

The Illinois Environmental Protection Agency (Illinois EPA) recently tested our water system for compounds known as Per- and Polyfluoroalkyl Substances (PFAS) as part of a statewide investigation of community water supplies. PFAS are a group of thousands of manmade substances that have been produced in the United States since the 1940s and utilized for a variety of applications ranging from non-stick cookware to water-repellant and stain-resistant fabrics and firefighting foams.

Some PFAS have been phased out of production due to environmental and human health concerns, however, they are considered “forever chemicals” because they persist in the environment and can contaminate surface and ground waters. Though often found in miniscule amounts, PFAS substances are found throughout the United States.

Neither the Illinois EPA nor the US EPA have yet developed enforceable drinking water standards for PFAS. In the interim, the Illinois EPA has developed “health-based guidance levels” for the small number of PFAS for which there is appropriate information. The guidance levels are intended to be protective of all people consuming tested water over a lifetime of exposure. The guidance levels are not regulatory limits for drinking water. Rather, they are benchmarks against which sampling results are compared to determine if additional investigation or other response action is necessary.

Initial Illinois EPA testing in 2021 determined that Waukegan is one of the many municipalities along the North Shore and throughout the State with certain PFAS substance levels greater than the health-based guidance levels, as provided in the table below. Five of the seven PFAS substances tested were not detected in the Waukegan water system at all. Two substances were detected, only one of which was above the corresponding guidance level (2.5 parts per trillion versus 2.0 parts per trillion). For reference, one part per trillion is roughly equivalent to one drop in 20 Olympic-sized swimming pools. The Lifetime Health Advisory Level for PFAS published by the US EPA is 70 parts per trillion.

The Waukegan Water Department initiated quarterly testing of raw and treated water. Two of the three quarterly tests, including the most recent test, detected none of the PFAS substances. One of the three detected 2.4 parts per trillion of PFOS. The basic initial and most recent testing results are as follows:

PFAS Analyte	Acronym	Health-Based Guidance Level (ng/L)	Analytical Results 6/28/21 (ng/L)	Analytical Results 1/24/22 (ng/L)
Perfluorobutanesulfonic acid	PFBS	2,100	Not Detected	Not Detected
Perfluorohexanesulfonic acid	PFHxS	140	Not Detected	Not Detected
Perfluorononanoic acid	PFNA	21	Not Detected	Not Detected
Perfluorooctanesulfonic acid	PFOS	14	2.5 (ppt)	Not Detected
Perfluorooctanoic acid	PFOA	2	2.5 (ppt)	Not Detected
Perfluorohexanoic acid	PFHxA	560,000	Not Detected	Not Detected
Hexafluoropropylene oxide dimer acid	HFPO-DA	560	Not Detected	Not Detected

*ng/L = nanograms per liter or parts per trillion – or one ounce in 7,350,000,000 gallons of water
 minimum reporting level (MRL) = 2.0 ng/L*

Based on the initial Illinois EPA results, the Waukegan Water Department took proactive measures to protect the City’s drinking water. Specifically, the Water Department:

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- 1) Instituted quarterly sampling and testing of raw and treated water to track and monitor PFAS levels, the results of which the City will provide to keep the community informed;
- 2) Initiated the process of upgrading and improving the Waukegan Water Plant pursuant to the City's multi-year Capital Improvement Plan; and
- 3) Launched an investigation to determine the origins of the minor PFAS levels detected and prevent any further impacts on affected water sources.

Waukegan's water may contain other PFAS at concentrations greater than or equal to the lowest concentration the laboratory can reliably detect, known as the minimum reporting level. However, neither the Illinois EPA nor the US EPA currently have health-based guidance levels for these additional compounds. Results can also be found on the PFAS Investigation Network Interactive Map [webpage](#).

PFAS are present in many consumer goods, including food packaging and personal care products, and scientists have found values of PFAS in blood of nearly all individuals that they have tested. Exposure to high levels of PFAS may cause adverse health effects such as increased cholesterol levels, increased risk for thyroid disease, low infant birth weights, reduced response to vaccines, pregnancy-induced hypertension and increased risk of liver and kidney cancer as seen in studies of laboratory animals. Exposure to PFAS above the recommended health-based guidance levels does not necessarily mean that a person will get sick or an adverse health effect will occur. Health-based guidance levels are conservative estimates. The possible health effects from PFAS are dependent on how much a person is exposed to and how long they are exposed to it. Exposure to PFAS above recommended health-based guidance levels for periods of time may mean that a person is at a greater risk of experiencing these adverse effects.

Additional information regarding PFAS, the statewide PFAS investigation network, and the impact to public health

can be found in the attached fact sheet as well as on the Illinois EPA PFAS [webpage](#). The confirmed sampling results for Waukegan Water Supply are also available on Illinois EPA's Drinking Water Watch system [webpage](#).

If you have questions, please contact:

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