

THE SAFE DRINKING WATER ACT AT 50

A Call for Urgent Reform

Introduction

Fifty years ago, the Safe Drinking Water Act (SDWA) became a landmark commitment to ensuring every community had access to safe, clean drinking water. Reporting the day the bill was signed into law on December 16, 1974, the *New York Times* noted, “the bill got a push from public fears following reports about cancer-causing agents in drinking water drawn from the Mississippi River.”¹

Fears of foul water were well-founded in those days. Between 1961 and 1970, officials documented over 46,000 cases of waterborne hepatitis, salmonellosis, and gastroenteritis—diseases caused by chlorine-resistant pathogens, according to the *Journal of the American Medical Association*. At the time, there were no federal protections in place for drinking water, save some safeguards for interstate waters. Instead, the country’s water safety relied on a patchwork of state and local regulations, which prioritized quantity over quality, leaving millions with unsafe drinking water.

To solve this problem, Congress created the first law of its kind and established a foundational system for regulating and safeguarding the nation’s drinking water supply. SDWA has since then been a critical tool to protect the country from unsafe water. And indeed, it improved public health. The number of waterborne disease outbreaks plummeted, thanks in part to the Environmental Protection Agency’s (EPA) efforts under SDWA,² and the country’s drinking water resources have vastly improved since 1974 in terms of quality and reliability.³ However, as this report outlines, they remain nowhere near as equitable, nor effective as they could be.

Over the past few decades, political inaction, loopholes, and chronic underfunding have eroded the SDWA’s ability to keep water clean and safe.



Peter Cade / Getty Images

Amendments in the 1990s significantly slowed the regulation of new contaminants, while systemic gaps in enforcement and monitoring have left millions at risk of drinking polluted water. As a result, SDWA has failed to keep pace with new threats to water and advancements in pollution detection practices. Moreover, these shortcomings have not affected all communities equally: low-income communities, Black, and Indigenous communities disproportionately bear the burden of the law’s weaknesses.

To show how and why this erosion of drinking water standards happened, Earthjustice experts compiled this report examining the past, present, and future of the SDWA. Key highlights include:

- **Early Successes and Declining Protections:** From its initial triumphs in addressing waterborne disease outbreaks to a dramatic

¹ *New York Times*, <https://www.nytimes.com/1974/12/14/archives/ford-is-ready-to-sign-bill-on-drinking-water.html>.

² 25 years of the Safe Drinking Water Act: History and Trends, U.S. Environmental Protection Agency, <https://nepis.epa.gov/Exec/DisplayPDF.cgi/200027R1.PDF?DocKey=200027R1.PDF>.

³ *The Safe Drinking Water Act of 1974 and its Role in Providing Access to Safe Drinking Water in the United States*, <https://journalofethics.ama-assn.org/article/safe-drinking-water-act-1974-and-its-role-providing-access-safe-drinking-water-united-states/2017-10>

drop in new contaminant regulations since 1996, we trace the law’s journey from outstanding to outdated.

- How Outdated Monitoring, Sampling, and Reporting Requirements Undercut SDWA’s Goals:** Much of the lack of enforcement, lack of transparency, noncompliance by water systems, and poor response to crises stems from SDWA’s outdated monitoring and sampling protocols, developed decades ago when sampling and monitoring technology was more expensive and less effective.
- Infrastructure Funding Challenges:** Lack of political will to reverse the decades-long collapse of federal funding of water infrastructure has left water systems reliant on aging infrastructure. The result is inadequate resourcing for long-overdue upgrades to water treatment.
- Equity and Access Disparities:** Communities of color and rural areas are disproportionately harmed by water safety violations, with systemic failures exacerbating environmental injustice.
- Case Study of Crisis and Advocacy:** Contamination of O’ahu’s water supply with jet fuel and forever chemicals from the Navy’s Red Hill Bulk Fuel Storage Facility, which shows critical shortcomings in the SDWA.

By looking at which parts of SDWA work, and which have become outdated or ineffective, this report provides insights into how SDWA can be modernized. Some key opportunities include: setting enforceable standards for unregulated chemical contaminants known to cause cancer or hormone damage, like PFAS; leveraging modern monitoring technology by requiring more robust monitoring, sampling, and reporting; improving transparency and data sharing with communities, as well as among agencies; and dramatically increasing federal investment in water infrastructure to ensure every community has access to clean drinking water.

