



Advance regional collaboration on water management.

This is one in a series of policy briefs that comprise the One Water for America Policy Framework.

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America's water supplies and services are at risk. Climate change, growing income disparities, and the threats posed by our aging water infrastructure call into question the continued availability of safe water supplies and reliable, affordable water service. In light of these challenges, we must come together and create a new era of water management in America—one that secures economic, environmental, and community wellbeing.

To that end, the US Water Alliance worked with more than 40 partner organizations to host 15 One Water for America Listening Sessions across the country. These discussions engaged more than 500 leaders, including water utility managers, public officials, business executives, farmers, environmental and watershed advocates, community leaders, philanthropic organizations, planners, and researchers.





What we heard from these stakeholders was truly inspiring. Across the nation, people from all walks of life are collaborating and innovating to advance sustainable water management solutions. Now is the time to spread and scale up these successes to benefit more communities across the country. In these seven policy briefs, we have compiled the strongest, most consistent themes from the One Water for America Listening Sessions into seven big ideas for the sustainable management of water in the United States:

- 1. Advance regional collaboration on water management
- 2. Accelerate agriculture-utility partnerships to improve water quality
- 3. Sustain adequate funding for water infrastructure
- 4. Blend public and private expertise and investment to address water infrastructure needs
- 5. Redefine affordability for the 21st century
- 6. Reduce lead risks, and embrace the mission of protecting public health
- 7. Accelerate technology adoption to build efficiency and improve water service

Each of these policy briefs digs further into one of these big ideas—exploring the key issues behind it; presenting policy solutions that are working at the local, regional, state, and national levels; and providing real world examples of how these solutions *are* being implemented and *do* produce positive results.

The One Water for America Policy Framework is a clarion call to action to accelerate solutions for the water management problems of our age. In doing so, we secure a brighter future for all.



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Context

While water knows no boundaries, the system of how we manage water is siloed. As the United States grew, local governments arose in varying forms, sizes, and authorities, alongside evolving state and federal government structures. One result of this organic, unsystematic development of government structures is the high level of fragmentation in our water systems. Across the nation, there are more than 51,000 community water systems¹ and nearly 15,000 wastewater treatment plants.² More than 80 percent of our water systems serve fewer than 3,330 people, and 55 percent serve fewer than 500.3 By contrast, there are approximately 3,000 electricity providers. Thousands of distinct municipalities, authorities, private businesses, and regulatory agencies have narrow slices of authority over some aspect of water—drinking water, wastewater, stormwater, groundwater, irrigation, and more. Our regulatory frameworks at the local, state, and federal levels reflect and reinforce this fragmentation.

One of the most robust and urgent threads of discussion across the One Water for America Listening Sessions was how this fragmentation can be overcome. There was a shared desire to drive toward better outcomes in water service, protection of natural resources, economic prosperity, and social equity.

This section of the brief describes some of the key issues related to regional collaboration, followed by a section that presents solutions that can be advanced at the local, regional, state, and national levels. What we heard was truly inspiring—innovative leaders are advancing more collaborative approaches such as watershed-scale planning, coordinating services to better operate and maintain infrastructure assets, consolidating utility service, and much more.

Key Issue:

Supporting coordination and shared services

Despite the hyper-fragmentation of our water systems in the United States, necessity is driving communities to collaborate with their neighbors on water management. Resource coordination and solution sharing provide significant benefits for utilities within a region in areas as diverse as workforce training, water resource management, disaster preparedness, and purchasing (where a group of utilities can enjoy greater buying power than one utility alone). Some regions are leveraging excess utility capacity to serve neighboring communities versus building more infrastructure. Policymakers at all levels of government can encourage collaboration by creating an enabling environment for dialogue and problem solving.

Key Issue:

Reforming governance structures of utilities

Solving today's complex water challenges requires breaking away from established practices and exploring new business and governance models that can help utilities improve service and efficiency. In some communities, existing governance models may present barriers to regional collaboration and efficient, effective utility operations. For example, complex municipal employment and procurement practices can build inefficiency into utility operations. Large governing boards can make decision-making a challenge, injecting political priorities that are sometimes at odds with effective utility management.

Attempts to change utility governance models can involve drawn-out, politically charged struggles, but the outcomes can be worth the effort. In some communities, alternative governance structures have been designed to better suit the specific needs of water utilities, and they have helped to professionalize workforces, improve bond ratings, and enhance stakeholder collaboration. It is critically important to keep safeguards in place to ensure appropriate representation for all stakeholders, including vulnerable populations.

