

The logo for Ecojustice, featuring the word "ecojustice" in a lowercase, sans-serif font. The letter "i" in "justice" has a small green leaf-like shape above it.The logo for Action Cancer du Sein du Québec, featuring a stylized blue and green circular emblem with a white shape inside.

ACTION CANCER DU SEIN DU QUÉBEC  
BREAST CANCER ACTION QUEBEC

The logo for the Canadian Association of Physicians for the Environment (CAPE), featuring a green caduceus with a leaf at the top.

CAPE  
Canadian Association  
of Physicians  
for the Environment  
Association canadienne  
des médecins  
pour l'environnement  
ACME

The logo for Environmental Defence, featuring a red circle with a white silhouette of a tree.

environmental  
defence

The logo for the David Suzuki Foundation, featuring a stylized blue and green circular emblem.

DAVID SUZUKI  
FOUNDATION  
One nature.

The logo for Women's Healthy Environments Network (WHEN), featuring a colorful, multi-petaled flower-like emblem.

WHEN  
Women's Healthy Environments Network

July 21, 2023

Sent via email to: [eccc.substances.eccc@canada.ca](mailto:eccc.substances.eccc@canada.ca)

**Re: Draft state of per- and polyfluoroalkyl substances (PFAS) report and risk management scope**

These comments are made on behalf of Ecojustice, Canadian Association of Physicians for the Environment, Environmental Defence, David Suzuki Foundation, Breast Cancer Action Quebec, and Women's Healthy Environments Network regarding the Draft state of per- and polyfluoroalkyl substances ("PFAS") report ("Draft Report") and the Risk Management Scope for Per- and polyfluoroalkyl substances ("RMS").

Ecojustice is Canada's largest environmental law charity. Ecojustice uses the power of the law to defend nature, combat climate change, and fight for a healthy environment. Its strategic, public interest lawsuits and advocacy lead to precedent-setting court decisions and laws and policies that deliver lasting solutions to Canada's most urgent environmental problems.

The Canadian Association of Physicians for the Environment (CAPE) is a national physician-led organization working at the intersection of health and environment. CAPE encourages policy-makers to adopt a planetary health lens in their decision-making.

Environmental Defence is a leading Canadian environmental advocacy organization that works with government, industry and individuals to defend clean water, a safe climate and healthy communities.

The David Suzuki Foundation is a leading Canadian environmental non-profit organization, founded in 1990. We collaborate with others to create a sustainable Canada through scientific research, traditional ecological knowledge, communications and public engagement, and innovative policy and legal solutions. Our mission is to protect nature's diversity and the well-being of all life, now and for the future.

Breast Cancer Action Quebec is a feminist health organization whose mission is the prevention of breast cancer. We are particularly concerned with eliminating toxic exposures that increase the risk of developing this and other diseases.

Women's Healthy Environments Network is a non-profit charitable organization that teaches the general public, media, and policy makers that environmental health is a key determinant of public health, and has promoted public action for the prevention of environmental health harms since 1994.

### **Draft state PFAS report**

We fully support and agree with Canada's decision to list and regulate PFAS substances as a class in line with recent amendments to CEPA requiring consideration of vulnerable populations and cumulative effects. A class approach is necessary to ensure PFAS uses, releases and exposures are reduced so as not to cause adverse effects on the environment and to be protective of human health, including vulnerable populations.

Given the finding expressed in the Draft Report concerning the "growing body of evidence suggesting concerns identified from well-studied PFAS are more broadly applicable," a class approach is necessary to prevent regrettable substitution. Regrettable substitution has repeatedly occurred throughout the history of regulating individual PFAS substances such as PFOA and PFOS.<sup>1</sup>

Furthermore, the Draft Report notes that the widespread environmental presence of multiple PFAS substances and the lack of understanding of cumulative effects suggest the potential for adverse effects that studies on a limited subset of PFAS substances may underestimate, making it necessary to address PFAS as a class.

**Recommendation:** We agree with the conclusion in the Draft Report that PFAS substances must be assessed and regulated as a class under CEPA in line with recent amendments to CEPA requiring consideration of vulnerable populations and cumulative effects.

Canada is vastly underestimating the total size of the PFAS class at "over 4700 substances." The European Chemicals Agency estimates around 10,000 substances are included in the PFAS class,<sup>2</sup> and the US EPA estimates there are over 12,000 chemicals in the PFAS class.<sup>3</sup> Given that

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<sup>1</sup> According to the Draft Report, the domestic prohibitions and international measures on PFOS, PFOA, and Long-chain PFAS substances has led to greater use of short chain PFAS substances as replacements. However, concerns regarding these replacements are increasing as more data becomes available. The Draft Report also cites examples of unregulated PFAS substances increases where regulated ones are decreasing, indicating regrettable substitutions are likely occurring.

