A²H₂O Quality Water Matters

Brought to you by the City of Ann Arbor

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I hope everyone is enjoying their summer. It has been a very busy time for water treatment services staff who hosted a group of 20 journalists in late June and participated in a panel discussion in mid-July for a group of Northern Michigan stakeholders to share the city's strategy for holistic PFAS management.

The city continues to get recognized for its proactive approach to addressing PFAS, and the water treatment plant's filters with the new Granular Activated Carbon (GAC) are performing extremely well, exceeding our expectations. As illustrated in our Monthly Water Quality Dashboard, PFOS and PFOA levels remain below their detection limits. On June 27, the Michigan Science Advisory Workgroup released its report on Health-Based Drinking Water Value Recommendations for PFAS in Michigan. This is the report that the state will use to eventually development regulated levels for PFAS in drinking water. This report proposes health-based screening levels for seven PFAS chemicals. **In all seven cases, the city's drinking water is below the proposed health-based screening levels.**

Water Quality Manager Sarah Page (above) presented at the Institute for Journalism and Natural Resources Water Quality Institute held at Ann Arbor's Water Treatment Plant.

This month, I want to introduce a new topic, microplastics. As you will notice in the Huron River Watershed Council and Washtenaw County Health Department updates on page two of this newsletter, both groups discuss this emerging issue.

What are microplastics? Microplastics or microbeads are plastic products typically between 10 micrometers (microns) and 5 millimeter (mm) in size, and are not typically removed by municipal wastewater treatment plants. Because they are so small and do not easily degrade, they can end up in surface water sources for drinking water systems. This is an emerging water quality issue and there is not an approved method for measuring the amount of these particles in water, nor is there a metric to know if a measured amount is a lot

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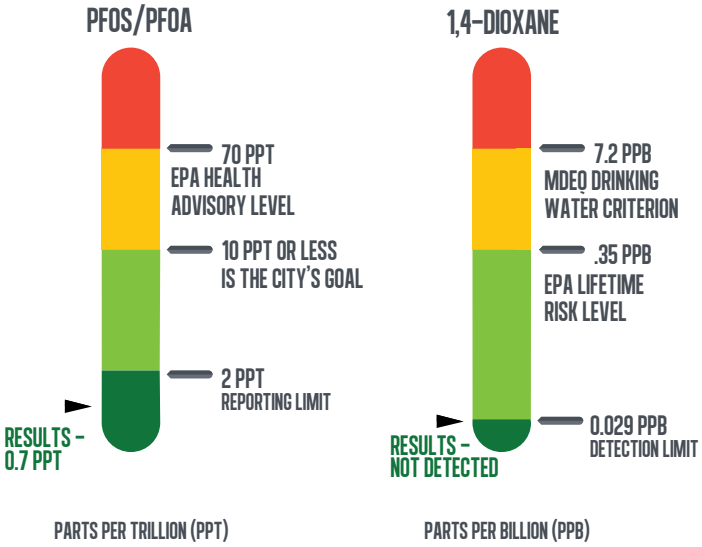
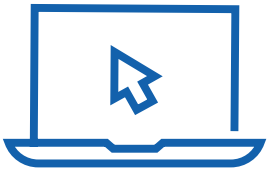
MONTHLY WATER QUALITY DASHBOARD



What's in your water?
The city's water treatment team's No. 1 focus is protection of public health and with that goal in mind, they collect more than 58,000 water samples and conduct more than 177,000 tests each year.



With advances in testing techniques, labs are able to detect very low levels of contaminants in water samples. The presence of contaminants does not necessarily indicate that water poses a health risk.

To learn more about your drinking water and the City of Ann Arbor's efforts to protect its safety, read the Water Quality Report at www.a2gov.org/WaterReport or the 1,4-dioxane fact sheet and frequently asked questions resource at www.QualityWaterMatters.org.

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or a little. Finally, there is not much research yet on the health impacts for humans, if any, associated with these products.

