



Drinking water Summer 2026

Water, community, and the governance we owe future generations.

By: Liz Kirkwood





ABOUT THE AUTHOR.

Liz Kirkwood is Executive Director of Flow Water Advocates. This document was adapted from her keynote speech delivered at the 2026 Great Lakes Drinking Water Conference host by the Michigan Department of Environment, Great Lakes and Energy (EGLE) hosted and held on May 20-21, 2026 in Traverse City, Mich.

Part One: Water systems are the backbone of our society.

Water is the foundation of human health, economic vitality, and democratic society. Water is not a commodity. It is a human right. And the systems we've built to deliver that right are extraordinary — and under strain. Nationwide, there are approximately 148,000 community drinking water systems. In Michigan alone, there are roughly 1,400 community water systems and 10,000 non-community water systems, serving 75 percent of residents. And

Michigan sits at the center of the Great Lakes with 20 percent of the planet's fresh surface water. That comes with stewardship obligations that are unlike anywhere else on Earth.

Water infrastructure is also an economic engine. Every \$1 million invested generates \$2.5 million in economic output and 10 jobs that cannot be outsourced. But we are not investing enough. The US Water Alliance projects nearly \$3.5 trillion in capital needs over the next 20 years. The American Society of Civil Engineers (ASCE) found that the investment gap in the next 20 years will more than double. We can pay now. Or we can pay much more later — in dollars, and in lives.

COVER:

Aerial view of Waukesha's new water infrastructure system, part of the city's transition to a sustainable Great Lakes water supply. **Photo credit:** CD Smith Construction.

RIGHT:

The Cuyahoga River was once one of the most polluted rivers in the U.S., and it has caught fire a total of 13 times dating back to 1868, including this blaze in 1952, which later led to the creation of the Clean Water Act of 1972. **Photo credit:** Cleveland State University Library.

Clean water's historic impact on humanity.

In 1900, the average American life expectancy was 47 years. Today it approaches 79. Public health researchers attribute the largest single share of that gain to one thing: clean water. Economists Cutler and Miller estimated that investments in urban water systems between 1900 and 1940 produced a social return of \$23 for every dollar spent. Clean water reduced infant mortality. It stopped typhoid. It defeated cholera.

The people who built those systems — engineers, operators, sanitation workers, and local and state officials like you — did not get statues or parades. But they delivered the greatest public health achievement in human history.

By the early 20th century, filtration and chlorination had transformed urban health. Then came the legislative milestones: the Clean Water Act of 1972, the Safe Drinking Water Act of 1974, and federal investment that at its peak covered 75 percent of municipal water and wastewater capital costs.¹ That era of federal partnership built much of what we still depend on today.

\$1:23

Investments in urban water systems between 1900 and 1940 produced a social return of \$23 for every dollar spent.²



The 21st Century Challenge: Make the invisible visible.

But the infrastructure that added decades to our life expectancy is aging faster than we are replacing it. And the new century has brought threats our predecessors could not have imagined — lead in schools, PFAS in groundwater, boil water advisories lasting years. Flint, Newark, Jackson — these are not isolated failures. They are symptoms of systems pushed past their limits. The public senses it. A 2024 poll found 96 percent of voters say protecting drinking water is important, and 80 percent are concerned about policies that weaken the Clean Water Act.² The problem is not apathy. It is invisibility.

RIGHT:

Modern water supply and sewerage system.



96%

96 percent of voters say that protecting drinking water is important.

How contaminants cycle through the watershed.

Most people have little idea about what it takes to deliver safe water to a tap. They flip the faucet. Water comes out. But that water began as rainfall, moved through soil and wetlands, traveled a watershed, and may have encountered source water threats from farm field runoff, a failing septic system, a degraded wetland or urban stormwater — long before it reached a treatment plant. A utility that only watches its treatment plant is watching the last line of defense while ignoring everything upstream. A resilient system protects every stage of that journey — from the first raindrop to the last mile of pipe.

75%

75 percent of Michigan residents get their drinking water from public water systems.

Our charge then is to close that gap. Make the invisible visible. Scholars Laura Morales and Manuel Teodoro capture the paradox perfectly: “Delivering water safely, affordably, and sustainably is a technically complex, capital-intensive endeavor that demands specialized expertise, significant scale, and policy continuity beyond election cycles. At the same time, decisions about water are intensely intimate and tangible for citizens.”³

In short, the system requires expert, long-horizon governance. But it belongs to everyone. That tension is not a problem to be solved. It is the work of building resilience — not just in pipes and treatment plants, but in public understanding, public trust, and public will.