<sup>2</sup> <<https://echa.europa.eu/-/echa-publishes-pfas-restriction-proposal#:~:text=The%20details%20of%20the%20proposed%20restriction%20of%20around,and%20the%20environment%2C%20and%20the%20impacts%20on%20society>>.

<sup>3</sup> <<https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster>>

new PFAS substances are still being invented and notified to Canada, the best approach is to avoid any class description, including the size of the class, that would prevent PFAS substances from being included in the class.

**Recommendation:** Canada must ensure all PFAS substances are included in the class and regulated under CEPA in order to reduce the impacts on the environment and human health and avoid regrettable substitutions within the PFAS class.

The uses of PFAS substances are vast, ranging from industrial uses such as aqueous firefighting foam (“AFFF”) to consumer products, such as clothing, furniture, cosmetics, drugs, electronics, cars and food packaging. PFAS substances are increasingly detected throughout the environment, including in the blood of wildlife and humans.

PFAS are highly resistant to degradation because they contain one of the strongest chemical bonds in organic chemistry – the carbon-fluorine bonds. PFAS are also easily transported, covering long distances from the source of their release. The continual release, persistence, and transport are causing widespread contamination of PFAS in the global environment, including in remote areas far from any sources. However, the highest concentrations are found near point sources, such as where aqueous firefighting foam was used. As PFAS contamination increases, so do environmental and human health risks.

Studies of air and water concentrations have found PFAS in remote areas in Canada, and trends show that some PFAS substances are increasing in concentration over time. Research comparing the levels of four selected perfluoroalkyl acids in global rainwater, soils, and surface waters found that health guidelines have been exceeded around the globe due to the atmospheric deposition of PFAS.<sup>4</sup>

Concentrations of PFOS in Great Lakes trout exceed safe levels for wildlife consumption. Monitoring in the Canadian Arctic found that certain PFAS substances are increasing in some locations, including in wildlife used as country foods, such as ringed seals. Monitoring of fish and birds from the Great Lakes and St. Lawrence River found that while some legacy PFAS substances may be decreasing, unregulated PFAS alternatives are increasing. PFAS are also impacting species-at-risk. PFOA and PFOS have been identified as contaminants of concern for the Southern Resident Killer Whale, the St. Lawrence Estuary Beluga, and the North Atlantic Right Whale.

Canadian Human biomonitoring measured PFOS, PFOA and PFHxS in the blood of over 99% of the population sampled despite being the few PFAS substances regulated in Canada, although levels are decreasing. Biomonitoring studies have found higher PFAS concentrations in pregnant Inuit women in Canada’s far north compared to the pregnant women in the general population,

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<sup>4</sup><https://www.healthandenvironment.org/assets/images/Webinar%20Highlights%20Outside%20the%20Safe%20perating%20Space%20of%20a%20PFAS%20Planetary%20Boundary.pdf>

and levels are increasing yearly compared to decreasing in other pregnant women. Another biomonitoring study found that Indigenous youth in Quebec have higher levels in their blood than the general Canadian population. Studies have also found that firefighters have higher levels than the general population due to their exposure to PFAS-containing firefighting foams and turnout gear. These studies demonstrate that there are vulnerable populations within Canada that are more highly exposed to PFAS than the general population and require protection beyond what would be considered sufficient for the general population.

PFAS exposures are linked to decreased fertility, developmental delays in children, suppression of the immune system and an increased risk of some cancers. PFAS substances are readily adsorbed and slow to be eliminated and, therefore, can persist in the body for many years, building up over time and targeting multiple organs. Given the cocktail of PFAS substances humans are exposed to all the time, as also shown by biomonitoring results, cumulative effects are expected to increase the adverse health effects. Given the widespread and increasing recognition of the adverse health effects of PFAS exposure, new programs for physician and health professional education and guidance on the impacts of PFAS are driving testing programs and efforts to improve patient care.<sup>5</sup>

Based on the preponderance of the evidence, as summarized above, we agree with the finding of the Draft Report that the PFAS class meets the criteria under paragraph 64(a) of CEPA as causing harmful environmental and biodiversity effects. We also agree that the PFAS class meets the criteria under paragraph 64(c) of CEPA as constituting a danger in Canada to human life or health.

Based on these findings, PFAS as a class should be fast-tracked for addition to the list of toxic substances under Schedule 1 upon recommendation by the Minister for an order to the Governor in Council.

**Recommendation:** The Minister should fast-track the process to list the PFAS class on Schedule 1 of CEPA based on the findings of the Draft Report, once finalized, on the widespread harm from PFAS use and release on the environment, biodiversity and human health in Canada.

