



Affordability and Capability Issues of Small Water and Wastewaters Systems:

A Case for Regionalization of Small Systems

Deb Martin
Director, Great Lakes RCAP

There is widespread agreement that water and wastewater services are vital to the sustainability of a community, but small rural towns face considerable and persistent challenges in developing and maintaining them. Small water and sewer systems¹ face mounting pressures and increasingly difficult decisions. They must juggle the cost of meeting ever more stringent regulations under the Safe Drinking Water and Clean Water Acts with the need to deliver affordable service to their users while remaining financially viable. The cost of compliance increases as the technology required to meet standards becomes more sophisticated, resulting in continually rising capital and operating costs. In the end, rural residents pay, on average, three to four times more than their urban counterparts for these services².

Meanwhile, the gap between infrastructure needs and available federal and state supportive resources continues to widen as more systems reach the end of their useful life and the demand for new systems in previously unserved areas escalates.

One of the much-touted solutions to this problem is restructuring or combining small water and wastewater systems, creating economies of scale. There are documented benefits to regionalization, but a number of barriers prevent systems from pursuing regional approaches. Federal and state governments should take steps to help eliminate barriers and encourage cooperation and collaboration among water and wastewater providers.

Small Systems Issues

Over the past several years, various organizations have estimated the total nationwide need for water and wastewater infrastructure capital improvements in the foreseeable future. The U.S. Environmental Protection Agency (EPA), the Water Infrastructure Network (WIN) Coalition, and the Congressional Budget Office, to name a few, have tried to quantify the gap that exists based on current spending levels. While the estimates of this gap vary, ranging from over \$11 billion annually³ to over \$23 billion annually,⁴ there can be no doubt that the gap is significant. For small systems alone, EPA has estimated capital needs of over \$34 billion for drinking water⁵ and over \$16 billion for wastewater.⁶

Significantly, federal investment in water and sewer infrastructure has fallen nearly 70 percent since 1980, while local investment has nearly doubled.⁷ Far more federal assistance is offered today in the form of loans rather than grants, meaning that a community's customers ultimately bear more of the costs directly.

Small systems simply do not have enough users to create sufficient economies of scale to make projects affordable without a significant infusion of federal and state dollars. A shrinking pool of federal resources to develop or upgrade facilities means that funding is less readily available and more competitive. EPA estimates that the small system need is more than \$3,300 per household through the year 2015, compared to \$790 per household for large systems.⁸

There are approximately 53,000 community water systems in the U.S. today, and of these, over 44,000 are small systems⁹. The number of public water systems more than tripled in the decades from 1963-1993,¹⁰ and since that time there has been only a negligible decrease in the number of small systems¹¹. Small water systems account for 86 percent of the systems that are out of compliance with the Safe Drinking Water Act, and 81 percent of the MCL (maximum contaminant level), or health-related, violations.¹²

On the wastewater side, approximately 74 percent of publicly owned facilities serve populations under 10,000, and 62 percent serve populations of 3,300 or less. A full two-thirds of all identified need for wastewater collection and treatment is for small communities, and of the new wastewater treatment facilities that will replace on-site systems, 75 percent will serve fewer than 1,000 customers.¹³

Approximately 30 percent of small water systems have operating expenses greater than their revenues. Many are not financially sustainable as currently operated.¹⁴ This figure does not include debt service, nor does it take into account those systems that are barely making revenue meet expenses and thus have few reserve or emergency funds. Moreover, many systems delay needed maintenance because expenditures are based on current revenues rather than system needs.

At least some of the problems encountered by small systems can be attributed to the fact that the majority of small, publicly-owned systems are managed by volunteer utility boards whose members seldom have formal training in utility management and may lack skills in effective decision-making, dealing with conflict, working with groups, building consensus, and strategic planning. Frequently they do not have a clear understanding of their essential role in the continued viability of the system. The fact that there is often a considerable amount of turnover in the leadership of rural communities compounds this problem and results in frequently shifting priorities, lack of institutional memory, and limited transfer of knowledge and skills. This problem is particularly acute since many small communities have no paid professional staff that can fill these gaps.

Perhaps EPA's Office of the Inspector General summed up small system challenges best, stating, "Small drinking water systems face myriad challenges to assure good water quality and protect public health now and into the future. These challenges, whether they are financial/management or regulatory/compliance, are interrelated, have existed for some time, and will continue."¹⁵

Why Regionalization?

Regionalization can mean many things, ranging from the physical interconnection or consolidation of two or more systems, to administrative solutions such as cooperative purchasing, contract operations or billing, and numerous other cooperative ventures. Many small communities erroneously believe that regionalization always results in "giving up" their water or wastewater system, making it a tough sell to many systems.