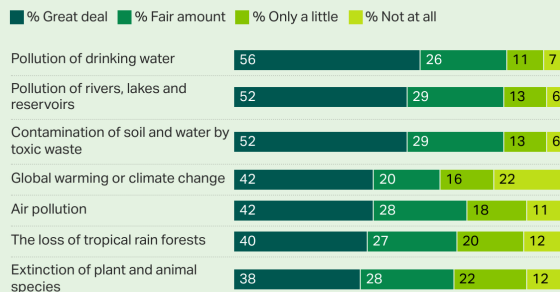
The challenges may be daunting, but the path forward is clear. By reviving the SDWA’s founding vision and adapting it to today’s needs, we can protect public health, restore public trust, and ensure that future generations inherit a robust and resilient drinking water system. The time to act is now.

People Are Worried About Drinking Water

Recent Gallup polling indicates that drinking water pollution is the country’s top environmental concern.⁴ The same polling suggests that this concern is even stronger among Black and Hispanic Americans, who are also more likely to live in a community with an SDWA violation.⁵

Drinking Water Safety Tops Environmental Worries in the U.S.

I’m going to read you a list of environmental problems. As I read each one, please tell me if you personally worry about this problem a great deal, a fair amount, only a little or not at all.



March 1-20, 2024

GALLUP

Separate recent polling also shows that ensuring access to safe drinking water is a top priority communities want the government to address, ranking even higher than crime and health care.⁶

People are right to worry. At least 77 million people in the U.S. are served by water systems that violate health-based SDWA standards—a figure that is likely a conservative estimate.⁷ Additionally, approximately 15% of the U.S. population, or 43 million residents, rely on privately owned wells that are entirely

⁴ Most Black, Hispanic Adults Very Worried About Tainted Water, Gallup Polling, <https://news.gallup.com/poll/505532/black-hispanic-adults-worried-tainted-water.aspx>

⁵ Watered Down Justice, Natural Resources Defense Council, Coming Clean Network, Environmental Justice Health Alliance, <https://www.nrdc.org/resources/watered-down-justice>

⁶ EPA Lead and Copper Rule Nationwide Survey, Research Findings prepared by Global Strategy Group, <https://www.nrdc.org/sites/default/files/lead-copper-rule-survey-deck-20221109.pdf>

⁷ Watered Down Justice, Natural Resources Defense Council, Coming Clean Network, Environmental Justice Health Alliance, <https://www.nrdc.org/resources/watered-down-justice>

unregulated by the SDWA.⁸ Meanwhile, two million people lack running water and sanitation, with Indigenous people being over 15 times more likely to experience this disparity compared to their white counterparts.⁹ And yet, funding to make SDWA live up to its promise has not kept up with the need. EPA recently estimated that \$625 billion is needed for drinking water infrastructure across the nation over the next 20 years “to ensure the public health, security, and economic well-being of our cities, towns, and communities.”¹⁰

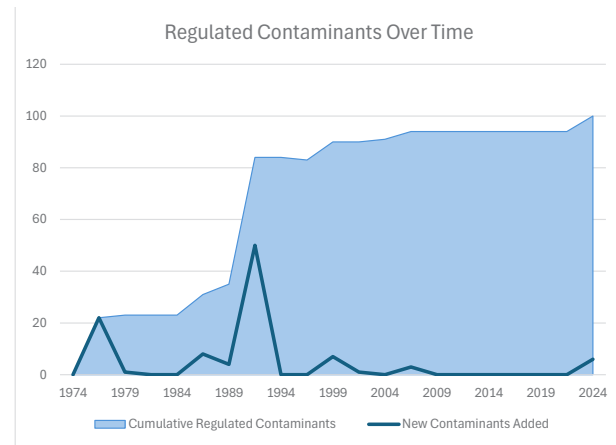
How SDWA Went From Outstanding to Outdated

The passage of SDWA was an acknowledgment that every state should treat its drinking water to reach an acceptable baseline of drinking water quality. With SDWA, Congress required the EPA to immediately set protective standards for dozens of known contaminants, and evaluate more harmful chemicals for potential regulation. Congress then expanded the law in 1986 to increase the pace at which the EPA regulated contaminants, and to increase protections for groundwater. Congress directed the EPA to develop standards for 83 contaminants within three years and to add 25 new standards every three years. These Congressional measures positioned the EPA to address contamination threats proactively and continuously.