Schedule 1 was divided into two parts under the recently updated CEPA. Substances are added to Part 1 of Schedule 1 according to the criteria set out in subsection 77(3) or because they pose the highest risk.<sup>6</sup> For substances listed under Part 1, priority is given to "total, partial or conditional prohibition of activities in relation to that substance or of releases of the substance into the environment."<sup>7</sup> Part 1 substances are considered to be of higher concern and, therefore, need more robust risk management actions. The PFAS class meets the criteria set out in subsection 77(3) and, therefore, should be added to Part 1 of Schedule 1.

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<sup>5</sup> <<https://www.ehn.org/pfas-testing-doctors-2658791253.html>>

<sup>6</sup> This section only passed into law on June 13, 2023 with the royal assent of Bill S-5 and regulations cited in paragraphs 77(3)b and 77(3)c are not yet available.

<sup>7</sup> Subsection 90 (1.1)

The following are the criteria set out in subsection 77(3) and a summary of some evidence demonstrating that the PFAS class meets the criteria.

*(a) the substance may have a long-term harmful effect on the environment and*

The PFAS class is nicknamed “forever chemicals” because they are forever present once released into the environment, causing long-term, if not permanent, harm to the environment. PFAS have been found to affect the growth across generations and impact development and reproduction in aquatic invertebrates and fish. Although fewer studies have been done on terrestrial invertebrates, behavioural, reproductive, and neurotoxic effects have also been observed from PFAS exposure. PFAS has been observed to have impacts on the growth and development of early amphibians and reptiles. Laboratory mammal studies show adverse effects on multiple systems and organs of mammals (for example, liver, kidney, immune system, reproduction, endocrine system, and nervous system). PFAS also impacts birds and plants.

*(i) is inherently toxic to human beings or non-human organisms, as determined by laboratory or other studies,*

Multiple studies cited through the Draft Report have observed the inherent toxicity of PFAS substances to human and non-human organisms.

*(ii) is persistent and bioaccumulative in accordance with the regulations,*

Some PFAS substances are listed under the Stockholm Convention because they are persistent, bioaccumulative and undergo long-range transport and additional ones have been nominated by Canada for listing. (Draft Assessment Section 7.2.1). As noted above, PFAS are nicknamed “forever chemicals” because of their extreme persistence.

*(iii) is present in the environment primarily as a result of human activity, and*

As explained in the draft assessment in Section 5, “[r]eleases of PFAS to the Canadian environment are expected to occur during the manufacture, processing, use and disposal of products. Exposure of the general population to PFAS is generally from environmental media and/or the use of products. PFAS enters the environment from human activity, as there are no known natural sources of these substances.” [emphasis added]

*(iv) is not a naturally occurring radionuclide or a naturally occurring inorganic substance;*

PFAS are not naturally occurring radionuclides or naturally occurring inorganic substances.

- (b) the substance may constitute a danger in Canada to human life or health and is, in accordance with the regulations, carcinogenic, mutagenic or toxic for reproduction;*  
*or*  
*(c) the substance is, in accordance with the regulations, a substance that poses the highest risk.*

Although regulations are not yet available under paragraphs (b) or (c) above, PFAS has been found to impact human development and reproduction and affects the nervous system, immune system as well as metabolism of humans. In addition, there is evidence linking PFAS to cancer.

**Recommendation:** The PFAS class should be added to Part 1 of Schedule 1 because it meets the criteria in subsection 77(3) of CEPA. Alternatively, if the Minister determines it does not meet all the criteria, PFAS should still be added to Part 1 because it poses the “highest risk.” It is necessary to prioritize the prohibition of activities and releases in relation to the PFAS class to address the harms and remediate the risks posed by the PFAS class.

### **Risk Management Scope**

While the Draft Report provides a robust and comprehensive case for listing and regulating PFAS as a class under CEPA, the RMS is underwhelming in failing to make any significant commitment to addressing the impacts of PFAS by prohibiting PFAS uses and releases.

The proposed environment and health objectives in the RMS are also insufficient.

The health objective fails to recognize the need to protect vulnerable populations. The health objective to "reduce exposure of the general population to these substances to levels that are protective of human health" is woefully insufficient under a strengthened CEPA that requires consideration of impacts on vulnerable populations and sets out a duty to protect the right of every individual in Canada to a healthy environment. [emphasis added]

As noted above, biomonitoring studies cited in the Draft Report found higher concentrations of PFAS in Indigenous populations and workers. These studies and any additional studies on vulnerable populations must be considered under the strengthened CEPA. The RMS objectives do not align with the duty to protect the right of every individual in Canada to a healthy environment and uphold the related principles, including environmental justice and avoidance of adverse effects that disproportionately affect vulnerable populations.