Does the city's water treatment plant remove microplastics? In Ann Arbor's case, the city is well-positioned to deal with this emerging issue for several reasons. First, there is not much treated municipal wastewater entering the Huron River upstream of the drinking water plant's intake, which would be the largest potential source of microplastics. Most of the treated municipal wastewater discharged into the Huron River enters downstream of the city's intake. Second, land use in the watershed for the city's drinking water supply is primarily rural and agricultural, which includes few potential sources of microplastics. Finally, the city's water treatment plant has sand and carbon filters that have the capability of removing particles down to the micron size range.

As with all an emerging water quality topics, the city monitors the research as it is developed. As we learn more about topics such as this, we plan and modify our drinking water treatment as needed.

Next month's issue, I will discuss the Revised Lead and Copper Rule and how the changes will impact city water customers.

Brian Steglitz

Brian Steglitz, P.E., Drinking Water License F-1, Water Treatment Plant Manager, Ann Arbor resident

Water Champion

Conuetta Wright has worked in the water and wastewater field for 18 years, the last eight have been with the City of Ann Arbor as a Water Utility Technician.

Asked what she likes about working in the water field, Wright says, "I like being in a field where I can service the public behind the scenes by providing safe drinking water. I also enjoy working with the good people at the water treatment plant and working for the residents of the City of Ann Arbor."

Wright also served as the Chief Steward for the AFSCME bargaining unit and works tirelessly to provide safe drinking water. We are pleased to recognize Wright as this month's water champion!

HURON RIVER WATERSHED COUNCIL

HRWC takes a look at microplastics in our water

Researchers estimate that 6.3 billion metric tons of plastic waste have been produced since the 1940s, and 79 percent of that is now in landfills or the natural environment. Plastic pollution is not a new problem. What is becoming more and more well known in recent scientific research is the amount of plastic in our oceans, lakes, rivers and streams and aquatic animals.

In particular, microplastics are a growing area of concern in aquatic systems. Microplastics are tiny pieces of plastic (less than 5 millimeters) mostly invisible to the naked eye. They are the miniscule plastic fragments that are shed from synthetic fibers, fall off decomposing plastic bottles and bags, and are intentionally manufactured into some toothpastes and lotions. In 2016, the USGS released a study that reported the Huron River had the highest level of microplastics when compared to 28 other large Great Lake tributaries. Based on this study, over 70 percent of the microplastics in rivers flowing to the Great Lakes come off synthetic clothes and textiles. The culprit is our fleece and synthetic clothing and athletic gear.

Around the globe humans have been ingesting microplastics. Very little is known about the impacts they have on human health. We ingest them through our food, water, beer, even breathing in dust. A recent study showed that we each take in about five grams of plastic a week, or basically the equivalent of a credit card. More research is needed about how plastics impact our health, what contaminants they pick up and introduce to our systems, and which plastics have stronger impacts over others so we can strategically address the issue.

What can we all do today? Wash your fleece less. The fibers slough off and go through the wastewater treat facilities and to the river. Get a washing machine filter that can pull out the fibers. Buy fewer synthetic textiles like polyester, spandex, nylon and acrylic. Wear natural and synthetic blends, which are better than 100 percent synthetic. Best yet, go all natural with 100 percent cotton, wool, linen, silk, or bamboo. Encourage fabric manufacturers to research alternatives.

This summer HRWC is sampling river water all over the watershed to determine where microplastics hotspots are. With that information, we will be better equipped to look for sources and work with government partners in reducing the total amount in the Huron River. - Paul Steen, Ph. D., Watershed Ecologist, Huron River Watershed Council, 734.769.5123 x 601, psteen@hrwc.org. More information at www.hrwc.org/microplastics

WASHTENAW COUNTY HEALTH DEPARTMENT

Microplastics is an area that needs more research to better determine what the health impacts, if any, are to humans. The term microplastics incorporates a wide variety of sizes and types of plastics and these may have different impacts on health, depending on size and type of plastic. Possible sources of exposure to microplastics may occur through indoor and outdoor dust, cosmetics, pharmaceuticals, drinking water, and consuming fish and seafood that have consumed microplastics.

Information taken from: https://www.epa.gov/sites/production/files/2018-03/documents/microplastics_expert_workshop_report_final_12-4-17.pdf