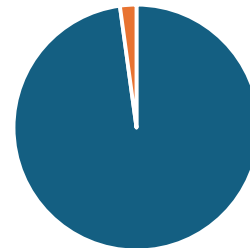
However, amendments in 1996 amendments changed the pace of regulation drastically. While the amendments did explicitly require the EPA to produce a few specific rules for disinfectant byproducts, surface turbidity and chlorine, and fecal bacteria in groundwater, the amendments also made it much more difficult for the EPA to set future standards for contaminants through the SDWA’s contaminant candidate list (CCL) process. Put differently, it became more difficult for EPA to regulate without explicit direction from Congress to set a standard for a contaminant.

Between 1975 and 1996, the EPA regulated about 100 chemicals under the SDWA. In contrast, between

1996 and 2024, the agency considered regulating 184 individual chemicals under the CCL, including many more than once, but it was not until 2024 that EPA finally decided to promulgate drinking water standards for chemicals from the CCL, six PFAS. This was EPA’s most significant effort to protect drinking water in years. The decline in drinking water protection extends beyond regulatory



Number of Chemicals Considered for Protection Standards under SDWA (since 1996 amendments)



- Total Contaminants Listed for Possible Regulation
- Total Candidate Chemicals Actually Regulated

slowdowns. Since the 1980s, a sharp reduction in federal investment left tens of thousands of water utilities in our country dependent on outdated infrastructure. These aging systems now struggle to handle growing populations and rising pollution levels, resulting in six billion lost gallons of water per day,¹¹ increased maintenance costs for systems (therefore higher bills for customers), more public

⁸ Private Drinking Water Wells, U.S. Environmental Protection Agency, <https://www.epa.gov/private-waterwells#:~:text=The%20Quality%20of%20our%20Nation%27s,their%20source%20of%20drinking%20water>
⁹ Closing the Water Access Gap, U.S. Water Alliance, https://uswateralliance.org/wp-content/uploads/2023/09/Closing-the-Water-Access-Gap-in-the-United-States_DIGITAL.pdf

¹⁰ EPA’s 7th Drinking Water Infrastructure Needs Survey and Assessment, U.S. Environmental Protection Agency, <https://www.epa.gov/dwscf/epas-7th-drinking-water-infrastructure-needs-survey-and-assessment>
¹¹ American Society of Civil Engineers, 2021 Drinking Water Infrastructure Report Card, <https://infrastructurereportcard.org/cat-item/drinking-water-infrastructure/>

health threats like waterborne disease outbreaks,¹² lead lines delivering contaminated water, regular exposure to frequently present drinking water contaminants,¹³ and inadequate responses to disasters like toxic spills. Unsurprisingly, ensuring the effectiveness of these systems requires significant increases in federal investments.

Federal spending on water and wastewater utility infrastructure decreased in the 1980s and after 2000
Reported in billions of 2014 dollars



Source: Congressional Budget Office (March 2015), Public Spending on Transportation and Water Infrastructure, 1956 to 2014.

SDWA's Monitoring and Sampling Issues

SDWA's monitoring requirements were established in analog times when sampling was far more challenging and expensive than today. Yet, despite cost and technological improvements, SDWA's protocols and best practices remain outdated.

Under the EPA's Standard Monitoring Framework, water systems are legally allowed to reduce regular sampling of regulated contaminants—such as benzene, arsenic, or atrazine—to as infrequently as once a year, or even once every three years. This is despite the potential for upstream pollution to cause spikes in these contaminants and the documented flaws in sampling protocols outlined below. These outdated loopholes, established in 1991, remain in place despite significant advancements in sampling technology, laboratory analysis, and data processing.

