

Sewage Sludge and Wastewater Treatment Plants Identified as Key Sources of PFAS Pollution

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New research suggests that sewage sludge and wastewater treatment plants are major sources of per- and polyfluoroalkyl substances (PFAS) pollution. Waterkeeper Alliance, in partnership with local Waterkeeper groups and the Hispanic Access Foundation, conducted the second of a multi-phase monitoring initiative that focused on sites downstream from wastewater treatment plants (WWTPs) and permitted biosolid application fields. Over a 20-day period, passive PFAS samplers were deployed in rivers that bordered 32 sewage sludge sites (22 WWTPs and 10 biosolid application fields) across the United States. Approximately 98% of all samples had detectable levels of PFAS, with higher concentrations of PFAS observed at downstream sites (95% downstream WWTP and 80% downstream biosolids). According to researchers, these findings indicate sludge sites may be responsible for increased pollution levels.

Although various types of PFAS were detected, perfluorooctanoic acid (PFOA) and perfluorobutanoic acid (PFBA), were commonly observed among WWTP and biosolid samples, respectively. The highest levels of PFAS were found in Detroit's Rouge River, Maryland's Potomac River, North Carolina's Haw River and South Carolina's Pocotaligo River. A sample taken near a wastewater plant by the Rouge River revealed that PFAS levels spiked nearly 3,000% (228.29 ppt). Similarly, samples taken on a field where sludge was spread around Dragoon Creek near Spokane, Washington, had an over 5,100% increase (106.51 ppt) in PFAS levels.

Even though WWTPs do not generate PFAS, WWTPs may receive discharges from certain industrial and commercial sources that use them. Also, because PFAS break down very slowly in the environment, PFAS resist degradation by conventional wastewater treatment processes and can adsorb to sewage sludge and biosolids. While the Trump Administration halted the rulemaking process for industrial discharges of PFAS, the EPA's prior draft sewage sludge risk assessment for PFOA and perfluorooctane sulfonic acid (PFOS) remains open for comment until August 14, 2025. That said, to date, 13 states have introduced policies regarding PFAS in biosolids/sludge, with five states formally adopting such policies.

As PFAS-related research, findings, developments, and regulatory and legal landscapes continue to evolve, it is imperative for businesses, stakeholders, and the public to proactively manage and minimize potential risks associated with "forever chemicals."

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