



Canadian GLEC Secretariat
Great Lakes Environment Office
Environment and Climate Change Canada
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To whom it may concern,

Thank you for the opportunity to provide comments on the DRAFT: Canada's Great Lakes Strategy for PFOS, PFOA, and LC-PFCAs Risk Management.

Conservation Ontario (CO) represents the network of Ontario's 36 conservation authorities (CAs), who are local watershed based natural resource agencies located throughout Ontario. Almost 95 % of Ontario's population lives in watersheds managed by conservation authorities (close to 40 % of Canada's population). Conservation authorities are legislated under the Province of Ontario's Conservation Authorities Act, whose mandate includes a variety of responsibilities and functions related to water resources and natural hazard management, as well as Drinking Water Source Protection.

Drinking Water Source Protection includes legislative responsibilities of the Clean Water Act, including the development and updating of locally developed Source Protection Plans and policies focused on municipal drinking water supplies from both surface and groundwater. Currently 80% of Ontarians rely on municipal drinking water. As well, several CAs provide risk management services per Part IV of the Clean Water Act for protecting municipal drinking water sources. These services include the negotiation of risk management plans to manage certain activities, including agricultural activities, near municipal wellheads and surface water intakes.

The following comments are submitted for your consideration and are not intended to limit the review of comments shared individually by CAs.

General comments

Conservation Ontario is supportive of the ***Draft Canada's Great Lakes Strategy for the risk management*** (referred to as the Draft Strategy herein) for the three designated Chemicals of mutual concern (CMCs) and their salts and precursors: (1) perfluorooctane sulfonate (PFOS); (2) perfluorooctanoic acid (PFOA); and (3) long-chain perfluorocarboxylic acids (LC-PFCAs).

Because of the nature of these designated CMCs (water solubility/ movement, high persistency rates and bioaccumulation potential) and their identified presence in sediment, water (surface & ground), and air, in addition to their harmful effects on the environment and human health they can have, a multi-phase strategy, such as the Draft Strategy, is highly needed to identify and manage risk appropriately.

The Draft Strategy states that, “exposure to PFOS and/or PFOA may result in developmental effects in children and animals, and in cancer, liver, immune, and thyroid effects”. As 80% of Ontarians rely on municipal drinking water, managing any risk to safe drinking water must be a top priority. Conservation Ontario supports the proposed 16 strategic actions that are documented in 5 themes that include: (1) Regulations and Other Risk Mitigation and Management Actions; (2) Compliance Promotion and Enforcement; (3) Pollution Prevention; (4) Monitoring, Surveillance, and Research Efforts; and (5) Environmental Quality Guidelines, however our comments will focus on the following 3 actions: (1) Regulations and Other Risk Mitigation and Management Actions; (2) Compliance Promotion and Enforcement and (4) Monitoring, Surveillance, and Research Efforts.

Risk Mitigation and Management Actions to Address Gaps Comments

Regulations and Other Risk Mitigation and Management Actions

Conservation Ontario strongly supports the regulatory action of “establishing enforceable drinking water standards to address PFOS, PFOA, LC-PFCAs, and their salts and precursors” within the Great Lake Basin, as stated in the Draft Strategy. Although Health Canada has developed drinking water screening values, as guidance, which applies to water intended for human consumption, we would strongly recommend the further development of treated drinking water quality standards for PFAS, PFOS, or PFOA in Ontario.

The studies presented in the Draft Strategy, from 2005, 2006 & 2012, indicate that concentrations of PFOS, PFOA, and LC-PFCAs were detectable in both raw and treated water. However, the breadth of these studies seem very limited. A more robust study approach could help to determine how widespread the problem (contamination) is and whether PFOS, PFOA, and LC-PFCAs should be added to the list of chemicals of concern that relate to designated water quality threat activities under the CWA as described below.

The Clean Water Act, 2006, technical framework includes a definitive list of chemicals of concern that relate to designated water quality threat activities. This list does not currently include PFOS and PFOA in the list, resulting in a gap in source protection plan policy implementing bodies, such as Risk Management Officials, which are currently not required to identify and address these chemicals. Conservation Ontario would support updating the list to include the chemicals of concerns within the scope of this strategy, to enable Risk Management Officials to address the CMCs.

Under the current Clean Water Act, 2006, of Ontario, there are 22 prescribed activities, which could pose a threat to municipal drinking water sources, 20 of which are water quality related. One of the threat activities is **(6) The application of non-agricultural source material to land**. The Clean Water Act provides regulations on biosolids application in the vulnerable areas, of drinking water sources, in order to help minimize the exposure of contaminants to humans. The research presented in the Draft Strategy, indicates that “biosolids from waste water treatment plants (WWTPs) can also contain PFOS, PFOA, and LC-PFCAs, and these can be released to the environment if they are applied to soils as fertilizer”. Furthermore, the research in the Draft Strategy identified that “laboratory and field studies have demonstrated the ability of some PFAS compounds, including PFOS and PFOA, to leach from biosolids into soils, while others may persist in soil surfaces”.

