

Data in Support of H113

To the House Environment Committee Members,

What follows are excerpts from the (2021 Vermont Per- and Polyfluoroalkyl Substances (PFAS) Surface Water, Fish Tissue, and Wastewater Treatment Facility Effluent Monitoring Report); see attachment for full report:

(p.5) "Human exposure to PFAS in surface waters occurs primarily through use of the waterbody as a drinking water source or through fish consumption. Some PFAS are known to have toxic effects and pose health risks at very low levels." Note: **PFOS is designated hazardous by EPA with no safe level of exposure.** U.S. Environmental Protection Agency (.gov) <https://www.epa.gov/epcra/designation-pfoa-and-pfos-hazardous-substances-under-cercla-release-reporting-requirements>

SURFACE WATER SAMPLING

(p.18) "PFOS was detected (July 20, 2021) once at mid-lake (site 2) at a concentration of 2.81 ppt." EPA is setting enforceable Maximum Contaminant Levels at 4.0 parts per trillion for PFOA and PFOS, individually" **so PFOS in the lake surface water is nearing Maximum Contaminant Level.** This is the highest PFOS measurement of any surface water in the state sampled/analyzed in this study.

WWTF EFFLUENT SAMPLING

(p.20) PFAS in Newport WWTF (4 sampling sites) all test above RL (Reporting Limit) for PFOS (4.38-6.72ppt)

"The Newport City WWTF effluent analysis show consistent results from the three sampling events. Ten PFAS analytes were detected above the RL, with the sum of the five Vermont regulated PFAS ranging from 17.0 ppt to **27.6 ppt**. Total PFAS at the Newport facility ranged from 67.3 ppt to 128.7 ppt." Note: There are at least 15,000 PFAS, the Vermont Drinking Water Standard is 20 ppt for 5 of the 15,000.

<https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>

FISH TISSUE SAMPLING

(p.20) "PFOS, one of the most ubiquitous and bioaccumulative PFAS, was detected above the Reporting Limit in 54 (96%) of the fish tissue samples " Note: PFOS has been designated Hazardous by the EPA, with no known safe level of exposure.

PFOS were above the reporting limit in all species, at all sampling sites in the Memphremagog study. Highest concentrations were found in Largemouth Bass, highest being 4.93 mcg/kg or when converted, **4930 ppt.**

(1 ppt = 0.001 ug/kg; 1 ug/kg = 1000 ppt) = 4.93 ug/kg = 4930 ppt.)

https://www.endmemo.com/concentration_percentage/microgram_kilogrampartpertrillion.html

The average concentration of PFOS in all fish sampled in the study was 2.4 mcg/kg or 2400ppt.

Average concentration in Memphremagog PFOS fish samples is 3.11mcg/kg or 3100 ppt., **higher than the average of all fish sampled in the study.**

Other PFOS fish tissue samples are higher in three sites on the Winooski R., Otter Creek and Stevens Branch, where "These watersheds are large, have numerous municipal and industrial discharges, and land use ranges from forested to urban". The Winooski has been receiving leachate disposed of in the Montpelier WWTF in the years since the moratorium on disposal of leachate in the Newport WWTF in 2019.

The good news is that Memphremagog PFOS were lower than in many sites nationally- in urban sites, industrial and firefighting sites, Great Lakes sites and in three sites in Vermont, indicating that *reducing and eliminating point and non-point sources of PFAS contamination throughout the watershed will assist in preventing further degradation of the waters of Memphremagog by PFAS contamination*. This is an essential consideration given Lake Memphremagog is a drinking water reservoir for over 175,000 Quebec citizens.

(p.29) "However, the environmental occurrence and persistence, bioaccumulation, and potential adverse effects of PFAS on humans and other species remain a potential cause for concern and continued monitoring. Surface water, fish tissue, WWTF effluent sampling will continue, targeting sites with known or suspected PFAS sources."