Informal Cooperation	Constructional Assistance	Joint Powers Agencies	Ownership Transfer
Coordinate with other systems, but without contractual obligations	Utilities contract with another system or service provider, but contract is under the system's control	Creation of a new entity designed to serve the system that forms it	Takeover by an existing entity or a newly created entity

Increasing Transfer of Responsibility

Source: System Partnership Solutions to Improve Public Health Protection, USEPA, 2002

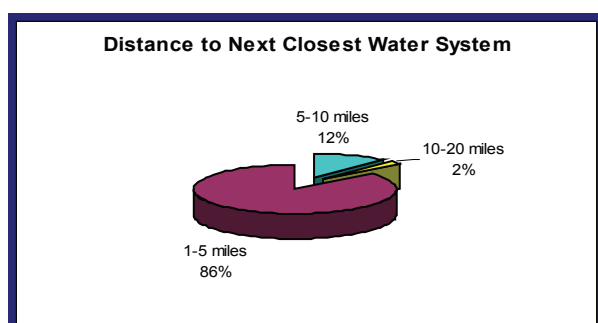
EPA developed a system partnership spectrum to show the range of possibilities available to small systems, as shown above.

Regionalization typically results in lower overall operation and maintenance costs for the users of the system. A 2004 study of economies of scale in community water systems found that consolidating small systems into a large system could generate significant efficiency gains,¹⁶ as large systems experience lower unit costs in the production and delivery of water. While research has shown that there is a limit to these scale economies, the limits are generally reached in very large systems spread over a wide geographic area due to the increased costs of transmission and distribution.¹⁷

As a rule, larger facilities have greater technical, managerial, and financial capacity, which increases the likelihood of meeting existing and developing regulations while maintaining a fiscally sound operation. Having a larger customer base generally enhances a system's ability to attract and retain qualified staff, offer more sophisticated treatment, better respond to emergencies, and provide more reliable service. Systems with greater capacity are in a better position to manage their assets and achieve full cost pricing, which should result in these systems having the capability to finance more of their own improvements over time, potentially necessitating less federal investment in the future. In addition, while the initial capital outlay may be significant to create regional systems, it is frequently less than the cost of financing multiple small facilities.

Other potential benefits include the ability to plan on a watershed basis, and the reduction of environmental impacts as discharge points are reduced and less land is utilized for treatment facilities. With fewer facilities to monitor, regulators can better focus on compliance and ensuring water quality.

According to EPA data, the majority of water systems are within five miles of the next closest system, as shown below



Source: System Partnership Solutions to Improve Public Health Protection, USEPA 2002

Therefore, at least purely from a geographic perspective, there are ample prospects for consolidation or coordination among systems. Of course, this is not true in every state, particularly those that are less densely populated, but the data suggest that there are many missed opportunities.

Increasingly advanced treatment technologies are required to meet rules in both water and wastewater. The number of drinking water contaminants regulated by the EPA was approximately 25 in 1980, compared to more than 150 in 2000.¹⁸ Indeed, when Congress passed the Safe Drinking Water Act, legislators anticipated the development of regional water systems that could better afford the technologies that would be necessary for compliance with the Act.¹⁹

Market forces are gradually pushing systems toward greater regionalization. Expectations on the part of the public are increasing regarding the quality of their drinking water and environmental protection,²⁰ and there will be a greater need in the future for utilities to engage customers to foster communication and trust. Furthermore, a combination of population growth, climate change, impaired water resources and other environmental issues is driving a trend toward total water management, which means that utilities that have previously operated in relative isolation will have a need for greater cooperation.²¹

According to David Rager, Director of Greater Cincinnati Water Works, an issue that may drive larger utilities toward offering regionalization options to smaller systems is the significant downturn in consumption that many large utilities are experiencing in some areas. Reduced water usage can be attributed in part to the loss of large water users such as major manufacturing facilities that have closed and/or moved their operations. Less consumption is good news from a conservation perspective, but also translates to a loss of revenue – bad news in an industry in which fixed costs constitute a significant portion of operating expenses. Therefore, larger utilities need to find creative ways of generating additional revenue, and this may provide the incentive needed to reach out to neighboring smaller systems.²²

Barriers to Regionalization

While it is clear that there are a number of ways small systems can benefit from regionalization, it is difficult to find credible evidence or statistics on the degree to which it is occurring. In looking strictly at the number of small systems, EPA's most recent data indicate that while the number of water systems serving populations under 500 has recent data indicate that

that while the number of water systems serving populations under 500 has declined, this decline was offset by an increase in the number of systems serving 501-3,300.²³ However, if one considers regionalization in the broader sense (i.e. restructuring administrative functions or pursuing cooperative ventures), it may be happening at a faster pace. The number of contracts for operation of publicly owned systems tripled between 1997 and 2002.²⁴ Even so, this still represents a relatively small number of systems. There are many reasons why this is the case.

Barriers to regionalization of small systems include everything from local perceptions to geographic realities and many other factors. At the local level, barriers include fears regarding the loss of autonomy, and lack of knowledge about what regionalization means and all of the options that are available. Barriers at the state level include the absence of a coordinating entity that can promote regionalization and help communities develop a process to make it work, the lack of state leadership and support for regionalization, and the lack of communication between funding sources. Finally, there are tangible barriers such as large initial capital outlays for regional systems, geographic distances between systems in sparsely populated areas, and the deteriorated condition or small size of some systems that are not easily overcome. These barriers are discussed in detail in the sections below.