This infrequent sampling often provides an incomplete and misleading picture of water quality. Worse yet, water systems exploit the rules by strategically sampling during certain times, or asking residents to perform certain measures which

make the sample misrepresentative of regular contaminant levels,¹⁵ or even taking samples from different locations or intentionally skewing procedures to get desired results.¹⁶ Ignoring and in some cases intentionally flouting best practices creates a false sense of security for our communities, leaving them unknowingly exposed to chemicals like lead, or to bacterial growth.

Additionally, SDWA lacks robust requirements for monitoring source water contamination for most pollutants, focusing instead on sampling treated water—often infrequently. For example, while the law requires monitoring source water after certain water clarity changes, such as turbidity, it largely overlooks source water monitoring for other contaminants. This gap means that if a sudden spike in source water contamination occurs—due to events like natural disasters, industrial accidents, or changes in the water source—water systems may not detect it in time to adjust their treatment processes. As a result, toxic water could already be delivered to consumers before the contamination is identified.

This issue is further exacerbated by disparities in resources among water systems. Well-funded systems may go beyond SDWA requirements, proactively monitoring source water and responding to emerging threats. In contrast, less-resourced systems cannot often implement additional safeguards, leaving them particularly vulnerable to unexpected contamination events and exposing their communities to both chemicals regulated by SDWA, as well as unregulated contaminants.

Transparency and Consumer Confidence

Behind almost every drinking water crisis of the last three decades is a transparency crisis. Much of the lack of transparency stems from water systems and regulated agencies' inability or unwillingness to answer the most basic question: is the water safe to drink?

Under SDWA, water systems must provide regular reports about drinking water quality to consumers,

¹² Potential Public Health Impacts of Deteriorating Distribution System Infrastructure, *Journal of American Water Works Association*, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7147732/#S7>

¹³ American Public Health Association, *Drinking Water and Public Health in the United States*, <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2020/01/13/drinking-water-and-public-health-in-the-united-states>

¹⁴ U.S. Environmental Protection Agency, *The Standardized Monitoring Framework: A Quick Reference Guide*, https://www.epa.gov/sites/default/files/2020-05/documents/smf_2020_final_508.pdf

¹⁵ Philadelphia's water-testing procedures are 'worse than Flint' – expert, <https://www.theguardian.com/environment/2016/jan/28/philadelphia-water-testing-crisis-flint-health-risk>; Lead Level Misrepresented Across US, <https://www.washingtonpost.com/archive/politics/2004/10/05/lead-levels-in-water-misrepresented-across-us/085c8f5b-22e5-4975-8abd-11751e08abab/>

¹⁶ Tapped out: New Orleans drinking water testing procedures don't follow gov't regulations, <https://lailluminator.com/2023/11/08/new-orleans-water/>

yet historically those reports gloss over information that is important for consumers to know. Many Consumer Confidence Reports, or CCRs, end up including statements that are misleading at best and dangerous at worst.¹⁷ For example, the first page of reports from Washington, D.C. in 1999, 2000, and 2001 included statements like, “Your Drinking Water Is Safe!” despite results showing high levels of cyanide, as well as elevated levels of chlorination byproducts, lead, and bacteria.¹⁸ Unregulated contaminants known to be harmful also get swept under the rug. For instance, a water utility can say the water meets current SDWA standards, and omit that it found an unregulated cancer-causing industrial solvent like 1-4 dioxane.

EPA updated CCR rules in 2024 but disappointingly backed away from prohibiting false and misleading statements regularly included in them.¹⁹ When community members

or NGOs expose misleading statements, there is little recourse, as state agencies and the EPA often take a hands-off approach to correcting misinformation from water systems.

Other transparency requirements in the law have also fallen short. For instance, water systems, including those in violation of the SDWA, must report water quality data to their state agencies twice a year. But until 2024, states were only required to forward violation reports to the EPA, not the full underlying data showing the chemicals found in the water. In addition, agencies chronically underreported violations. Even more troubling, none of this information is readily accessible to the public outside the EPA’s “Safe Drinking Water Information System,” and even that online database is notoriously opaque, difficult to navigate, and often lacks meaningful details about the violations it does list.