RIGHT:

Advocates and community leaders gather in Detroit to continue the fight for equitable, affordable access to clean water through a coalition supported by the Detroit Regional Food Fund grant. **Photo credit:** WayneMetro.org

Part Two: The challenges facing public water systems.

So what threats do our invisible, interconnected systems actually face? I see seven converging challenges. Any one alone would be serious. Together, they are a perfect storm, starting with aging Infrastructure.

1. Aging infrastructure: The average water main was installed in the 1950s and 60s, and ASCE's 2025 Report Card gave drinking water a C-minus

and identified \$625 billion in needs over the next 20 years.⁴ The result: every two minutes, a water main breaks somewhere in this country.

Earlier this month, Governor Whitmer declared a state of emergency when a 42-inch water main serving 10,000 Metro Detroit families ruptured — causing outages, boil water advisories, and flooded streets across Auburn Hills, Pontiac, Rochester Hills, and neighboring communities. Such failures are the predictable consequence of decades of underinvestment and repair in aging infrastructure.

\$625B

ASCE's 2025 Report Card identified \$625 billion to repair aging infrastructure over the next 20 years in the US.

2. Affordability. Water rates have outpaced inflation for years. The EPA's affordability benchmark is 3 to 4.5 percent of household income, yet up to 11 percent of Michigan households spend over 5 percent of their income on water and sewer bills.⁵ Affordability and equity are inseparable — and the most financially stable utilities have learned that working proactively with their communities to keep customers connected is foundational to a resilient water system. The affordability problem is intensifying. Data centers and other emerging large-scale users are arriving in communities already stretched thin, drawing on systems designed for a different era — with few regulatory guardrails to protect local water supplies or ratepayer affordability.

3. Inadequate federal funding: Where Washington once covered 75 cents of every water infrastructure dollar, states, municipalities, and ratepayers now cover more than 90 percent.⁶ That retreat hits particularly hard in small rural communities like Beulah, Michigan — where a shrinking tax base and declining population mean there simply aren't enough ratepayers to finance capital projects that cost millions.

70K

Under Governor Whitmer, Michigan has invested \$6.4 billion in water infrastructure, replacing nearly 70,000 service lines.

The Bipartisan Infrastructure Law marked the most significant federal reinvestment in a generation, with Michigan receiving over \$700 million for water infrastructure projects — but that funding is winding down.⁷ And this month, the federal administration proposed slashing the Clean Water and Drinking Water SRF programs by 90 percent in next year's budget. We cannot build resilient infrastructure on an anemic and unpredictable funding model.

Michigan has not waited for Washington. Under Governor Whitmer's leadership, Michigan has invested \$6.4 billion in water infrastructure since 2019 — supporting nearly 100,000 jobs, replacing almost 70,000 lead service lines, upgrading treatment plants, reducing PFAS contamination, and creating a dedicated Office of the Clean Water Public Advocate. But the Oakland County water main is a stark reminder of how much work remains. State leadership is essential. Federal funding is too.

4. Emerging contaminants: New emerging contaminants such as PFAS, lead, nitrates, microplastics, harmful algal blooms, pharmaceuticals are all linked to cancers, developmental harm in children, reproductive damage, and the degradation of the ecosystems on which we depend.

For the smallest systems, the cost of treatment can be existential. The technologies required to detect, remove, and treat these contaminants are sophisticated, resource-intensive, and increasingly expensive. The most fiscally responsible strategy — and the most health-protective — is to keep these contaminants out of source water in the first place.

In Michigan, agricultural nonpoint source pollution or nitrate runoff from fertilizers, manure, and tile drainage, is among the most pervasive threats to our source water. In contrast to a regulated discharge pipe, nonpoint source pollution arrives diffusely, seasonally, and across entire watersheds. Addressing this pollution requires the same collaborative, watershed-based thinking we're advocating for everywhere else — regulatory and voluntary conservation practices, enforcement, and honest and productive conversations with the agricultural community about shared responsibility for our shared water.

LEFT:

Close-up side shot of hands shows microplastic waste contaminated with the beach sand.

RIGHT:

A wetland area experiencing an algal bloom.



1/3

Nearly one third of water sector employees are over the age of 55, where as only 4.5 percent are under the age of 25.

5. Climate disruption: Our infrastructure was built for the hydrology of the past. The Traverse City flooding and the Midland dam failures showed how fast interconnected systems can work or fail. Climate resilience is no longer a separate planning exercise — it must be the lens through which every infrastructure decision is made. A pipe sized for yesterday's rainfall will fail in tomorrow's storm.