- **Loss of local control**

The most persistent barrier to regionalization is the fear that loss of control of the water or wastewater system will be detrimental to the community. These are vital public services, and local officials have concerns that regionalization of their water or sewer systems will inhibit their economic development efforts, create uncertainty of supply in difficult times such as drought or other crises, or that user rates will be set at higher than reasonable levels. This concern is well documented in the literature, and the experience of RCAP field staff bears it out.

These fears are not altogether unfounded. In cases where smaller communities must rely on nearby larger communities for services, it is not uncommon for the larger systems to press their advantage, sometimes charging inordinately high rates for their services. Communities often establish surcharges for serving areas outside their corporate limits to encourage annexation, and sometimes utilize the same policies when considering serving another community. There is a definite “us” and “them” mentality, frequently related to historic rivalries. The community providing the service may also view it as an opportunity to subsidize its own users’ rates by collecting more revenue from the other system.

A case study of a small community that received RCAP services is illustrative of this problem. Community A, with a population just over 250 people, needed to install a centralized wastewater treatment system to replace failing on-site systems. Neighboring community Z (with a population just under 2,000) was within four miles and had a sewer system with excess capacity and relatively high rates from a recently mandated upgrade. Clearly both communities stood to gain from

cooperation, as Community Z could generate needed revenue, while Community A would benefit by saving both capital costs and long-term operation and maintenance costs. They negotiated a long-term contract and Community A constructed a collection system to convey wastewater to Community Z for treatment. However, four years into the contract, a new administration in Community Z felt they could gain significantly more for their services and despite a clear contract, more than doubled Community A’s treatment rate. Community A’s users already pay in excess of \$60 per month for sewer services, and substantially increasing rates is not an option. Although they had a contract that protects them against such arbitrary increases, community A will be forced to incur legal fees and time to remedy this situation – a significant problem for a community with no full-time staff and a general annual operating budget of under \$40,000.

These problems tend to occur more frequently when a community is purchasing services from another community that has control of the system. Such situations are less common and can often be avoided altogether by the creation of regional entities that allow for shared control, with representation from all of the communities served. However, the creation of such districts can itself be costly and is not practical in every situation, particularly where systems already exist and there is little incentive for them to be incorporated into a regional entity.

Such problems may also be alleviated by regulatory oversight of rates and service by public utility commissions, but municipal systems are not regulated in most states, and in many cases no agency is responsible for oversight of these issues. Primacy agencies for water and wastewater are responsible for ensuring that environmental regulations are met, but typically have no authority over other areas of system operations.

In West Virginia, the Public Service Commission (PSC) oversees rates for all systems, and this may contribute to the fact that most of the population is served by large, regional water systems. Oversight of rates could be expected to prevent large systems from taking advantage of small communities that need service, while at the same time guaranteeing that the larger system can realize a reasonable return on its investment. RCAP staff in West Virginia believes that PSC oversight definitely makes a difference in ensuring that small systems that are desperate for a safe source of water are not at the mercy of larger systems. Although systems frequently complain about the PSC, RCAP experience indicates that many public officials actually request a review of their rates knowing that an increase will be required by the PSC. This allows them to shift the blame for the increase and escape some of the public wrath that comes from raising rates.

Some states, like New Hampshire, have a hybrid system in which public utilities are not regulated by the Public Utility Commission (PUC) unless they provide retail service outside their boundaries at a rate that is higher than the rate charged inside their boundaries. Wholesale rates are exempted from regulation. Such a system could potentially ensure equity in rates and prevent larger systems from taking unfair advantage

to serve as a disincentive to do so, and it apparently has in New Hampshire according to a report from the state's Department of Environmental Services.²⁵ Creating another layer of regulation for water and wastewater systems has its own costs and disadvantages as well, and is not likely to be a feasible option, or one that would be welcomed by most utilities.

- ***Lack of knowledge about regionalization and absence of a coordinating entity***

Another barrier to cooperation among systems is the lack of knowledge about possible types of cooperation, its benefits, and/or the lack of a vehicle to encourage such action.²⁶ Many small systems don't communicate regularly with neighboring systems, and pooling resources is not likely to have been done historically, so the possibilities simply do not occur to them or they are not sure how to take the first step. Moreover, there is no institutional body that can help coordinate regionalization efforts among communities. A large system could serve as the "broker" for services such as billing, automated meter reading, bulk purchase of chemicals, and other options, but systems large enough to take on this responsibility don't exist in all areas. The absence of such an entity makes it more difficult for several small systems to jointly consider these options.