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Submission Year is 2024 and Quarter is 3 and Primacy Agency in (NV) and Activity Status is A

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Primacy Agency Code	PWS Type Code	Submission Year	EPA Region Code	Submission Quarter	Primacy Agency	Primary Source Code	Primary Source	PWS ID	PWS Name	Submission Year Quarter	Season Begin Date	Season End Date	Activity Status Code	Deactivation Date	DBPR Schedule Category Code	CDS ID	GW or SW Code	LT2 Schedule Category Code	Owner Type Code	Population Served Count	Pop Cat 2 Code	Pop Cat 3 Code	Pop Cat 4 Code
NV	CWS	2024	09	3	Nevada	GW	Ground water	NV0000005	ALAMO SEWER AND WATER GID	2024Q3	-	-	A	-	-	-	GW	-	L	900	1	1	1
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¹⁷ NRDC et al., *Comments on EPA’s Proposed “National Primary Drinking Water Regulations: Consumer Confidence Report Rule Revisions”*, https://downloads.regulations.gov/EPA-HQ-OW-2022-0260-0113/attachment_1.pdf
¹⁸ NRDC, *What’s on Tap*, <https://www.nrdc.org/sites/default/files/washington.pdf>

¹⁹ EPA backtracks on water rule provision for ‘misleading’ language, *E&E News*, <https://www.eenews.net/articles/epa-backtracks-on-water-rule-provision-for-misleading-language/>

CASE STUDY: Navy Jet Fuel Taints O’ahu Drinking Water, Impacting 93,000 People

Kapilina Homes in O’ahu, Hawaii, at the mouth of Māmala Bay, appears to be an idyllic beachside community. Beneath the postcard-perfect exterior, however, residents have faced a toxic drinking water crisis for three years, exposing nearly every shortcoming of the SDWA. The crisis began in November 2021 when the U.S. Navy contaminated O’ahu’s water supply with jet fuel and PFAS, (also known as forever chemicals), from the Red Hill Bulk Fuel Storage Facility. Nearly 20,000 gallons of jet fuel spilled from a broken pipe at the Red Hill facility into the groundwater, just 100 feet below the tanks.

Mai Hall, a Native Hawaiian mother of two and an Air Force dependent living at Joint Base Pearl Harbor Hickam, trusted the military’s assurances that the tap water was safe. Meanwhile, her family was unknowingly drinking water laced with jet fuel, leading to lifelong health complications. “Why have a law claiming to ensure safe water if it allows our health and environment to be permanently damaged?” she asks.

Despite the spill being well documented, SDWA’s minimal requirements for source water contamination, and especially for groundwater, meant the jet fuel spread undetected through the island’s primary aquifer for several days.

The contaminated groundwater was as usual pumped through the Navy’s water distribution system, which serves 93,000 military and civilian residents. And there again, the contamination went undetected because the SDWA requires water systems to monitor only for expected contaminants, not novel chemical mixes like jet fuel. Plus the law lacks protocols for confirming when contamination has infiltrated a distribution system or ensuring proper remediation.

What is more, residents were left in the dark due to the SDWA’s limited public notice requirements. It wasn’t until people reported foul-smelling water, oily sheens, and illnesses—ranging from chemical burns to vomiting after showering—that state health officials acted.

Michelle Poppler, a civilian mother in Kapilina Beach Homes, witnessed firsthand the toll this disaster took. Living in housing marketed as luxury rentals, she now spends her days organizing bottled water exchanges to help neighbors offset the crippling costs of avoiding tap water. “Our lives have been turned upside down by this totally preventable disaster,” she says.

Three years later, the Navy’s reports claim compliance with all drinking water requirements and insists the water is safe to drink. Yet, residents like Michelle and Mai continue to suffer health issues from using Navy tap water and rely exclusively on bottled water for daily needs. They demand a permanent shutdown of the Red Hill facility, thorough cleanup of the aquifer, and access to clean water from a different source. So far, they have received little more than empty promises, questionable sampling and remediation efforts by the Navy.²⁰

Hawai’i’s water crisis underscores critical flaws in the SDWA. The law’s outdated monitoring, sampling, and reporting protocols leave it ill-equipped to handle contamination disasters, let alone the added pressures of climate change—ranging from wildfires and flooding to sea level rise. Without significant reform, the SDWA cannot adequately protect communities like Kapilina Homes from future water crises.

