Unlocking Better Water: The Power of System Consolidation

The fragmented nature of our water grid increases costs and water quality challenges. Consolidation should be part of the solution – and water companies can help.

A fundamental driver of America's water quality, infrastructure and affordability challenges is the severe fragmentation of our water grid. While the United States has 3,300 electric utilities, we have nearly 50,000 individual community water systems, with more than half serving just a few hundred customers. This fragmentation leads to a lack of operational expertise and investment capacity, cost inefficiencies, and other issues that drive poor outcomes for customers.

A significant benefit of consolidation is higher quality water and more efficient operations. Studies have consistently shown larger utility organizations have fewer water quality violations and lower costs than smaller systems.

Decreasing the number of water systems and building larger, stronger utilities is key to a more just and equitable water future where every American household has access to high quality water that they can afford.

> Virtually every aspect of America's water sector is worse because there are so many systems. Reducing the number of water and sewer utilities through consolidation is the single best thing we can do to improve water utilities in the United States.
>
> *Manny Teodoro, University of Wisconsin*

Experts agree that addressing water grid fragmentation through consolidation will improve outcomes for customers: Brookings Institution; Natural Resources Defense Council; Bipartisan Policy Center; U.S. Water Alliance; CoBank's Knowledge Exchange Division; Public Policy Institute of California; Environmental Policy Innovation Center; RAND Corporation; University of North Carolina Environmental Finance Center

Larger systems have fewer water quality violations.

> "In the United States, small drinking water systems disproportionately violate the Safe Drinking Water Act at a rate of more than 13 to one compared to large systems. As a result, millions of U.S. residents, particularly black, brown, indigenous, rural, and poor residents, lack access to safe and affordable drinking water. These facts underscore the unique challenges that small water systems face in achieving and maintaining regulatory compliance and the necessity of addressing them if we are to advance social and environmental equity."
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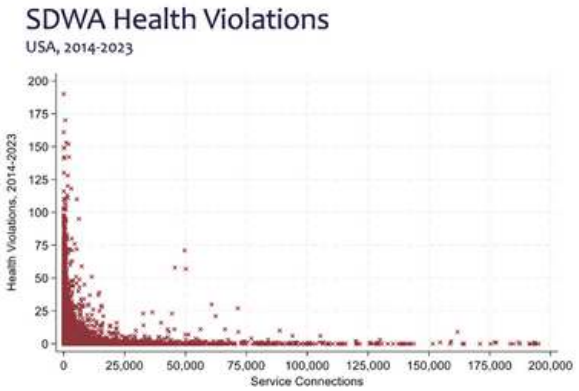
> *Kristin Dobbin, University of California Berkeley*



Source: Teodoro, March 2025

"Smaller systems have higher numbers of annual health violations, with almost 26% of systems with a service population under 500 having violations, compared to 17% of systems with a service population greater than 100,000."
Water Finance & Management

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TRUTH FROM THE TAP

Larger systems have fewer water quality violations.

Small systems face unique challenges

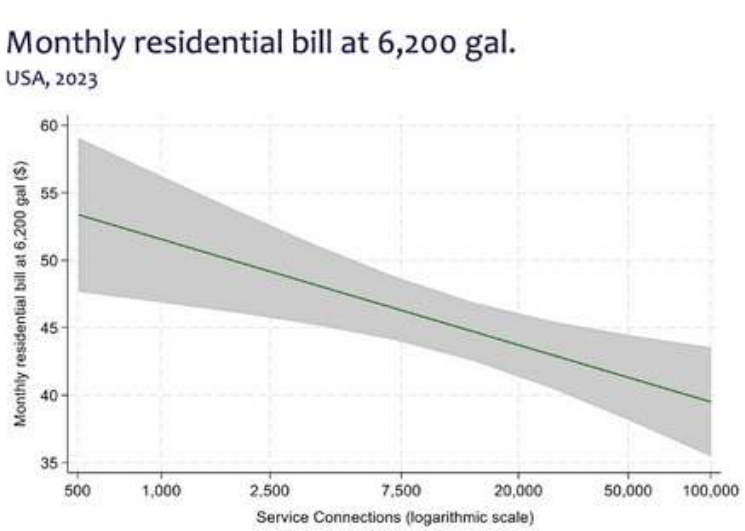
- Limited access to financial and technical expertise
- Limited access to capital for infrastructure investments
- Operational inefficiencies and higher costs
- Less purchasing power
- Aging workforce

EPA data shows that smaller drinking water systems in the U.S. experience significantly more Safe Drinking Water Act (SDWA) violations than their larger counterparts. This difference in compliance rates means that millions of people, particularly in marginalized and rural communities, do not have reliable access to safe and affordable drinking water. Consolidation can help achieve more equitable access to clean drinking water by addressing the unique challenges many small systems face.

