

Pipes Over PFAS

The Safe Drinking Water Act turns 50 this year and it's important to recognize that it is one of the most remarkable and successful pieces of legislation this country has ever known. The provision of clean tap water to all homes and businesses is among the most influential and expensive of human undertakings; it is foundational to public health and a stable society.

Yet today, we are facing ever-increasing risks that more and more water systems in this country will fail in part due to the Safe Drinking Water Act itself, which like our aging water infrastructure, is due for renewal.

The crafters and administrators of the Act wisely recognized that microbial contaminants in tap water pose the gravest threat in most water systems: microbial contaminants such as *Legionella* and *Escherichia coli* (the dreaded E-coli) can have immediate and fatal impacts on the human body. Since the world is full of bacteria, they can enter nearly any water system that isn't properly built, operated, and maintained. Chemical contaminants can be dangerous too, although they tend to be found in drinking water only in particular regions at concentrations that are dangerous, and often require years of exposure to cause potential impacts to human health. After cracking down on the most dangerous microbial and chemical contaminants in tap water, the Act bids administrators to do one more thing: keep looking.

Keep looking sounds good. It seems to make sense to keep looking for additional contaminants in tap water that could cause harm. The problem is, of course, once you've regulated the most dangerous contaminants (and the Act has been successful in doing so), the ones left to be found, like PFAS, are regulated through ever-increasing costs while providing ever-diminishing returns to public health improvements. "Keep looking" assumes that the biggest threats to public drinking water are external or unknown contaminants, not for example, lack of skilled labor or aging infrastructure.

Organizations representing utilities and the people they serve have spoken out about **the dangers of setting chemical regulations without understanding the unintended consequences**. The American Water Works Association (AWWA) and Association of Metropolitan Water Agencies (AMWA) filed an [appeal](#) to the U.S. EPA warning that setting overly protective drinking water standards for PFAS "underestimates nationwide costs and adds to affordability challenges without achieving the public health outcomes we all seek."

This sets up a flawed system wherein federal administrators of the Act have little incentive to appropriately consider the increasing costs versus benefits of expensive regulation of newly identified contaminants because their job is to keep looking, and the only way they

can fail in their job is if they don't look hard enough. Consequences of these bureaucratic decisions fall to the people because the high cost of maintaining clean water systems in this country are nearly universally borne by the local communities that operate them, not the federal administrators of the Act.

Over the past 50 years, local communities have not kept up with the need to replace aging water infrastructure. In 2021 the American Society of Civil Engineers handed out a C- rating to the Nation's drinking water infrastructure. Researchers at Utah State University found that the U.S. and Canada experience 260,000 water main breaks annually. So, while the risks of biological and chemical contaminants in tap water are being mitigated through the Act, the risk of pipe failure has gone through the roof and is left largely unaddressed. Unlike the federal government, local water systems cannot print money or operate on continual deficits, and typically the elected officials in charge of local systems are reluctant to increase water rates. In the face of increasing costs associated with compliance with the Act, increasing expenses for operations and maintenance, and increasing needs to rehabilitate aging infrastructure, something has to give, and generally it's the pipe that does — literally.

Guess which contaminant likes to take advantage of leaky pipes and poorly maintained water systems? E-coli, which can sicken and kill humans quickly. **Perhaps we need to focus more on pipes and less on PFAS.**

Water quality standards cannot be violated if no water is delivered. Crafters of the Act did not realize that vigilance would be necessary to guard against the slow deterioration of water infrastructure; whole water systems can literally fall apart and yet not constitute a failure of the Act. We've already seen it in many communities, often poor ones, where the cost of investment in aging infrastructure, compliance with the Act, and operations overwhelmed local elected officials who also turned their backs on reinvestment through higher water rates.

“Stay vigilant” is a better directive because risks change. Yes, stay vigilant for new chemicals that might actually cause harm, but forcing more and more investment in just one aspect crowds out investment in all of the other things in a community water system that make it function adequately and enable delivery of clean water: aging infrastructure, a skilled labor force, asset management, sound financials, cybersecurity, a reliable supply chain and technical capabilities to monitor water quality. **Public health can fail for many reasons, but it can only be upheld with an adequately functioning community water system.** That takes vigilance on many fronts and prioritization of the things that truly matter.



Kathryn Sorensen is director of research at the Kyl Center for Water Policy at Arizona State University. She formerly served as director of Phoenix Water Services.



Dr. Janet Anderson is a vice president and principal with GSI Environmental Inc., with more than 15 years of experience providing toxicology, risk assessment, and risk management support to federal agencies, industry and municipal clients.