

Statement about PFAS in Missoula's Water, Wastewater, and Compost

Missoula's Public Works & Mobility Department (PWM) has tested its potable water, wastewater, wastewater biosolids, and compost for the presence of PFAS (i.e., "forever chemicals"). The good news is that no PFAS compounds have been detected in our drinking water. So far, we have tested 23 of our 42 wells for PFAS and in the next two years will complete testing of all wells that contribute to our total water supply.

Unfortunately, like most municipal wastewater facilities, there are PFAS compounds present in our wastewater influent, effluent, biosolids, and the compost we produce at Garden City Compost. These chemicals come from stain- and water-resistant fabrics and carpeting, cleaning products, paints, and fire-fighting foams and enter our wastewater system through sewer drains. The data from two rounds of voluntary samples collected in 2022 and 2023 can be viewed and downloaded at the following links: [2022](#) and [2023](#).

The above data also includes samples of landfill leachate collected at the Republic Services Landfill. This leachate is discharged to Missoula's wastewater system. While the concentrations of various PFAS compounds in landfill leachate are high, the flows of leachate are quite low. The resulting annual loading of PFAS compounds from the landfill to the wastewater treatment plant comprise a relatively small percentage of the total PFAS load present in the wastewater influent (3-13% of the total PFOA load and 0.1-0.6% of the total PFOS load).

There are no established standards for PFAS concentrations in wastewater, biosolids, or compost. As the federal government develops additional science around PFAS, Missoula's wastewater treatment facilities will comply with any regulations or standards that are developed. In the meanwhile, we encourage our customers and users of Garden City Compost to educate themselves about PFAS. There are many excellent resources on the Internet, including: <https://www.epa.gov/pfas/pfas-explained>.

Additional Information

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals that are sometimes called "forever chemicals" because they do not break down easily due to their chemical makeup. Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are the two PFAS that have been produced in the largest amounts in the United States, according to the U.S. Environmental Protection Agency (EPA)¹. PFAS were first used in the 1940's and became popular for use in products because of their resistance to grease, oil, water, and

heat. According to the U.S. Food and Drug website, PFAS are “now in hundreds of products including stain- and water-resistant fabrics and carpeting, cleaning products, paints, and fire-fighting foams.” The website goes on to say that the Federal Drug Administration (FDA) also has allowed limited use of certain PFAS in cookware, food packaging, and food processing equipment.²

What levels have been found in Missoula’s Wastewater and Compost?

The two parameters that are most discussed relative to PFAS are PFOA and PFOS. For example, our testing showed the wastewater effluent concentrations for PFOA and PFOS were 4.3-6.2 ng/L and 2.2-2.6 ng/L, respectively. For comparison, recently there have been drinking water standards set for both PFOA and PFOS of 4 ng/L. It is likely these parameters will eventually also be regulated in wastewater permits. However, PFAS in wastewater are not currently regulated, and it’s very difficult to speculate at what levels they could be regulated in the future.

Biosolids are left over after wastewater is treated and dewatered at the wastewater treatment plant. This by-product is then moved next door to Garden City Compost, where it is combined with other natural materials, such as woody yard debris, sawdust, etc., to create compost and related products.

In our recent testing, PFAS measurements in the compost were PFOA at 22 ng/g and PFOS at 12 ng/g levels.

¹ https://19january2021snapshot.epa.gov/sites/static/files/2017-12/documents/frrrofactsheet_contaminants_pfos_pfoa_11-20-17_508_0.pdf

² <https://www.fda.gov/food/environmental-contaminants-food/and-polyfluoroalkyl-substances-pfas>