A landmark national study of 34 years of Safe Drinking Water Act compliance found: "Violation incidence in rural areas is substantially higher than in urbanized areas" and the "highest predicted probability of a [health-related SDWA] violation" occurs at "small, rural community water systems relying on surface water sources."
Allaire, Wu and Lall in the Proceedings of the National Academy of Sciences

Larger systems have lower costs.

Studies have consistently shown that larger water systems generally have lower water service costs. The cost efficiency in larger systems stems from their ability to spread fixed costs across a larger customer base, access capital more readily and better manage revenue fluctuations, all of which contribute to more affordable water for consumers.



Source: Teodoro, March 2025

"Water is more expensive in small systems. Small systems pay more for capital, they have fewer customers to share the fixed costs, and they're more vulnerable to revenue fluctuations, which limits their flexibility in rate design."
Manny Teodoro, University of Wisconsin

"[Our analysis finds] that larger communities tend to have lower basic water service costs, likely due to economies of scale and capacity associated with operating and maintaining the needed infrastructure. Population size has the largest effect on the cost of basic drinking water services, with a 25% decrease in cost between the smallest and largest cities in our dataset."
Hughes, Kirchhoff, Lee and Switzer in AWWA Water Science

Regulated, private water companies can help.

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1. **Have an unparalleled water quality compliance record:** Multiple studies of EPA data have found that water companies have a superior drinking water quality record. A landmark 2018 study published in the Proceedings of the National Academy of Sciences found that systems run by water companies are significantly less likely to violate federal drinking water standards compared to systems run by local governments.

2. **Enable urgent capital investments in infrastructure:** The 15 largest water companies in the United States collectively invested more than $6 billion in community water systems in 2024. These are dollars coming from the private sector and not out of a municipal budget.

3. **Are strictly regulated, enhancing transparency and consumer protection:** State public utility commissions set water rates, audit expenditures and approve investment plans for water companies. These expert regulators ensure safe water is delivered to customers at the lowest possible cost.

4. **Put workers first:** Water company employees have a 37.1% lower illness and injury rate compared to municipal water system employees. When acquiring a system, water companies tap into existing workforce talent, protect union jobs and offer access to job training and advancement opportunities.

5. **Provide access to new technologies that lower costs and improve service:** Technologies enable more effective, cost efficient and environmentally responsible water treatment, while providing metrics to ensure safe and resilient services.

6. A**re active, engaged members of the communities they serve:** Water company employees donate to important local causes, meet routinely with local officials and environmental groups and live in the communities they serve.

SOURCES: Brookings Institution, "Water systems everywhere, a lot of pipes to fix" July 2015; Brookings Institution, "America's Fragmented Water Systems" October 2014; Natural Resources Defense Council, "Watered Down Justice" September 2019; Bipartisan Policy Center, "Stretching Water Dollars Further" January 2018; U.S. Water Alliance, "Utility Strengthening through Consolidation: A Briefing Paper" 2023; CoBank, "Consolidation of Rural Water Systems Prompts Industry Dialogue" October 2017; Public Policy Institute of California, "Connecting Water Systems for Safe Drinking Water" August 2018; Environmental Policy Innovation Center, "U.S. Water Systems Are Consolidating Slower than Needed to Improve Public Health Outcomes" August 2021; RAND Corporation, "How to Ensure Quality Drinking Water Service for All? One Option Is Fewer Utilities" March 2019; UNC Environmental Finance Center, "Small Water Systems with Financial Difficulties are More Likely to Violate EPA Regulations" January 2015; California Institute for Water Resources, "Leveraging Water System Consolidations to Advance Equity and Resilience" 2025; Allaire, Wu and Lall, "National trends in drinking water quality violations" January 2018; Water Finance & Management, "Small Water Systems Face Big Financial Challenges" October 2017; Manny Teodoro, "Grow to Shrink, Shrink to Grow" June 2019; Manny Teodoro, "The Plan" October 2019; Manny Teodoro, "The Sweet Spot" November 2021; Hughes, Kirchhoff, Lee and Switzer, "Understanding the Cost of Basic Drinking Water Services in the United States: A National Assessment" December 2024; Indiana Finance Authority, "Evaluation of Indiana's Water Utilities" November 2016; Konisky and Teodoro, "When Governments Regulate Governments" November 2014; American Water Intelligence, "Investor-Owned Water Firms Boast Sterling SDWA Record" October 2011; Annual reports and 10-K filings for 15 private water companies with figures confirmed directly by companies as needed; NAICS 2213: Water, sewage, and other systems, Bureau of Labor Statistics Injury and Illness Incidence Rates, 2014-2023