STOPPING PFAS POLLUTION AT ITS SOURCE

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WHY IT MATTERS

PFAS are a group of over 15,000 chemicals that are dangerous to human health and the environment.[1] They are commonly known as "forever chemicals" because, unlike most other chemicals, they do not break down but instead build up and persist in our bodies, soil, water, and wildlife.[2] PFAS, even at very low levels, can cause significant human health harms, including cancers, impacts to the heart and the liver, developmental harm to infants and children, and reduced immune function.[3,4]

PFAS are used in many industrial processes and consumer products. This means people come into contact with PFAS when using everyday items like waterproof and stain-resistant fabrics and materials, food packaging, and non-stick cookware.[5] Concentrated streams of PFAS pollution enter the environment from sources like industrial wastewater and stormwater discharges, landfill leachate, land-applied sewage sludge (hereinafter "sludge"), and fire-fighting foams, and can contaminate drinking water, ground and surface waters, soil, livestock, crops, food, and wildlife.[6] Studies show that members of low-income communities and communities of color are more likely to live within five miles of a PFAS-contaminated site and that these communities may be disproportionately exposed to PFAS in drinking water.[7,8] Where sludge is disposed of on land as a fertilizer ("biosolids"), federal agency research shows corresponding contamination of farmlands and ground- and surface waters, presenting a risk of cancer and other diseases to farming families and their communities.[9] Importantly, the most commonly used public and private water treatment systems do not remove PFAS from our drinking water or wastewater.[10]

CURRENT LANDSCAPE

PFAS water pollution is a statewide problem in Virginia. PFAS have already been detected in 16 drinking water utilities, impacting the drinking water of 2.5 million Virginians.[11] The Department of Environmental Quality (DEQ) maintains a public dashboard of current PFAS data, and over half of all surface water samples contain PFAS.[12] PFAS contamination is also frequently found in sewage sludge, a wastewater treatment byproduct, but currently there are no federal or Virginia requirements to test sludge or biosolids for PFAS.

The U.S. Environmental Protection Agency (EPA) has finalized enforceable drinking water standards for six types of PFAS,[13] though the new administration has announced plans to delay and potentially weaken them.[14] Importantly, these standards include non-enforceable maximum contaminant level goals of zero for two types of PFAS (PFOA and PFOS) since there is no safe level of exposure for human health.[15] DEQ is currently working to identify PFAS sources impacting public drinking water supplies with reported exceedances of the PFAS drinking water standards,[16] however, the standards do not apply to private wells, which means more than one million Virginians are excluded from this study.[17]

In May 2025, the Virginia Department of Health (VDH) issued a fish consumption advisory for the Chickahominy watershed due to elevated levels of PFOS (a type of PFAS) in several fish species.[18] Despite this, DEQ has failed to list the Chickahominy as impaired in its Water Quality Assessment Integrated Report, nor has it issued fish advisories or impaired status for other impacted watersheds.[19] Contamination of game and other wildlife remains unaddressed.

PFAS contamination in drinking water, fish tissue, and sludge is a downstream impact of the upstream industrial manufacture and use of PFAS. EPA has released guidance about how to use existing laws to require disclosure, monitoring, and control of industrial PFAS water pollution.[20,21] However, DEQ does not require disclosure or monitoring of PFAS or setting PFAS limits in water pollution discharge permits or biosolids land disposal permits, despite having the authority to do so.

OPPORTUNITIES

The most cost-effective and efficient way to tackle PFAS pollution is at the source – where PFAS is manufactured or used in industrial processes – before it reaches our drinking water sources and environment. Recent estimates show that Virginia's public water systems will need to spend hundreds of millions of dollars to comply with the PFAS drinking water standards[22] and individual households that rely on private wells could also face high costs associated with filtration improvements.[23] Until we stop PFAS pollution at its source, downstream waterworks, communities, and private well owners will continue to pay for the costs of PFAS pollution.

A substantial source of PFAS in our waters is concentrated pollution released in industrial wastewater and land-applied biosolids. DEQ has existing authority under the Clean Water Act (CWA) to control PFAS pollution discharges through the Virginia Pollutant Discharge Elimination System (VPDES) permit program. Wastewater treatment plants also have authority under the CWA to use their pretreatment

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program to control PFAS pollution.

Legal authorities should compel DEQ to require disclosure, monitoring, and control of PFAS in biosolids through the Virginia Pollution Abatement (VPA) permitting program to protect human health and the environment. Sludge is treated for certain toxic metals and pathogens before it is land-applied as biosolids, but not for PFAS, even though conventional wastewater treatment concentrates PFAS in sludge.

More information is needed about the occurrence of PFAS in our wildlife, including in fish, shellfish, deer, and other game species. DEQ has already identified levels of PFAS contamination in some state waterways that exceed EPA recommended levels for sustaining aquatic life and protecting human health, meaning consuming fish and shellfish from these waters could pose a risk to human health.[24] This information is vital for helping VDH determine whether PFAS consumption advisories are required to protect human health.[25]

ENDNOTES

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