- ***Lack of state leadership and support for regionalization***

While many states have done little to encourage regionalization (other than making it a stated goal and assigning a few extra points in various funding programs for regional projects), some states have actively promoted it. For instance, the State of Texas requires that, before a new system is created, the system must complete a rather rigorous test to prove that there is no opportunity to receive service from an existing provider. Other states such as Kentucky and New Mexico have strongly encouraged regional solutions with great success. Washington state and Maryland require comprehensive water supply planning at county or regional levels, which forces consideration of the "big picture" for water management, and Pennsylvania offers incentives such as planning grants for comprehensive water supply planning or examining the feasibility of regionalization.²⁷ However, there is no uniformity in these efforts nationwide.

In the aftermath of Hurricane Katrina, Mississippi has taken the opportunity to regionalize water and wastewater services in the Gulf Region. Prior to Katrina, over 185 systems were responsible for the provision of water, and 481 facilities had permitted wastewater discharges, in addition to more than 85,000 individual on-lot wastewater systems. With the devastation of infrastructure and population dislocation caused by Katrina, it didn't make sense to rebuild multiple small systems and recreate the same vulnerabilities. The legislature passed the Mississippi Gulf Coast Region Utility Act, creating a regional utility board, along with six county utility authorities. The goal is to create a regional infrastructure "backbone" upon which more local improvements can develop. Needs have been documented and prioritized with the involvement of local stakeholders. A

toward the implementation of this plan.²⁸ This case represents a good example of a state providing the necessary leadership to encourage system cooperation. Not every state faces the devastation that provided the impetus for this level of cooperation, but every state can create incentives for restructuring.

- ***Lack of coordination among funding sources***

Often the lack of a coordinated effort among funding sources causes agencies to unknowingly act as a barrier to regionalization despite their support of the concept. Not all funders require the consideration of regional alternatives or have a stringent enough review process to determine whether there may be better alternatives to a proposed project. Therefore, a project may meet the requirements of a specific funder, but not be the best or most cost effective long-term alternative. In the absence of a process by which funders can "check" their projects with other agencies, federal and state funds are often misdirected to projects where a regional solution would clearly have been a better alternative. Unfortunately, the use of Congressionally earmarked appropriations has contributed to this lack of coordination and exacerbated the problem. While these earmarks have provided a sorely needed additional source of funding, these funds could be better targeted to systems with the greatest need and coordinated with other funding.

A coordinated effort among all agencies would promote better use of federal dollars. Many states have made great strides in the coordination of funding. For example, Arkansas and Montana have developed formal, uniform application processes, while others like Ohio and Indiana have an informal process that provides a venue for funders to collectively discuss projects. As with other efforts, these practices are uneven at best and do not occur in all states.

- ***Large upfront capital costs for regional systems***

Another significant barrier to restructuring, particularly where it involves the physical consolidation of systems, is the upfront capital outlays. While regional solutions are, as a rule, more efficient alternatives in the long run, the cost to develop a large regional system can be prohibitive. Minnesota's experience illustrates this problem. For many years the state encouraged regionalization, granting priority points and additional grant funds to projects that involved multiple municipalities. However, development pressures, coupled with increased regulation of individual, on-lot wastewater systems, created a situation in which very large and high cost regional systems were being proposed in areas of low population density. These systems required a large infusion of grant funds to be even marginally feasible, and in some cases were designed to maximize grant funds rather than to deal strictly with problem areas. The state has had to modify its funding system and has shifted its focus to decentralized solutions to wastewater management for rural areas.²⁹

- **Geography**

For some systems, particularly in remote rural areas, regionalization has not been an option because the distance between systems is too great to make physical consolidation possible. In these instances, there may be opportunities for cooperation among systems that stop short of actual physical interconnection. Such options might include cooperative purchasing, sharing an operator, and/or contracting certain functions such as billing. Newer technologies, such as SCADA (supervisory control and data acquisition) may allow more efficient operation in remote areas; however, the cost of distribution or collection systems is still cost-prohibitive in many places.

- **Condition and size of existing small systems**

Sometimes, larger systems are reluctant to take on the ownership or management of a deteriorated small system unless it can first be upgraded. Otherwise, it represents a liability and there is no incentive to provide assistance to the smaller system. In addition, if a system is too small, it can be difficult to generate any interest or cooperation from a larger system simply because the revenue potential is so insignificant.

Case Study: A Model for Regionalization Done Right

Larger systems are typically in a position to provide leadership and encourage regionalization with the smaller systems around them. One example of a large system that has done a commendable job of promoting cooperation in creative ways is the Greater Cincinnati Water Works (GCWW) in southwest Ohio. GCWW serves over 90 percent of Hamilton County and sections of Butler and Warren Counties, as well as areas in northern Kentucky. GCWW operates a state-of-the-art granular activated carbon treatment facility (the first of its kind in the U.S.) and has won numerous awards for the excellence of its operations. EPA official Robert Clark stated (about GCWW), “It’s as good as it gets...It’s a proven success story and a good model for others.”³⁰