6. Workforce and cybersecurity. We face a generational transition as nearly a third of water sector employees are over age 55. Only 4.5 percent are under the age of 25. A resilient system is not just resilient pipes — it is resilient people. A career in water is one of the most intellectually rich and socially meaningful professions because it combines environmental science, public health, engineering, community engagement, and public policy, along with genuine job security in a volatile economy. We need to tell that story loudly to this next generation. And the cyber threat is real and growing — in 2021, an attacker accessed a Florida treatment plant and tried to spike chemical levels to dangerous concentrations.



RIGHT:

Tank or reservoir for biological purification and cleaning of dirty sewage water by active sludge.



7. Privatization. Nine out of ten Americans still receive water from a public utility. But private acquisition is accelerating as public systems struggle. The research is consistent: privatization raises rates by up to 59 percent, reduces affordability, and limits public accountability. And once a public system is sold, getting it back is extraordinarily difficult. The best protection against privatization is exactly what we're here to build: a well-funded, well-governed, trusted, and resilient public system.

Seven challenges, none of which is insurmountable. Let me tell you what we do about it.

Part Three: Ensuring safe, affordable water for all.

Michigan cannot and will not wait for a perfect policy environment. Utilities, agencies, nonprofits, watershed councils, and local governments are already building the architecture of a more resilient, equitable

system. Our work is to accelerate and connect what's already happening. As Bill McKibben said of climate solutions, it is also true of water: there are no silver bullets, only silver buckshot.

There are three pieces of legislation that together address three of our most urgent challenges — funding, affordability, and source water protection.

\$300M

The Michigan Water Trust Fund Act is estimated to generate \$300M annually for to be spent on water infrastructure upgrades and repairs.

1. Invest — Fund Water Infrastructure (Michigan Water Trust Fund)

The most foundational thing we can do is establish reliable, dedicated, and sustained funding for water infrastructure. Senate Bills 950 and 951 — introduced by Senator Sam Singh in May 2026 — represent exactly that vision: a Michigan Water Trust Fund providing consistent, dedicated state funding for water and wastewater infrastructure, not subject to the annual appropriations roller coaster, and not dependent on the shifting winds of federal politics. Flow Water Advocates authored an early version of this legislation years ago, in the wake of the 2016 Flint lead crisis, the Detroit water shutoffs, and the Nestle water withdrawal.

Modeled after the successful Natural Resource Trust Fund, this legislation reaffirms Michigan's waters as a public resource. It establishes a 25-cent-per-gallon royalty paid by bottled water companies that extract and sell Michigan's public water, and creates a water trust fund. The royalty is estimated to generate \$300 million annually for the trust fund to support water infrastructure, emergency responses, lead service line replacement, well water testing, septic system oversight, and water affordability programs⁸

This model offers certainty. It allows communities to plan. It signals that Michigan treats water as a fundamental public good — not an optional budget line item. And crucially, it reaches the small communities that struggle most to access revolving fund loans because they lack engineering capacity or creditworthiness.

300K

Approximately 300,000 Michigan households struggle to pay their water bills.

2. Protect Families — Water Affordability (Senate Bills 248–255 and 915)

Infrastructure only works if people can afford to use it. Approximately 300,000 Michigan households — urban, suburban, and rural — struggle to afford water. The cost of water services has risen at nearly triple the rate of inflation. Where unpaid bills end up on tax rolls, families can lose their homes over a water debt. This is not just a utility problem, but a public health and housing crisis too. Bipartisan legislation led by Senator Stephanie Chang would create Michigan's first statewide water affordability program.⁹ The bills cap water costs at 3 percent of household income for qualifying families, funded by a modest \$1.25-per-month fee on each metered water account. They establish the nation's strongest statewide shutoff protections for low-income customers and those with medical dependencies.

As of writing this, the Michigan Senate has included \$10 million for water affordability in its FY2027 budget. Now it is up to the House — and that is where your advocacy matters.

25%

25 percent of Michigan's 1.3 million onsite septic systems are failing or near failure.

3. Protect Source Water and Build Resilience (Uniform Septic Code)

Michigan, astonishingly, is the only state in the nation without a statewide uniform septic code. An estimated 25 percent of our 1.3 million onsite septic systems are failing or near failure — discharging untreated wastewater into the groundwater and surface water that feeds our drinking water intakes.