Key Issue:

Expanding watershed-scale thinking and action

The One Water approach recognizes that water is best managed in ways that respect and respond to watersheds and natural ecosystems, geology, and hydrology. It is within the context of a watershed that communities either have too much water, too little water, or poor quality water. It is within the watershed context that communities must reconcile their water demands with the need to sustain the resource for future generations. Watershed-level management brings together regional partners from within and beyond the water sector in joint planning and collaborative action to protect the shared natural resource that is essential for health, agriculture, industry, aquatic species, forests, wildlife, recreation, and life itself.

In some cases, communities are reluctant to pursue watershed-level planning because it calls for engaging a broad range of stakeholders who may have different expertise, priorities, and ways of working. It can be difficult to bring together all who influence water resources, but in the long run, it can lead to more sustainable outcomes.

Key Issue:

Meeting the needs of the most challenged systems

Some US cities have shrunk dramatically from historic population levels. Between 1980 and 2010, more than 20 cities in the Midwest, Northeast, and South-from Niagara Falls, NY to Gary, IN to Birmingham, AL—lost at least 20 percent of their population. In October 2016, the US General Accounting Office released a report highlighting the challenges that shrinking cities face in meeting water infrastructure needs. 5 Many have high spending needs to address aging infrastructure, combined sewer overflows, and a high concentration of lead service lines. Some face the additional challenge of downsizing systems to fit lower demands. Yet, with declining tax bases, these cities—some with unemployment rates over 12 percent, poverty rates over 30 percent, and water and sewer bill collection rates as low as 69 percent—are simply unable to fund many needed improvements. Federal and state funding programs provide some relief, but these cities compete with other, less challenged communities for the same funds. For cities with acute challenges, more support is needed. In shrinking cities, the potential for efficiency gains from regionalization and consolidation is significant, yet even these measures may not fully address the challenges.

Policy Solutions

Local Level

- Embrace watershed-scale planning
- Adopt governance structures that enable effective, efficient utility management
- Develop regional partnerships to address common needs
- Consider regionalization and consolidation of services

Regional & State Level

- Use state authority to drive regional cooperation and consolidation
- Use state funding programs to encourage regional cooperation and consolidation

National Level

- Enact policies that promote regionalization
- Provide regulatory flexibility to encourage partnerships
- Expand federal programs that encourage adoption of watershed and integrated planning

Solutions: Local Level

Solution:

Embrace watershed-scale planning

Communities and utilities within a watershed can collaborate to develop inclusive, watershed-based plans, leverage resources, and create durable solutions that provide multiple benefits for the region as a whole. While watershed planning is often driven by local water utilities or a regional planning entity, it should include active engagement from diverse stakeholders within in a watershed. Many local water utilities are not fully in control of activity in their watersheds, and many share jurisdiction for public works with other city agencies. Local elected officials can set a tone of cooperation and provide positive reinforcement for regional cooperation.

In Action:

• Bay Area Clean Water Agencies (BACWA). BACWA is a regional collaboration among 54 wastewater agencies, aimed at long-term stewardship of the San Francisco Bay Estuary. The joint powers agency comprises 40 publicly owned treatment works and more than 100 collection systems that discharge to the San Francisco Bay Area, serving more than seven million people in the nine-county area. BACWA was formed as a united front to find and advocate for science-based solutions for water resource management. The group collaborates on nutrient management, compliance, regulatory advocacy, and research. Among its major efforts, BACWA members are working together to comply with a regional Nutrient Watershed Permit that has specific requirements regarding monitoring and reporting, studies of nutrient

management strategies, and identification of solutions for improved nutrient removal.

• Great Lakes Protection Fund. In 1989, the governors of the Great Lakes states created the Great Lakes Protection Fund as the world's first permanent ecosystem endowment after creating a series of regional agreements to help them better manage their shared watershed. The fund is a private, not-for-profit corporation. Seven member states provided one-time contributions to the fund's endowment totaling \$81 million. The governors' purpose in creating the fund was to ensure that "a continuous stream of innovation" was available to reduce the cost of, and increase the effectiveness of, Great Lakes protection and restoration efforts. Since inception, the fund has committed over \$81 million to 271 regional innovation projects. Those efforts created the first ballast water treatment technologies, launching that industry; developed techniques to restore natural flows in more than 1,500 miles of basin rivers; created new drainage technologies to restore natural flows and riparian cover in agricultural landscapes; designed and deployed the first statewide water quality trading system to accelerate nutrient removal, leading to the current national policy; developed criteria for and systems to certify sustainably managed forestlands leading to over 21 million acres of sustainable managed timber land in basin states; and created the legal, technical and practical basis to prevent diversion of water outside of the Great Lakes basin. Further, an additional \$49 million in dividends has been provided to member states for their individual Great Lakes priorities. The fund currently has assets of approximately \$130 million.