The environmental objective should also be expanded to specify the need to reduce the use and release of PFAS substances to levels that are not harmful to biodiversity. This aligns with Canada's commitments under the Kunming-Montreal Global Biodiversity Framework. To address the risk and negative impacts of pollution on biodiversity, Target 7 of the Kunming-Montreal Global Biodiversity Framework calls for a 50% reduction in the overall risk of pesticides and highly hazardous chemicals.

**Recommendation:** The RMS environment and health objectives should be revised to:

- reduce releases of these substances to the Canadian environment so as to not cause adverse effects, including immediate and long-term harmful effects on biological diversity.
- reduce exposure of the general and vulnerable populations to these substances to levels that are protective of human health.

Canada is already far behind other jurisdictions. PFAS substances remain in circulation in Canada in products already banned in many US states. Although there are regulations under CEPA that prohibit PFOS, PFOA, LC-PFCAs and their salts and precursors, several exemptions apply to these prohibitions, including use in manufactured items which is the major and sometimes the only source of PFAS substances in Canada, and the source that puts consumers at greatest risk. The vast majority of PFAS substances remain completely unregulated in Canada.

By comparison, many US States have already implemented bans on PFAS in consumer products. Maine forced the phase-out of PFAS in rugs, carpets, and fabric treatments and will ban all non-essential uses by 2030. Vermont banned PFAS in carpets, rugs, and ski wax and a food package ban will come into force next year. New York banned added PFAS from paper-based plates, cups, bowls and other food packaging. California similarly has banned PFAS in food packaging and children's products, and a ban on PFAS in cosmetics will come into force in 2025.<sup>8</sup>

There is market interest in safer alternatives as demonstrated by the many retailers and product manufacturers that are proactively phasing out PFAS from their goods.<sup>9</sup> A strong regulatory approach would be instrumental to enable this market shift and level the playing field.

Canada must undertake a robust regulatory approach to the PFAS class that would look toward a complete ban on PFAS with exceptions only for uses recognized as essential and a goal to phase these out over time. This is similar to the proposal in the European Union (EU) that bans PFAS with a few specific and time-limited exceptions. The proposed EU ban on PFAS will reduce quantities of PFAS in the environment over the long term and would make products and processes safer for humans and the environment. If the European Commission adopts the proposal, companies will have to find alternatives for approximately 10,000 PFAS in products and applications that are currently in use.<sup>10</sup>

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<sup>8</sup>Zach Bright. PFAS Bans, Restrictions Go Into Effect in States in 2023

<https://news.bloomberglaw.com/environment-and-energy/pfas-bans-restrictions-go-into-effect-in-states-as-year-begins>. Jan 4, 2023. And, the ECCC HC Draft PFAS report.

<sup>9</sup><https://toxicfreefuture.org/mind-the-store/retailers-committing-to-phase-out-pfas-as-a-class-in-food-packaging-and-products/>>

<sup>10</sup>< <https://echa.europa.eu/restrictions-under-consideration/-/substance-rev/72301/term>>

**Recommendation:** RMS is weak and should be strengthened to look toward a complete ban on PFAS with exceptions only for uses recognized as essential and a goal to phase these out over time.

The proposed risk management objectives stated in the RMS are to "over time, achieve the lowest levels of environmental and human exposure that are technically and economically feasible, taking into consideration socioeconomic factors." While there may be technical and economic barriers to remediating existing PFAS contamination that is widespread throughout the environment, it is highly feasible and technically achievable to reduce exposures and ongoing releases by banning non-essential consumer uses of PFAS, as has been done in other jurisdictions and proposed in the EU.

**Recommendation:** The RMS should be amended to note that there are no technical or economic barriers to banning non-essential uses of PFAS that outweigh the enormous negative impacts of ongoing PFAS uses and releases.

Given the precedent that other jurisdictions have set, there is no justification for delay, nor can Canada afford more delay given the growing scientific evidence and the precautionary principle.

In addition, the evidence of greater exposure of Indigenous peoples, the environmental injustices of PFAS contamination in country foods, and the impacts on vulnerable worker communities, the government must uphold the duty to protect the right of every individual in Canada to a healthy environment and the principle of environmental justice by fast-tracking the listing of PFAS as a class in Part 1 of Schedule 1 and move forward with regulatory measures to reduce the growing risks of the PFAS class to the environment and human health, including vulnerable populations.

**Recommendation:** The final RMS must clearly set out the right to a healthy environment considerations. The duty to protect the right of every individual in Canada to a healthy environment compels action without delay where that right is being violated, especially when vulnerable populations are affected. Therefore, Canada must fast-track regulation of PFAS as a class.

The commenters endorse the recommendations of the Canadian Environmental Law Association.

Thank you for the opportunity to provide comments. If you have any questions, please reach out to one of the undersigned.

Sincerely,

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