GCWW has found numerous ways to offer regionalization to the smaller water systems in its area, and one of the keys to its success is the flexibility it offers these systems. The system offers multiple options to small systems in order to encourage consolidation or regionalization. For instance, if a small community wants to buy treated water wholesale, but retain control over its own water distribution system and billing, GCWW will work with them. On the other hand, if a small community wants to get out of the water business altogether, GCWW can take over the entire system. Other options that GCWW offers to water systems in its surrounding area include:

- Lab testing services – the advantage for small systems is that GCWW personnel, being in the water business themselves, are able to provide a greater level of analysis for water quality problems than a typical lab and to help the

the system deal with problematic test results;

- Billing services and call center operation – GCWW can provide billing services, providing the customers of small systems with conveniences such as online bill payment for which they wouldn’t otherwise have access. GCWW also staffs call centers, dealing with customer concerns and providing greater customer access than small systems can typically offer to deal with these issues;
- A source of project financing – GCWW can bundle small system debt with their own, thereby allowing small systems to take advantage of GCWW’s greater bonding capacity and better rating; and
- Providing engineering and construction management services.

In addition, GCWW views itself as a “good neighbor,” providing emergency help when needed by offering emergency water supply to other systems in the area and a “react team” to help small systems with everything from the need for a backhoe operator, to performing leak detection, to helping operators deal with water quality issues. This assistance is available to small systems that do not otherwise receive services from GCWW.

GCWW’s model works because the system’s leadership has the foresight to understand that what is good for the area’s water systems is generally good for GCWW, and that the first mission of any public water system is public service. Mr. David Rager, Director of GCWW, indicated in a telephone interview that he believes that large water systems need to take the long view and figure out what they can do to help small systems be successful. Rager indicated that even small utilities can have an impact on his own customers’ perceptions. For example, if there is a waterborne disease outbreak in the Cincinnati area, the negative press might make his own customers question the safety of their supply. Indeed, one could say that any water incident in any system hurts the industry as a whole. In an era when 86 percent of the population has indicated concern about the safety of their drinking water, and with bottled water and point-of-entry or point-of-use devices being used by 48 percent of the American public,³¹ the water industry can ill-afford negative customer perceptions.

Mr. Rager believes that large systems can best reach out to smaller systems by understanding that regionalization is an evolutionary process. It is important to work constantly on building relationships and trust with smaller systems. By starting small and offering critical services to small systems, those systems begin to see the benefits of cooperation, and may later feel comfortable obtaining a greater level of service. Mr. Rager agreed that many small systems fear a loss of autonomy, and that the larger system might raise their rates or curtail supply in times of emergency. Rager said that one of the ways GCWW helps to allay fears is by including provisions in the service contract that address those issues. For instance, small systems can choose to have their rates tied to either the Consumer Price Index, or to GCWW rate increases. The contract specifies that rate increases for these customers cannot exceed whichever of the alternatives the system has chosen. The contract also specifies that from a supply standpoint, water will be distributed equally

to all customers as commercially practical. The willingness to discuss and consider the needs of the smaller community leads to solutions that work for everyone.

Few large systems have been quite as proactive in incorporating or serving smaller systems, though Mr. Rager was quick to give credit to other large systems, such as Columbus, Georgia and Beaufort County, South Carolina, that have adopted similar attitudes and gone above and beyond to help small systems. Funding and regulatory agencies should look toward the creation of incentives for larger systems to reach out to their neighbors and ways to reward those who do. Resources could be directed to these larger systems that would make it more attractive for them to partner with their neighbors.

Recommendations to Overcome Barriers and Supporting Regional Solutions

Clearly, regionalization is complex and multi-faceted. It is not a universal remedy to the problems of small systems. There are a number of legitimate reasons why regional solutions are not more widespread or always the best option. It is also clear that flexibility will be necessary to implement regional options, as there is no single solution that will work for all systems. However, a number of steps can be taken to encourage greater cooperation among systems.

Recommendations for Congress

- Require all states to develop a mechanism for coordinating federal funding programs, and report to Congress on coordination activities on a regular schedule. In order to reach the major funding programs, such a requirement could be tied to reauthorization of the Safe Drinking Water and Clean Water State Revolving Fund (SRF) programs, as well as the U.S. Department of Agriculture (USDA) Rural Development title of the farm bill and U.S. Department of Housing and Urban Development (HUD) appropriations.
- Include language in authorizing and/or appropriations bills for federal programs requiring the consideration of regional alternatives by applicants that serve populations under 10,000 as a condition of receiving funding.
- Ensure that the Clean Water Act reauthorization includes provisions for capacity development for wastewater systems similar to those in the Safe Drinking Water Act for drinking water systems. EPA and state primacy agencies need to be responsible for assessing capacity and reporting progress toward this goal. EPA should be given the authority to set aside funding in the Clean Water SRF to meet this goal.

Recommendations for Federal and/or State Agencies

- Funding agencies should require the consideration of regionalization for any small systems that request federal funding (e.g., SRF programs, HUD, or USDA Rural Development). Such consideration should be more than a cursory examination, and should place the burden of proof

on the system that is applying for funding, e.g. requiring information about nearby systems and proof that they are unable to serve the community.