Solution:

Adopt governance structures that enable effective, efficient utility management

Local governance of water management can impose barriers to regional solutions and operating efficiency. Utility organizations that are embedded into municipal governments must comply with processes for purchasing and human resources management that can be cumbersome and fail to meet the particular needs of water management. In addition, many local governments transfer ratepayer-supported utility funds to general revenue funds to take care of other municipal needs. By restructuring utility governance, communities can help ensure that utilities are focused on their missions, have the freedom to make responsible regional decisions, and can operate with greater efficiency.

In Action:

- Sewerage and Water Board of New Orleans. In 2012, the Sewerage and Water Board of New Orleans advocated for a change to its state-granted charter to reduce its board of directors from 13 to 11 members and to limit members' terms from nine years to two consecutive four-year terms. State lawmakers agreed to eliminate three seats reserved for sitting City Council members and add an eighth mayoral appointment. All sitting board members had terms sunsetted, and the state legislature formalized the process of finding new board members when vacancies occur. The new law created a 10-member selection committee, which offers the mayor three names to choose from for each opening. In conjunction with the governance change, the utility has been able to tackle important management issues, including approval of a rate schedule that supports critically needed improvements to infrastructure and operations, improved bond ratings, and renewal of a special tax millage to fund operation of the city's extensive drainage system.
- Louisville Water Company. Louisville Water Company
 was chartered as a private company in 1854, and today,
 Louisville Metro government is its sole shareholder.
 Under this arrangement, Louisville Metro receives a
 quarterly dividend from the company, and the Louisville
 mayor appoints the members of the Board of Water
 Works. Louisville Water Company serves all of Jefferson
 County, along with parts of Bullitt, Hardin, Nelson,
 Oldham, Shelby, and Spencer counties. While Louisville
 Water Company provides drinking water service in the

region, the Louisville/Jefferson County Metropolitan Sewer District (MSD) operates the wastewater and stormwater components of Louisville Metro's infrastructure. Recognizing the potential benefits of stronger collaboration, the Louisville mayor created an advisory group that recommended the two entities, Louisville Water Company and Louisville MSD, look at a comprehensive interlocal agreement to improve efficiency and service quality. While the agreement is in its early phases, the two utilities have joined their information technology and fleet service groups to establish more robust management systems and are continuing to work toward reducing costs and increasing efficiency.

Solution:

Develop regional partnerships to address common needs

Water systems within a region often share similar geographic, demographic, and socioeconomic characteristics. Beyond watershed planning, utilities within a region can collaborate in areas like workforce development, disaster preparedness and response planning, and drought response. Local officials can collaborate with their counterparts in neighboring jurisdictions to identify incentives for win-win approaches to solving local water-related challenges. Public-public partnerships (PUPs) are an emerging model, in which two or more public water utilities or nongovernmental organizations join forces and leverage their shared capacities in not-for-profit agreements. Under these arrangements, multiple public utilities can pool resources, buying power, and technical expertise for economies of scale and potentially lower costs.

In Action:

• Hampton Roads Public Works Academy (HRPWA). The Hampton Roads Public Works Academy is a nonprofit regional coalition in southeastern Virginia that promotes cooperative training in public works and utilities disciplines. With 11 member cities, counties, and utility authorities, working in conjunction with the American Public Works Association, the program coordinates lower cost workforce development training for current employees, and it educates high school students to build the potential workforce for utilities throughout the region. In 2016, the academy trained approximately 400 existing employees in 17 subject areas. For the high school program, students are selected through a

competitive process and participate in a two-year learning program, with subjects ranging from field inspections to customer service to water system operation. Students are required to complete a paid summer internship with participating organizations. Completing the program makes students strong candidates for local public works and utility jobs, and the academy also offers college scholarships to seniors. Between the 2009–2010 and 2015–2016 school years, HRPWA trained nearly 400 high school students and offered 183 internships. Some student participants find long-term employment in member organizations; for example, between 2014 and 2017, 15 percent of Hampton Roads Sanitation District's public works interns were hired into year-round positions.