Senate Bill 771¹⁰ would establish Michigan's first-ever statewide framework for septic oversight with uniform standards, periodic inspections, priority given to high-risk systems near surface water, and real authority for local health departments to protect public health. The law establishes a Technical Advisory Committee of highly qualified experts, including local health officials, engineers, soil scientists, and environmental organizations, to guide EGLE in developing rules and performance standards. This is not radical. It is what 49 other states already do. Michigan's failure to act is an abdication of the Public Trust Doctrine. And our neighbors are drinking the consequences. Source water is where resilience begins.

What's similar about all three legislative efforts is that they are the result of years of stakeholder collaboration, innovation, and compromise. We must work to champion and pass these bills. We must also continue advocating for federal programs — Source Water Protection grants, WIFIA, the Great Lakes Restoration Initiative, and many others — while opposing the federal administration's proposed 90% cuts to State Revolving Funds.

RIGHT:

Vacuum truck pumping septic tank during routine maintenance.





National models and the path forward.

Michigan is not alone in building what's next. Philadelphia leads on green stormwater infrastructure. Milwaukee has made water innovation an economic development strategy. New Jersey utilities protect watershed lands upstream because healthy forests reduce treatment costs downstream. And California and Ohio have made regionalization a centerpiece of their rural water strategy — allowing small utilities to share engineering capacity and spread capital costs in ways no single small system can manage alone. Right here in Michigan, Holland BPW¹¹ has earned national recognition as a Utility of the Future Today — proof that a well-governed public utility can be a model. These examples converge on one conclusion: the future of water management is collaborative, preventative, regional, and watershed-based. But none of it takes hold without governance structures built for the century we're in.

RIGHT: Aging pipes and deferred maintenance increase the risk of leaks, contamination, and costly repairs, underscoring the need for sustained investment in safe, reliable water systems. **Photo credit:** Multipure.com



Part Four: The profound need for a governance shift.

The governance structures, laws, and financing models we've inherited were built for a different era and are long overdue for transformation. There are core principles that should guide that transformation, and one word that holds all of them together: Trustee.

Not owner. Not vendor. Not regulator. Trustee.

Enshrined in Michigan's constitution and statutes, the Public Trust Doctrine holds that certain natural resources — water chief among them — are held in trust by government for the benefit of the public in perpetuity. Every person in a utility office, a regulatory agency, and on a city council is a trustee. As the Michigan Supreme Court has declared, trustees have a "high, solemn, and perpetual duty" to protect water not just for today's ratepayers, but for future generations.¹² When we govern from this posture, six things follow naturally.

1. Water is a human right, and access must be universal.

First: water is a human right, and access must be universal. Every decision must ask and answer: who benefits and who bears the burden? Rate structures that force low-income families to choose between water and food are a trusteeship failure. As trustees, we must direct capital investment toward the most underserved communities first. The Great Lakes Basin contains communities of enormous wealth, and communities whose water systems cannot meet the Safe Drinking Water Act standards.¹³ That gap is not acceptable. Michigan's earmarking of lead service line funds for overburdened communities is a step in the right direction — but just the beginning. We need equity embedded in every capital improvement process, every rate-setting proceeding, and every source water protection plan so that every person, no matter who they are or where they live, has access to safe, clean, and affordable water. Period.

2. Trustees manage at the watershed scale.

We know that water has no jurisdictional lines and that climate change is only amplifying this. Drinking water, wastewater, stormwater, groundwater — they are one system. "One Water" governance means planning and investing across all of them together, and ending the bureaucratic siloing that costs us time, money, and public health. Good stewardship means seeing far ahead: monitoring today, modeling what's coming, building capital plans measured in decades, not years.

And in the Great Lakes basin, watershed-scale governance must include the sovereign Anishinaabe nations who stewarded these waters long before our regulatory frameworks existed. They are not stakeholders to be consulted. They are co-stewards with legal standing and traditional ecological knowledge that our governance systems need.

RIGHT:

A 'Water is a human right!' demonstration in Detroit in 2015. Photo credit: Detroit Water Brigade.



3. Trustees apply the precautionary principle.

When you're not sure a pipe is stable, you act before failure. When you're not sure a contaminant is safe, you protect first and verify later. Traverse City didn't wait for the dam to fail — and that decision saved the downtown from eight feet of flood waters and 1.5 million gallons of daily sewage entering the bay when historic flooding arrived in April 2026. Proactive governance isn't a cost. It's an investment that pays for itself. The alternative is tragedies like the ones we saw in Flint and Jackson. The cost of waiting is always higher than the cost of acting.