Finally, additional research, presented in the Draft Strategy mentions, “PFOS levels in soils have been observed to increase with depth, suggesting migration into ground water” which is cause for concern in areas where groundwater is the primary drinking water source.

We would encourage Environment Canada & Climate Change Canada (ECCC) to dialogue with the Ministry of Environment, Conservation & Parks, Conservation & Source Protection Branch to ensure consistent practices and the Clean Water Act, 2006, are being taken into consideration when developing CMC regulations and other risk mitigation action. More specifically, consideration for biosolids applications for agricultural purposes, which are also identified as non- agricultural source material within the Clean Water Act, 2006. It is suggested that topics for discussion include the potential for conflicting legislative responsibilities of the various Acts (i.e. Nutrient Management Act & the Clean Water Act) and monitoring efforts/ strategies, of CMC’s concentrations before application.

Compliance Promotion and Enforcement

Often compliance is achieved through education and outreach and knowledge building. As regulations are being developed there may be an opportunity to provide outreach by way of providing best management practices, in certain situations, such as spills and the use of Aqueous Film Forming Foams (AFFFs) in firefighting.

Providing best management practices to sector specific industry will provide pertinent information and specific actionable items to be carried out. For example, water runoff from active firefighting could contaminate drinking water sources with PFAS and other contaminants. Ensuring that the local Fire Departments have a standard operating procedure and it is followed, measures can be taken to prevent and mitigate the water runoff from firefighting activities.

Furthermore, best management practices could be provided to airports, as research results, in the Draft Strategy, indicated that elevated levels of PFOs & PFAAS, were found in tributaries near the Hamilton and Toronto International Airports and were likely linked to (AFFFs), used to extinguish hydrocarbon fires. It is reasonable to assume that the water soluble chemicals, identified within the aforementioned tributaries, would ultimately lead downstream to Lake Ontario where a large portion of Ontario’s population receives their drinking water from, through surface water intakes. Because of AFFFs linkages to military use, there is also an opportunity for education and outreach to military bases, such as CFB Borden, which is located in the South Georgian Bay Lake Simcoe (SGBLS) Source Protection Region (SPR) and CFB Trenton, which is located in the Quinte Source Protection area.

We recognize that a balance must be struck with using the proper firefighting applications and the protection of drinking water sources and the environment.

Monitoring, Surveillance, and Research Efforts

Although the studies on drinking water (raw & treated), mentioned in the Draft Strategy, are very valuable, they are limited in scope and breadth and the most recent study is almost 10 years old. Only sample water from 8 drinking water systems was tested, in 2005/2006, and in 2012, sample water from 17 drinking water systems was tested. That’s a fairly insignificant sample size for all of Ontario. We

would recommend a more comprehensive and robust study be carried out across the Drinking Water Source Protection Areas, within the Great Lakes Basin. Conservation Ontario supports a future investment in a broader and more robust study as described previously, to identify sources and presence of the 3 CMC's focused on in the Draft Strategy.

This may be a good opportunity for partnership development and additional support to carry out the various data collection objectives proposed, within the Draft Strategy. There are 38 source protection authorities across Ontario with 37 located within the Great Lakes Basin (Mattagami Source Protection Area flows north to Hudson Bay). Moreover, the geology, land use activities and characteristics of source water varies greatly across the province. Additionally, many conservation authorities have long term environmental monitoring programs, which include parameters such as water quality, benthics and fish monitoring. There may be an opportunity to contribute to the data collection through already existing conservation authorities' programs.

Source Protection Committees and source protection authorities have been advocating for the monitoring of emerging chemicals of concern for quite some time and would welcome the opportunity to support this action, with the understanding that adequate funding would be provided.

Conservation Ontario supports the Draft Strategy's continued communication and messaging efforts in environmental media in the Great Lakes publications and to publish results in a variety of publications and open access data portals. A centralized repository or database would benefit all water resource managers greatly, including the source protection authorities, to access current science to help inform drinking water source protection planning.

Thank you for the opportunity to provide comments on the ***DRAFT: Canada's Great Lakes Strategy for PFOS, PFOA, and LC-PFCAs Risk Management***. Should you have any questions about this letter, Deborah Balika, Conservation Ontario Source Water Protection Lead, at 905-251-2802.

Sincerely,

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