. Lehigh County Authority (LCA) and City of Allentown. In Pennsylvania, the City of Allentown entered into a public-public partnership (PUP) with the LCA—a concession agreement for LCA to operate Allentown's water and wastewater system. The agreement allowed Allentown to tap into water system equity and future customer revenues to help cover other essential, nonutility costs, such as pension liabilities. At the same time, the deal created a larger, consolidated utility system that is able to achieve operating savings through increased efficiency and economies of scale. LCA relied on the tax-exempt bond market to raise funds for the initial concession payment and seed reserve funds. For the citizens of Allentown, this arrangement resulted in converting a very sizable general government pension liability to long-term LCA debt that will be repaid by water revenue collected from utility customers. For LCA, a predictable future revenue stream provided the ability to pay the initial concession payment, assure high quality service, and make planned capital investments.

Solution:

Consider regionalization and consolidation of services

In many places, regionalization can improve cost efficiency by consolidating duplicate utility organizations or consolidating common services like purchasing. In other areas, regionalization may help ensure sustainable service in the face of aging assets, dwindling resources, or increasing technical and regulatory requirements. Regionalization is sometimes undertaken to improve representation, providing a voice at the table for more of the jurisdictions served, as opposed to having region-wide water services controlled by one jurisdiction alone.

In Action:

- Great Lakes Water Authority (GLWA). In the wake of the City of Detroit's bankruptcy, GLWA was formed in 2015 as a regional authority serving nearly 40 percent of the water customers in Michigan. The creation of GLWA converted the former service area of the Detroit Water and Sewerage Department into a regional authority. GLWA's board of directors comprises two representatives from the City of Detroit and one each from Wayne, Oakland, and Macomb counties and the State of Michigan. This structure ensures that the city and member counties all have a voice in the direction of one of nation's largest water and wastewater utilities. GLWA operates and manages the regional water and sewage treatment plants, major water transmission mains and sewage interceptors, and related facilities, which are leased from the City of Detroit for \$50 million per year. The lease payment provides needed funds for the Detroit Water and Sewerage Department to maintain the city's water and sewer lines. The new authority was given a stronger credit rating than Detroit, enabling debt refinancing that will save the region more than \$300 million over the bond term.
- Tacoma Water. In Washington State, Tacoma Water creates special use districts to support small rural utilities that are unable to make needed investments in their local water infrastructure. As a wholesale provider to communities in the region, Tacoma Water can provide infrastructure upgrades to smaller utilities, in some cases without necessitating rate increases. In this way, consolidation of services benefits both the smaller utility and its ratepayers. Recently, Tacoma Water and the Curran Road Mutual Water Association completed

an agreement that will result in Tacoma Water making system improvements and consolidating the system in its direct service area. Curran Road found it difficult to expand services to the extent needed, and much of the system required upgrades that the utility could not afford. By consolidating with Tacoma Water, from whom Curran Road had been buying water since the 1940s, the community gained access to a higher quality of service than it would have achieved on its own.

Solutions: Regional & State Level

Solution:

Use state authority to drive regional cooperation and consolidation

State governments have an important role to play in encouraging, incentivizing, and sometimes requiring regional cooperation. States can set the framework and menu of options for structural and nonstructural regionalization options, ranging from informal agreements to area-wide special districts or authorities. States can also identify and remove internal barriers and artificial conflicts across watersheds and regions of the state, as well as with neighboring states that share a watershed, through approaches such as interstate compacts and basin commissions. States can also providing funding; the North Carolina Department of Environmental Quality provides funding for studies to evaluate the potential consolidation of water or wastewater systems within a region. In addition, some states have created agencies dedicated to regional or watershed-based water resources planning or to the consolidation of water systems that are not operating sustainably.

In Action:

California State Water Resources Control Board. The
 California Water Board has authority to incent and
 mandate physical or managerial consolidation of water
 systems that are unable to provide safe drinking water.
 While the board also encourages voluntary consolidation,
 mandatory consolidation is a valuable tool in bringing
 water service to vulnerable communities that lack a
 strong political voice. For example, the unincorporated
 area of East Porterville experienced persistent drought
 that dried up local wells. About 500 households in the

low-income, majority Latino community went without running water for several years, relying instead on water delivery, public taps, and mobile showers. Through the board, a state-funded project was implemented to connect residents to the water system in the neighboring town of Porterville.

Metropolitan North Georgia Water Planning District.

Responding to water resource issues in the growing Metro Atlanta region, the Georgia legislature created the Metropolitan North Georgia Water Planning District, which governs water planning for the 15-county region including and surrounding the City of Atlanta. The state followed up with passage of the Comprehensive State-Wide Water Management Planning Act and the Georgia State Water Plan, mandating watershed-based planning for water resources statewide. With 15 counties and 95 cities, the district is the only major metropolitan area in the country where more than 100 jurisdictions are collaborating to implement a long-term water, waste-

water, and stormwater management program that is

efficiency programs implemented across the district,

required and enforced by law. Through conservation and

total water withdrawals in the region have dropped by

increased by one million. Additionally, per capita water use

has dropped by over 30 percent over that same period.