4. Investment must be sustained, year after year.

Every dollar of deferred water infrastructure investment costs four dollars in emergency repair and societal harm later. A responsible trustee does not defer maintenance on something held in trust. Modern tools — including AI-assisted predictive maintenance, advanced metering that detects leaks in real time, digital asset management to help plan long-term capital programs, source water monitoring that gives operators days of warning instead of hours — these are powerful multipliers, and the utilities in this room deploying them are spending less and protecting more. But technology does not fix an eighty-year-old pipe. Innovation and investment must work hand in hand, and draw on new revenue funding streams. We must sustain and build on Michigan's momentum and commitment to investing in our water infrastructure, regardless of the election cycle.



5. A trustee earns trust.

Communities that lose faith in their water lose faith in government itself. Flint didn't just poison children. It devastated democratic trust in ways that may never fully heal. Public trust is the foundation on which everything else is built. It is earned through transparency, education, and making the invisible visible. Utilities that protect low-income households, communicate openly, and deliver safe water every day earn the public support that makes everything else possible: even rate increases, bond measures, and long-term investment. And Michigan's Office of the Clean Water Public Advocate — one of the only offices of its kind in the country — represents a meaningful commitment to keeping government accountable to the public it serves.

90%

The proposed cuts to the Clean Water and Drinking water SRF programs total 90 percent and pose direct threats to our communities.

6. Trusteeship requires political leaders at every level to act like trustees too.

Long-term water security must be championed even when it's expensive, contested, or invisible to the public. The Michigan Water Trust Fund is a model for what that commitment looks like — dedicated, sustained, independent of the appropriations cycle. Governor Whitmer said it plainly in her Drinking Water Week proclamation this month: "Safe and affordable drinking water is essential to public health, economic vitality, and quality of life." That is a trustee speaking. And the proposed 90 percent cut to the Clean Water and Drinking Water SRF programs is the opposite — a direct threat to every community in this region. A trustee does not walk away from infrastructure held in trust. We should say so, loudly and without apology.

RIGHT:

Bottled water pallets stacked in warehouse aisle.



These six principles — equity, integration, precaution, investment, public trust, and political leadership — are not aspirational. They are achievable. And together, they are the architecture of resilience. Communities across the Great Lakes region are doing pieces of this right now. Our job is to accelerate and systematize what's working, and build the governance architecture that makes it last.

That is the shift we need. Not a new department or acronym. A new framework — grounded in the understanding that water is held in trust, that trustees have obligations, and that those obligations run to every community, every generation, and every drop. And that is what future generations are counting on us to deliver.

RIGHT: Hundreds of luminaries illuminate the words “We Are Water” along the shore of Lake Michigan during a community celebration in Milwaukee. The event brought together residents, artists, and advocates to honor freshwater, reflect on humanity’s connection to water, and inspire stewardship of the Great Lakes and other shared waters. **Photo credit:** WUWM 89.7 FM Milwaukee.



Call to action: Water is a uniter of people.

Water unites all of us. It does not care about party registration. It does not know zip codes. It flows across political boundaries and every category we use to divide ourselves. Clean water from a tap is one of the most profound daily expressions of a

high-functioning society — of people deciding, together, to take care of one another.

At a time when public institutions face deep skepticism, water systems are among the clearest demonstrations that public investment works. That collective action saves lives. That the invisible infrastructure of civilization is worth paying for.

The choice is clear: We can continue deferring, reacting, and hoping the crisis doesn’t come on our watch. Or we can choose the path of proactive governance, sustained investment, and equitable stewardship — the path that Traverse City chose when it decided to replace the dam before it failed. And Traverse City is not alone. Many communities are wisely choosing a path that is proactive, complex, smart, and yes, costly. But the cost of inaction is much greater.

Because safe water is not the past we inherited. It is the future we choose.

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Flow Water Advocates is an independent 501(c)(3) nonprofit. Our mission is to ensure the waters of the Great Lakes Basin are healthy, public, and protected for all. With a staff of legal and policy experts, strategic communicators, and community builders, Flow Water Advocates is a trusted resource. We help communities, businesses, agencies, and legislators make informed policy decisions, and protect public trust rights to water.

Learn more at FlowWaterAdvocates.org

223 Lake Avenue, Suite B,
Traverse City, MI 48684

info@flowforwater.org
231.944.1568



@Flow.Water.Advocates



@FlowWaterAdvocates



@Flowtc.bsky.social



@FlowWaterAdvocates

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