Nations reserves in the Sioux Lookout Zone*<sup>38</sup>: This study evaluated Indoor Environmental Quality in houses of approximately 100 children living in four isolated communities in relation to respiratory health and related utilization of health care services. This research identified simple home improvements or building interventions that may improve the respiratory health of children living in the homes. The findings may inform future, similar studies/interventions in remote First Nations reserves across Canada.
2. Design of cost-effective drinking water surveys in the 21-st century. This project is in preparation for anticipated future surveys and builds on multiple targeted surveys and two national surveys on drinking water to generate data used for the development of Guidelines for Canadian Drinking Water Quality.
3. *Impacts of major projects on traditional foods and implications for food security of Indigenous Peoples*: Designed to summarize the principles, current practices and methodologies, and basic information that Health Canada will seek during its review of traditional food and food security assessments, submitted by proponents of major projects under the IAA.
4. *National Biomonitoring Program*<sup>39</sup> under the on-going *Canadian Health Measures Survey (CHMS)*: This survey permits regional analysis of biomonitoring data that may help relate population exposures in Ontario to sources of pollutants and/or sociodemographic or lifestyle factors unique to Ontario.
5. Economic analysis of climate change impacts on health and on the health system: The analysis, impacts, methods and data identified in this project may inform economic cost-benefit analyses.
6. Health Canada's Food Directorate provided an expert opinion on potential health risks from metal consumption, including mercury, present in marine animals east of Hudson Bay and James Bay. This is part of ongoing work conducted in support of the Northern Contaminants Program<sup>40</sup>.

### **Other Health Canada Activities**

Health Canada released a national assessment report<sup>41</sup> on climate change-related risks to the health of Canadians and the health system. The report includes national-level information on issues, such as climate change impacts on health risks from wildfires, extreme weather events such as floods, droughts, and ice storms, and special challenges faced by Indigenous peoples, such as food and water insecurity, threats to their cultures and livelihoods, and other impacts on the health and health systems of Indigenous peoples.

Statistics Canada collects and interprets information with a focus on nutrition and food insecurity in the Canadian Community Health Surveys since 2004<sup>42</sup>. Persons living in remote northern communities or in First Nation communities are often under-represented or not represented in the surveys' coverage. Additional studies and surveys (e.g., First Nations Food, Nutrition and Environment Study, Inuit Health Survey, Aboriginal Peoples Survey, First Nations Regional Health Survey) provide information on nutrition and food security, although data collection may not be regular or consistent. Data from these various sources are informative but may not be reflective of conditions specific to the Ring of Fire communities.

<sup>38</sup> Kovesi *et al.* 2022. Housing Conditions and Respiratory Morbidity in Indigenous Children in Remote Communities in Northwestern Ontario, Canada. Canadian Medical Association Journal, 194 (3) E80-E88. Available at: <https://www.cmaj.ca/content/194/3/E80>

<sup>39</sup> Available at: <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/environmental-contaminants/human-biomonitoring-environmental-chemicals.html>

<sup>40</sup> Available at: <https://science.gc.ca/site/science/en/northern-contaminants-program>

<sup>41</sup> Health Canada. 2022. Health of Canadians in a Changing Climate: Advancing our Knowledge for Action. Available at: [https://publications.gc.ca/collections/collection\\_2022/sc-hc/H129-121-2022-eng.pdf](https://publications.gc.ca/collections/collection_2022/sc-hc/H129-121-2022-eng.pdf)

<sup>42</sup> Available at: <https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutrition-surveys/canadian-community-health-survey-cchs/household-food-insecurity-canada-overview.html>