10 percent since 2001 even though the population has

Solution:

Use state funding programs to encourage regional cooperation and consolation

State agencies with primary grantmaking authority or lending authority can incentivize projects that foster regional cooperation and consolidation—for example, by incorporating regional collaboration into their criteria for awarding subsidized loans and grants. States can also incorporate incentives for watershed-level planning into grant and loan programs. States should also make sure that their State Revolving Fund (SRF) loan programs are not biased toward "building new things"—funding should be directed toward regional solutions, like purchasing capacity from a neighboring utility, rather than constrained to infrastructure development projects.

In Action:

• State of Kentucky. The State of Kentucky has been a leader in water system consolidation, going from more than 3,000 public water systems and treatment plants in the 1970s to fewer than 800 total water systems today. In 2000, the Kentucky General Assembly passed Senate Bill 409, creating a structured planning process for water services throughout the state. Regionalizing water systems is one goal of the legislation, and another is making potable water available to more Kentucky residents. SB 409 designated the Kentucky Infrastructure Authority as the state agency responsible for developing programs to achieve these goals. Under this program, 15 area development districts across the state prioritize local water projects for state funding based on their alignment to SB 409's goals. Between 2000 and 2017, the state provided more than \$800 million in funding for water projects through this program, effectively incentivizing expansion of water service and regionalization of water systems through merging, consolidating, or sharing resources. In addition, Kentucky state law enables municipalities to expand their water service areas to contiguous areas without annexation, which addresses one of the common barriers to regionalization. At the same time, through water and wastewater training offerings, organizations such as the Kentucky Rural Water Association have made strides in professionalizing utility staff across the state. Not only has the state's water management framework enabled great progress on utility consolidation, it has also extended potable water service; 95 percent of Kentucky households are now connected to community water systems.

Solutions: National Level

• Enact policies that promote regionalization. EPA has programs that encourage integrated infrastructure planning and consolidation of water infrastructure investments. EPA should remove regulatory obstacles to regionalization and help communities better understand the options available to them for providing sustainable water service. The federal government can encourage consolidation where appropriate, supporting a broad range of institutional forms. Because every utility faces different political and institutional conditions, developing a portfolio of consolidation options will give local officials

- more latitude. Options include public-public partnerships, public-private partnerships, the development of regional clusters centered around large "anchor" utilities, and consolidation into multi-municipal cooperatives. Regional solutions also can be extremely effective for water quality improvement, as the **Chesapeake Bay Program** illustrates. Since its formation in 1983, this program has pulled together local governments, federal and state agencies, nonprofit organizations, and academic institutions to define and implement one of the nation's largest collaborative ecosystem restoration efforts across a 64,000 square-mile watershed.
- Provide regulatory flexibility to encourage partnerships. Regulatory flexibility can be incorporated to encourage regionalization for utilities that are having problems with compliance. Communities with water or wastewater systems that are chronically out of compliance with the Clean Water Act can be encouraged to partner with a larger neighboring water system or private water utility to help bring them into compliance and mitigate costly enforcement actions. When a public or private water utility acquires a troubled system, so-called "good neighbor" provisions can help so that the acquiring entity is not held liable for violations that occurred prior to acquisition.
- Expand federal programs that encourage adoption of watershed and integrated planning. EPA should consider reactivating Section 208 of the Clean Water Act as a cornerstone of watershed-based infrastructure planning; continue providing technical assistance grants for integrated planning efforts; and refresh its guidance, education, and outreach materials with a stronger focus on watershed planning. EPA should also continue to embrace integrated planning to help utilities make informed decisions about optimizing their overall water investments for the long run; balancing water, wastewater, and stormwater needs; and incorporating integrated solutions like green infrastructure.⁷

Conclusion

Although our water systems are highly fragmented, the challenges we face today are driving communities to adopt regional solutions for greater efficiency, improved water quality, sustained regulatory compliance, and better service. This policy brief illustrates that there are a wide variety of collaborative approaches that can work and many promising policy levers to help expand their adoption. Partnering with neighbor communities to meet common needs makes sense, and we expect regional collaboration to take greater hold as more communities demonstrate their power to improve water management for all.

Endnotes

- 1 "Clean Watersheds Needs Survey 2012 Report to Congress," Environmental Protection Agency, 2015, https://www.epa. gov/sites/production/files/2015-12/documents/cwns_2012_ report_to_congress-508-opt.pdf
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