- State or federal funds should be eliminated for projects where a regional solution is possible and cost-effective but not pursued. This will ensure that funding can be better targeted to those areas where the need is greatest (i.e. where affordability is a concern and where regionalization is either occurring or has been determined not to be a viable alternative).
- Establish a mechanism at the state level, whether formal or informal, to communicate and coordinate among funders so that all have the same information when making decisions about projects. Federal agencies should encourage the creation of coordination groups by their state affiliates.
- Create incentives that encourage larger systems to reach out to neighboring small systems to provide service. For instance, funds could be made available for larger systems to help small systems with problem issues, in cases of emergency. This would provide a means for larger systems to be paid for their labor while also providing a way to begin building a relationship of trust between the systems.
- State primacy agencies should encourage regionalization by orchestrating and facilitating meetings between small systems that have problems or are deemed unsustainable and larger systems that could potentially serve them. This effort could be enhanced by having a regionalization coordinator in the state who could help systems consider various regional alternatives that would enhance their capacity, and help those systems initiate them.
- Reallocate existing funds to education and outreach to small systems regarding the benefits of regionalization and methods of overcoming barriers at the local level. This task could be carried out by a regionalization coordinator, as mentioned above.
- EPA should utilize every possible public venue, such as conferences and capacity development meetings to invite speakers from proactive large systems, such as those previously mentioned, to talk about creative approaches to regionalization, and why it is in the interest of large systems to use these methods. Such messages are better delivered by peers, and this would afford those systems an opportunity to share their experiences.
- EPA should also consider setting up an awards program to recognize those systems that take an active interest in helping other systems and offer creative regional opportunities and approaches. It's a small "carrot" that would be relatively easy to institute and might help to generate some competition among systems to reach out to their neighbors.

These recommendations are not intended to imply that small systems should be penalized unless they pursue a regional solution to their problem. Clearly, regionalization is not always the best or most cost-effective approach, and may not be geographically or politically possible. RCAP supports funding for small systems and for many years has called for increased federal funding to support them because there remains a great, unmet need. However, it is precisely because of this extensive need, coupled with the fact that federal funds are limited, continually

shrinking, and in high demand that RCAP is calling for funds to be better targeted to areas where the need is greatest and regional alternatives to solving the problem are impractical. In cases where a regional solution is clearly feasible, but is not being pursued or even investigated, those systems should not expect to receive government-subsidized funding. Small systems have every right to maintain their independence, but their users must be willing to pay for it. Conversely, when a system is pursuing a regional alternative that has large capital costs, but will provide a better long-term solution, that project should be made a high priority by funding and primacy agencies.

These recommendations are not new. Many have been proposed by various groups, including the National Research Council, the National Council for Public-Private Partnerships, and the EPA National Drinking Water Advisory Group Affordability Work Group, among others. RCAP is joining the chorus of other voices promoting regionalization in the hope that these issues can be addressed and incorporated into the work of funding and primacy agencies for the benefit of all small systems.

Endnotes

- ¹ The U.S. Environmental Protection Agency defines small systems as those serving populations under 3,300.
- ² EPA, 1999 Drinking Water Infrastructure Needs Survey, (Washington, D.C., 2001), 41.
- ³ EPA, The Clean Water and Drinking Water Infrastructure Gap Analysis, (Washington, D.C., 2002), 43.
- ⁴ WIN Coalition, Clean and Safe Water for the 21st Century, Water Infrastructure Network, (Washington, D.C., 2000), ES-1.
- ⁵ EPA, Drinking Water Infrastructure Needs Survey and Assessment: Third Report to Congress, (Washington, D.C., 2005), 11.
- ⁶ EPA, Clean Watersheds Needs Survey 2000: Report to Congress, (Washington, D.C., 2003), 3-13.
- ⁷ WIN Coalition, Clean and Safe Water, 2-2.
- ⁸ EPA, Handbook for Capacity Development: Developing Water System Capacity Under the Safe Drinking Water Act as Amended in 1996, (Washington, D.C., 2001), 32.
- ⁹ EPA, Factoids: Drinking Water and Ground Water Statistics for 2005, (Washington, D.C. 2005), 2.
- ¹⁰ National Research Council, Safe Water from Every Tap: Improving Water Service to Small Communities, (Washington, D.C.: National Academy Press, 2002), 15.
- ¹¹ EPA, 2005 Factoids, 2.
- ¹² Ibid., 11.
- ¹³ EPA, Clean Watersheds Needs Survey, 3-13 and 14.
- ¹⁴ EPA, 2000 Community Water System Survey, (Washington, D.C., 2002), 30.
- ¹⁵ EPA Office of the Inspector General, Much Effort and Resources Needed to Help Small Drinking Water Systems Overcome Challenges, (Washington, D.C., 2006), 12.
- ¹⁶ Jhih-Shyang Shih, Winston Harrington, William A. Pizer and Kenneth Gillingham, "Economies of Scale and Technical Efficiency in Community Water Systems," Resources for the Future, February 2004, 28.
- ¹⁷ Janice Beecher, J.Higbee, Anthony Menzel and Richard Dooley, The Regionalization of Water Utilities: Perspectives, Literature Review, and Annotated Bibliography, Columbus, OH: National Regulatory Research Institute at The Ohio State University, 1996), 8-11.
- ¹⁸ National Research Council, Safe Water from Every Tap, 17.
- ¹⁹ Ibid., 18.
- ²⁰ Edward Means III, Lorena Ospina and Roger Patrick, "Ten Primary Trends and Their Implications for Water Utilities," Journal AWWA (July 2005): 73.
- ²¹ Ibid., 72.
- ²² David Rager, telephone interview by author, written notes, Fremont, OH, February 2007.
- ²³ EPA, 2005 Factoids, 4.
- ²⁴ Gary Wolff and Eric Hallstein, Beyond Privatization: Restructuring Water Systems to Improve Performance, (Oakland, CA: Pacific Institute for Studies in Development, Environment, and Security, December 2005), 3.

