



**GREAT LAKES AND ST. LAWRENCE**  
CITIES INITIATIVE  
**L'ALLIANCE DES VILLES**  
DES GRANDS LACS ET DU SAINT-LAURENT

## **Support Bill 279 - Environmental Protection Amendment Act (Microplastics Filters for Washing Machines), 2021**

June 2021



*A Resolution Submitted by the Township of The Archipelago*

**WHEREAS** microfibers are human-made strands less than 5mm composed of either synthetic or natural materials. Microfibers are shed through the wear and tear of textiles through the laundering process;

**WHEREAS** billions of microfibers are released into the Great Lakes daily from machine laundering of clothes. Studies have found a single load of laundry can release up to millions of microfibers into washing machine effluent, which flows to the wastewater treatment plant. Wastewater treatment can capture up to 99% of microfibers in sewage sludge, but microfibers are still released into aquatic ecosystems through treated effluent. Billions of microfibers are released into the aquatic ecosystem daily in the Great Lakes basin, either directly via treated final effluent, or indirectly as runoff from land-application of treated sewage sludge; and

**WHEREAS** microfiber contamination is widespread: Worldwide and local studies have shown microfibers present in commercial fish, Great Lakes fish (including Lake Trout, Rainbow smelt, Brown bullhead, etc.), honey, salt, Great Lakes beer, tap water, bottled water and much more; and

**WHEREAS** microfibers are the most prevalent type of microplastics in the environment and have been found in surface water, soil, biota, and atmospheric samples; and

**WHEREAS** a 2014 surface water study in Lake Erie, Lake Ontario, and their tributaries measured microplastics at abundances between 90,000 and 6.7 million particles per square kilometer. These levels of microplastics are similar to or exceed concentrations found in ocean gyres like the "Great Pacific Garbage Patch; and

**WHEREAS** microplastics do not biodegrade; and

**WHEREAS** chemicals such dyes and flame retardants are added to textiles during manufacturing. Textiles can also absorb chemicals from their environment after manufacturing. Some of these chemicals are toxic, and harmful chemical compounds can be released into the environment via leaching from microfibers; and

**WHEREAS** a growing body of research shows that the effects of microplastics on animal life are far-reaching. Researchers have investigated the impacts of microplastics on gene expression, individual cells, survival, and reproduction. Mounting evidence shows that negative impacts can include decreased feeding and growth, endocrine disruption,

decreased fertility, and other lethal and sub-lethal effects. Some of these effects are due to ingestion stress (physical blockage), but many of the risks to ecosystems are associated with the chemicals in the plastic. Studies have shown that chemicals transfer to fish when they consume microplastics. When these fish end up on our dinner plates, we potentially increase the burden of hazardous chemicals in our bodies; and

**WHEREAS** a recent set of laundering experiments in the laboratory; have shown that an external filter can capture an average of 87% of fibres by count and 80% by weight before they go down the drain (McIlwraith et al. 2019). On a wider scale and in real-life context, Georgian Bay Forever, the University of Toronto and the Town of Parry Sound are completing a study that is measuring the effect that about 100 filters in households has on reducing microfibre pollution in the effluent of a wastewater treatment plant. The results of this study are to be released in August; and

**WHEREAS** add-on filters cost approximately \$180-220 CDN to purchase and install, which is prohibitive for the average household. Accordingly, voluntary adoption rates are low; and

**WHEREAS** France has passed legislation (France 2020-105, Article 79) that requires future washing machines sold to have filters. California has introduced a bill (California AB 622), and Ontario has tabled Private Member's Bill 279 to prohibit sales of washing machines without a filter of mesh size 100 microns or smaller. Companies such as Arclik have manufactured washing machines with filters built directly into them;

**NOW THEREFORE BE IT RESOLVED** that the Great Lakes St. Lawrence Cities Initiative (Cities Initiative) recognizes that to date the largest documented source of environmental microfibers is washing machines, and that findings indicate washing machine filters mitigate the majority of fibres shed during machine washing; and

**BE IT FURTHER RESOLVED** that the Cities Initiative recognizes the need to require future sales of washing machines to include filters with a maximum mesh size of 100 microns; and

**BE IT FURTHER RESOLVED** that the Cities Initiative and its members call on the Ontario government to pass Bill 279, and to call on the Canadian and U.S. government to create appropriate regulatory measures to the same effect; and

**BE IT FURTHER RESOLVED** that until households can only buy new laundry machines outfitted with <100 micron filters, the Cities Initiative and its members call on provincial, state and federal governments to provide funding and education to help constituents reduce microfiber waste.

**BE IT FINALLY RESOLVED** that Council for the Corporation of the Township of The Archipelago directs its staff to submit this resolution to the Great Lakes St. Lawrence Cities Initiative; and forward this resolution to all municipalities in the Great Lakes watershed and to Federal and Provincial Representatives.