WEAO PFAS Position Paper

The Water Environment Association of Ontario (WEAO) is an organization comprised of over 1,300 wastewater professionals and practitioners. More specifically WEAO membership includes representatives from municipal government, academia, supporting private and public enterprise, and non-profit entities. Our mission, as Ontario's water sector leader, is to connect members, the industry, and the public through education, training, and networking to collectively ensure a resilient water environment.

Per- and poly-fluoroalkyl substances (PFAS) are a family of chemicals comprised of over 10,000 unique compounds. They are primarily comprised of a Carbon (C) - Fluorine (F) chain of various lengths. The C-F bond is one of the strongest known in organic chemistry, making these compounds very stable and resilient to degradation in the environment. The persistence of these chemicals, also known as a type of "forever chemicals", in the environment is not yet known; however, estimates range from 40 to thousands of years. Manufacturing of PFAS began in the 1940's for their ability to resist water and oil, making them ideal for products such as food packaging, raincoats, frying pans, cosmetics, and firefighting foam to name a few.

In recent years, there has been a growing body of scientific evidence to suggest that certain PFAS can have negative effects on human health. These effects include reduced response to vaccines, kidney cancer, liver damage, increased cholesterol, and thyroid disease to name a few.

PFAS make their way into the environment (air, soil, water, biota) when,

- the chemicals are being manufactured;
- products using the chemicals are being made;
- we use the products; and
- when these products are disposed of.

PFAS are pervasive and highly mobile, finding their way into the environment via various pathways. They are detected in air, water and soil as well as biota (flora and fauna, including human blood) in many parts of the world, including oceans and the arctic poles, indicating that long-range transport is possible. Globally there is increasing public concern and pressure to control these chemicals, however the analytical procedures, regulation, and the technologies to manage PFAS are not yet sufficient to develop a holistic risk-based strategic reduction plan that includes all compound variants. Regulations introduced to date only address a small number of the PFAS compounds, making it more difficult to assess the risk of the chemical class in its entirety.

There is an urgent need to restrict the production, use, and subsequent release of PFAS into our air, water, and soil. If this is not done, the concentration of these chemicals will further accumulate in the environment, leading to an ever-increasing risk to all ecosystems. As a source reduction strategy, a group of five European countries have proposed banning all PFAS from being manufactured and imported into their countries and have implored the remainder of the EU to join. They believe that this step is necessary to break the cycle of creating new chemicals from the same chemical class with similar or greater toxicities as replacements to the ones that are banned by regulation.

Municipal wastewater treatment and biosolids facilities are not users of products that contain PFAS. They can, however, be passive receivers of PFAS depending on their usage in the community by consumers and manufacturers. Many, if not, most of these facilities are not designed to remove PFAS from the water and wastewater residuals. This means that PFAS that are received by water and wastewater treatment plants are released back into the environment by both types of facilities. To put this into context, in Ontario, about 2080 million cubic meters (equal to 832,000 Olympic swimming pools) of wastewater is discharged every year from wastewater collection and treatment systems (https://www150.statcan.gc.ca/n1/daily-quotidien/190625/g-c001-eng.htm). This estimate does not include roughly 360,000 dry tonnes of biosolids generated by these facilities each year. About 5% of the biosolids are landfilled, 30% are incinerated, and 65% are land applied for the return of nutrients and other beneficial materials to the soil. The development of any new regulations for wastewater treatment and biosolids facilities and their operations should be based on a scientifically sound approach and technically feasible basis that takes into account existing PFAS concentrations in the environment.

WEAO and its members remain committed to the protection of the environment and human health. We have and will continue to support research focused on the assessment and the mitigation of risk of PFAS. WEAO encourages collaborative information sharing among all stakeholders (all levels of government, industry and the scientific community) in developing an effective PFAS strategy. **The reduction of PFAS compounds in society and phasing out their usage is currently considered the most efficient approach to reduce risk and potential concerns.**

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