²⁵ New Hampshire Department of Environmental Services and New Hampshire Public Utilities Commission, Regulatory Barriers to Water Supply Regional Cooperation and Conservation in New Hampshire: A Report to the New Hampshire Legislature as Required by Chapter 64, Laws of 2000, (Concord, NH: August 2001), 13-14.

²⁶ National Drinking Water Advisory Council Affordability Workgroup, Recommendations of the National Drinking Water Advisory Council to U.S. EPA on Its National Small Systems Affordability Criteria, (Washington, D.C.: July 2003), 64-65.

²⁷ National Research Council, Safe Water from Every Tap, 156-158.

²⁸ Mississippi Department of Environmental Quality and Mississippi Engineering Group, Inc., Mississippi Gulf Region Water and Wastewater Plan, (Jackson, MS: 2007), ES 1-5.

²⁹ Jeff Freeman, "Regionalization: Be Careful What You Wish For," Presentation to the Council of Infrastructure Financing Authorities, (Philadelphia: 2006).

³⁰ Greater Cincinnati Water Works website at <http://www.cincinnati-oh.gov/water/pages/-3296-/>

³¹ Means, et al, Ten Primary Trends, 76

References

- Beecher, Janice, J. Higbee, Anthony Menzel and Richard Dooley. "The Regionalization of Water Utilities: Perspectives, Literature Review, and Annotated Bibliography." Columbus: National Regulatory Research Institute at The Ohio State University. July 1996.
- Congressional Budget Office. Future Investment in Drinking Water and Wastewater Infrastructure. Washington, D.C., 2002.
- Freeman, Jeff. "Regionalization: Be Careful What You Wish For." Philadelphia: Presentation to the Council of Infrastructure Financing Authorities, 2006.
- Greater Cincinnati Water Works website: <http://www.cincinnati-oh.gov/water/pages/-3296/>
- Means, Edward G. III, Lorena Ospina, and Roger Patrick, "Ten Primary Trends and Their Implications for Water Utilities." Journal AWWA 97:7, July 2005, 64-77.
- Mississippi Department of Environmental Quality and Mississippi Engineering Group, Inc. "Mississippi Gulf Region Water and Wastewater Plan." Jackson, 2007.
- National Council for Public-Private Partnerships. "NCPPP Position on the Water Infrastructure Report." <http://ncppp.org/issuepapers/index.shtml>.
- National Drinking Water Advisory Council. Recommendations of the National Drinking Water Advisory Council to U.S. EPA on its National Small Systems Affordability Criteria. Washington, D.C., 2003.
- National Research Council. Privatization of Water Services in the United States: An Assessment of Issues and Experiences. Washington, D.C., National Academy Press, 2002.
- National Research Council. Safe Water from Every Tap: Improving Water Service to Small Communities. Washington, D.C.: National Academy Press, 1997.
- New Hampshire Department of Environmental Services and New Hampshire Public Utilities Commission. "Regulatory Barriers to Water Supply Regional Cooperation and Conservation in New Hampshire: A Report to the New Hampshire Legislature As Required by Chapter 64, Laws of 2000." Concord, 2001.
- Rager, David. Telephone interview by author, 22 Feb 2007, Fremont, OH. Written notes.
- Shih, Jhih-Shyang, Winston Harrington, William A. Pizer, and Kenneth Gillingham, "Economies of Scale and Technical Efficiency in Community Water Systems." Washington, D.C.: Resources for the Future, February 2004.
- United States Environmental Protection Agency. Clean Watersheds Needs Survey 2000: Report to Congress. Washington, D.C., 2003.
- United States Environmental Protection Agency. Drinking Water Infrastructure Needs Survey and Assessment: Third Report to Congress. Washington, D.C., 2005.
- United States Environmental Protection Agency. Factoids: Drinking Water and Ground Water Statistics for 2004. Washington, D.C., 2004.
- United States Environmental Protection Agency. Factoids: Drinking Water and Ground Water Statistics for 2005. Washington, D.C., 2005.
- United States Environmental Protection Agency. Factoids: Drinking Water and Ground Water Statistics for 2004. Washington, D.C., 2004.
- United States Environmental Protection Agency. Handbook for Capacity Development: Water System Capacity Under the Safe Drinking Water Act as Amended in 1996. Washington, D.C., 2001.
- United States Environmental Protection Agency: Office of the Inspector General. Much Effort and Resources Needed to Help Small

United States Environmental Protection Agency. National Characteristics of Drinking Water Systems Serving Populations under 10,000. Washington, D.C., 1999.

