# PFAS & the District

Madison Metropolitan Sewerage District

## IMPORTANT FACTS

- PFAS are complex, manmade compounds that are difficult to break down. They are present at low levels throughout the environment and in our homes and diets.
- Wastewater treatment plants are not sources of PFAS, but PFAS is present in wastewater due to personal and commercial use and background levels.
- A review of the District's service area confirms there are no original manufacturers of PFAS or users with the potential to discharge high concentrations of PFAS to the plant.
- The District regularly samples its wastewater for many PFAS compounds.
- The most efficient and effective ways to address PFAS are producer responsibility and stewardship; source reduction and elimination; and cleanup of highly contaminated sites.

## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a large group of manmade compounds that have been in use for more than 70 years. Resistant to heat, water and oil, PFAS are found in many products used by consumers and industry.

While the two most common PFAS (PFOA and PFOS) have been fairly well studied and are shown to have some environmental and health impacts, determining the background levels is often difficult. The presence of PFOA and PFOS is declining in humans and the environment following a voluntary phase-out of these two compounds by U.S. manufacturers. However, there are many other PFAS compounds still in use. The District currently tracks approximately 30 of these compounds.

## PFAS is abundant and widespread

PFAS are abundant in our society and given the wide use of PFAS-containing products, there are low levels of PFAS compounds in groundwater, surface water, wastewater, household dust, human blood and even our national forests. These levels are in the parts per billion (ppb) and parts per trillion (ppt) range. For instance, a 2008 study found the concentration of PFOA in household dust in the United States is between 10,000 and 50,000 ppt.

Where PFAS compounds have been problematic is primarily the result of use in firefighting foam, chrome plating and industrial sources that use or manufacture PFAS.

## Measuring PFAS

PFAS concentration levels are measured at an infinitesimal scale, typically parts per billion, or ppb, and parts per trillion, ppt. The scientific community has had the ability detect and measure compounds in the parts-per-trillion range for about a decade.

To put that in perspective:

**1 PPB = 1/2 teaspoon in 1 Olympic-size pool**

**1 PPT = 1 drop in 20 Olympic-size pools**

## District PFAS sampling results

Wastewater treatment plants are not sources of PFAS but receive these compounds in the wastewater through consumer and commercial use.

The District's PFAS testing shows that PFAS compounds are present in the wastewater we receive. In our initial test of 33 PFAS compounds, the PFAS compounds found in local, incoming wastewater are consistent with results from other municipal wastewater treatment plants in urbanized areas without significant industrial sources. The District's PFAS sampling results can be found on our dedicated PFAS website, **madsewerPFASinitiative.org/results**.

## What the District is doing about PFAS

As a public utility, we embrace our mission to protect human health and the environment. However, there is still much to learn about the fate, transport, toxicity and human health impacts of the many compounds in the PFAS family.

The most significant concern regarding PFAS in wastewater and biosolids is in areas with known or potential sources of PFAS, such as firefighting foam and chemical manufacturing facilities. The District has reviewed its service area and has determined that it contains no known original industrial manufacturers or users of PFAS that would potentially discharge high concentrations of PFAS to the treatment plant.

At the District we will continue to monitor our effluent and track regulatory efforts at the state and federal levels. The District's effluent and biosolids adhere to rigorous treatment standards and present a low relative risk of exposure to PFAS to the general population. We are also continuing our PFAS sampling program.

The most efficient and effective ways to address PFAS are producer responsibility and stewardship; source reduction and elimination; and cleanup of highly contaminated sites. Requiring utilities to add technology to remove PFAS at the parts per trillion level is infeasible for several reasons. There are limited options for removal, and they involve enormous capital costs, enormous energy and operating expense and produce a residual waste for which there are limited disposal options. Other preventative and collaborative options are available that are more cost-effective and produce better environmental results.

### Source reduction has proven effective.

**When the Michigan required source reduction at confirmed PFAS sources, it led to substantial drops in PFAS concentrations of PFAS — up to 99% in some cases — in discharge from municipal wastewater treatment plants.**

To facilitate source reduction and elimination, the District is working with our industrial permittees and other businesses to help them better understand PFAS, identify whether PFAS is in their products or processes, and suggest options for reduction or substitution.

Source reduction has proven to be quite effective. For example, when the Michigan Department of Environment, Great Lakes, and Energy required source reduction at confirmed PFAS sources, it led to substantial drops in concentrations of PFAS (99% in some cases) in discharge from municipal wastewater treatment plants.

## Solutions driven by collaboration and science

We must work collaboratively and on numerous fronts to address PFAS from a holistic perspective, with science guiding the decision-making process. Setting exceedingly stringent limits on PFAS in wastewater or biosolids is not a solution on its own. Instead, we must implement source reduction and pollution prevention activities to reduce the presence of PFAS in the environment effectively.