²⁰ *Technical Review Of Technical Memorandum: Joint Base Pearl Harbor-Hickam (JBPEHH) Water Distribution System (System): Lines of Evidence (LOEs) Regarding Total Petroleum Hydrocarbon (TPH) Detections during Long-Term Monitoring (LTM), prepared for Honolulu Board of Water Supply by Paul C. Winkler, Ph.D., 7/12/2024*

Enforcement and Accountability Shortcomings

Despite the critical importance of drinking water safeguards for public health, enforcement of the SDWA remains riddled with gaps. The law and its accompanying regulations rely on outdated, inefficient systems for transferring monitoring data between water systems, state agencies, and the EPA. This results in low-quality and often inaccurate reporting. Enforcement is further constrained by limited budgets and capacity at the federal and state levels, compounded by insufficient information about violations. For example, the most recent publicly available EPA audit of SDWA data found that 92 percent of lead violations recorded in state files were not reported to the EPA.²¹ With such a lack of enforcement, EPA and states provide little necessary incentive for water systems to comply with SDWA laws and regulations.

Weak monitoring requirements, inconsistent reporting, and limited oversight create opportunities for violations and contamination to be downplayed.

Public accountability is further weakened by the lack of accessible information on drinking water violations. Determining whether a local water system has violations—and if those violations are health-related, reporting-based, or monitoring-based—is nearly impossible without filing a burdensome Freedom of Information Act request, a process that can take months or years, though drinking water contamination may be ongoing.

The lack of effective enforcement also allows water systems to manipulate sampling practices to produce misleading results. Weak monitoring requirements, inconsistent reporting, and limited oversight create opportunities for violations and contamination to be downplayed. These enforcement and accountability gaps leave communities vulnerable, with few tools to ensure water systems meet their legal and ethical obligations.

The Protections We Deserve

People across the country, regardless of background or political affiliation, care deeply about safe drinking water. Families in rural and urban areas alike face recurring water crises, and they deserve a modernized SDWA that is protective, adaptable, and effective. A revamped SDWA should include a streamlined process for regulating new toxic chemicals, require advanced monitoring and sampling based on modern technology, eliminate gaps in monitoring and sampling protocols, thoroughly improve transparency and education requirements, and have robust federal funding—at least \$20 billion annually to address the scale of the problem.

Unfortunately, there is a growing disconnect between public demand for safe water and the actions of elected officials. While constituents overwhelmingly support stronger protections,²² many lawmakers complain about the cost of regulation, or use it as an excuse to gut water safeguards, ignoring the devastating health costs communities already bear due to contaminated water.²³ This disconnect could worsen, as recent water-related rules and protections may face rollbacks during the incoming Trump administrations, which in its first term severely gutted water safeguards.

While Congress must find the political will to update the SDWA and allocate the necessary funding, the EPA has a critical role to play now. Using its existing authority, the EPA must go on with accelerating the removal of lead service lines, modernize public education requirements for water contaminants, prioritize enforcement in communities most at risk, and improve transparency by making federal and state water quality data easily accessible.

With over 50,000 water systems across the U.S., state agencies cannot ensure drinking water safety on their own. A strong federal presence is essential to act as a backstop and protect public health—not to retreat in favor of weaker safeguards, and corporate interests.

²¹ EPA Office of Water, 2006 Drinking Water Data Reliability Analysis and Action Plan, EPA 816-R-07-010, March 2008, <https://bit.ly/2YAfo1U>

²² Climate Nexus, National voter poll on water access, affordability, and safety, <https://climatenexus.org/poll/national-voter-poll-on-water-access-affordability-and-safety/>

²³ Regulations reducing lead and copper contamination in drinking water generate \$9 billion of health benefits per year, according to new analysis, <https://www.hsph.harvard.edu/news/press-releases/regulations-reducing-lead-and-copper-contamination-in-drinking-water-generate-9-billion-of-health-benefits-per-year-according-to-new-analysis/>