United States Environmental Protection Agency. Providing Safe Drinking Water in America: 1998 National Public Water Systems Compliance Report. Washington, D.C., 2000.

United States Environmental Protection Agency. System Partnership Solutions to Improve Public Health Protection. Washington, D.C., 2002.

United States Environmental Protection Agency. The Clean Water and Drinking Water Infrastructure Gap Analysis. Washington, D.C., 2002.

United States Environmental Protection Agency. 2000 Community Water System Survey. Washington, D.C., 2002.

United States Environmental Protection Agency. 1999 Drinking Water Infrastructure Needs Survey. Washington, D.C., 2001.

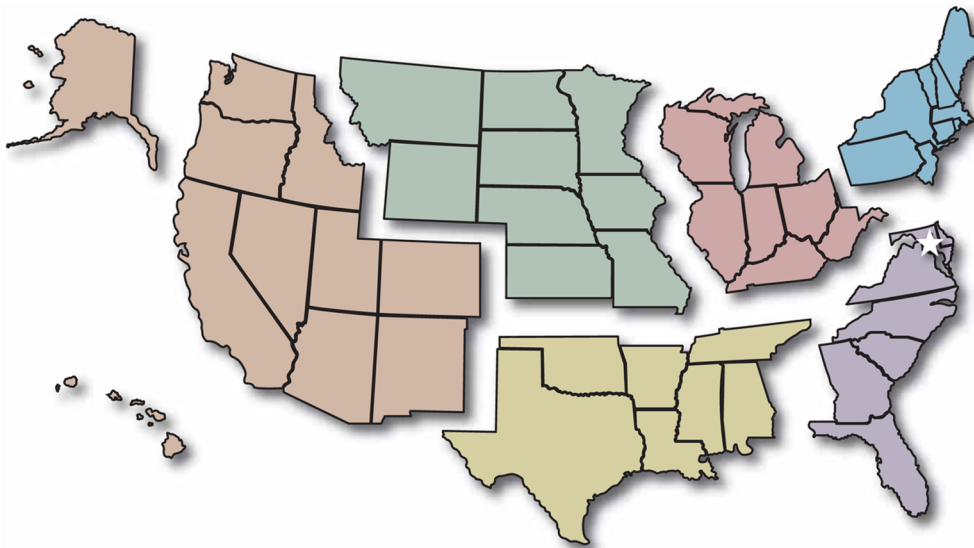
Water Infrastructure Network. Clean and Safe Water for the 21st Century. Washington, D.C., 2000.

Wolff, Gary and Eric Hallstein, Beyond Privatization: Restructuring Water Systems to Improve Performance. Oakland: Pacific Institute for Development, Environment and Security, 2005.



About RCAP

Founded in 1973, the Rural Community Assistance Partnership (RCAP) is a 501(c)(3) nonprofit national service delivery network that provides direct technical assistance, training, and financial resources to water and wastewater systems in more than 2,000 small rural communities each year throughout the U.S., Puerto Rico, the U.S. Virgin Islands, and the Pacific Trust Territories. Most of the communities we assist are economically disadvantaged and have a population under 2,500.



Western RCAP

Rural Community Assistance Corporation
3120 Freeboard Drive, Suite 201
West Sacramento, CA 95691
(916) 447-2854
www.rcac.org

Northeast RCAP

RCAP Solutions
P.O. Box 159
205 School Street
Gardner, MA 01440
(800) 488-1969
www.rcapsolutions.org


Puerto Rico
(Northeast RCAP)

Midwest RCAP

Midwest Assistance Program
P.O. Box 81
212 Lady Slipper Avenue NE
New Prague, MN 56071
(952) 758-4334
www.map-inc.org

Great Lakes RCAP

WSOS Community Action Commission
P.O. Box 590
219 S. Front St., 2nd Floor
Fremont, OH 43420
(800) 775-9767
www.glracap.org

Southern RCAP

Community Resource Group
3 East Colt Square Drive
Fayetteville, AR 72703
(479) 443-2700
www.crg.org

Southeast RCAP

Southeast Rural Community Assistance Project
P.O. Box 2868
145 Campbell Avenue SW, Suite 800
Roanoke, VA 24001
(866) 928-3731
www.southeastrcap.org

National Office

Rural Community Assistance Partnership
1522 K Street NW Suite 400
Washington, DC 20005
(202) 408-1273
www.rcap.org