

RURAL matters



The magazine of the Rural Community Assistance Partnership

2013
Issue 2

A photograph of a wooden rocking chair on a porch. The chair is made of dark wood and has a curved back with vertical slats. It is positioned in front of a blue door with glass panes. The porch floor is made of light-colored wooden planks. The lighting is bright, casting shadows on the floor.

The state of the nation's infrastructure

Also in this issue:

Empowering your
community

Steps for installing a
decentralized wastewater
treatment system

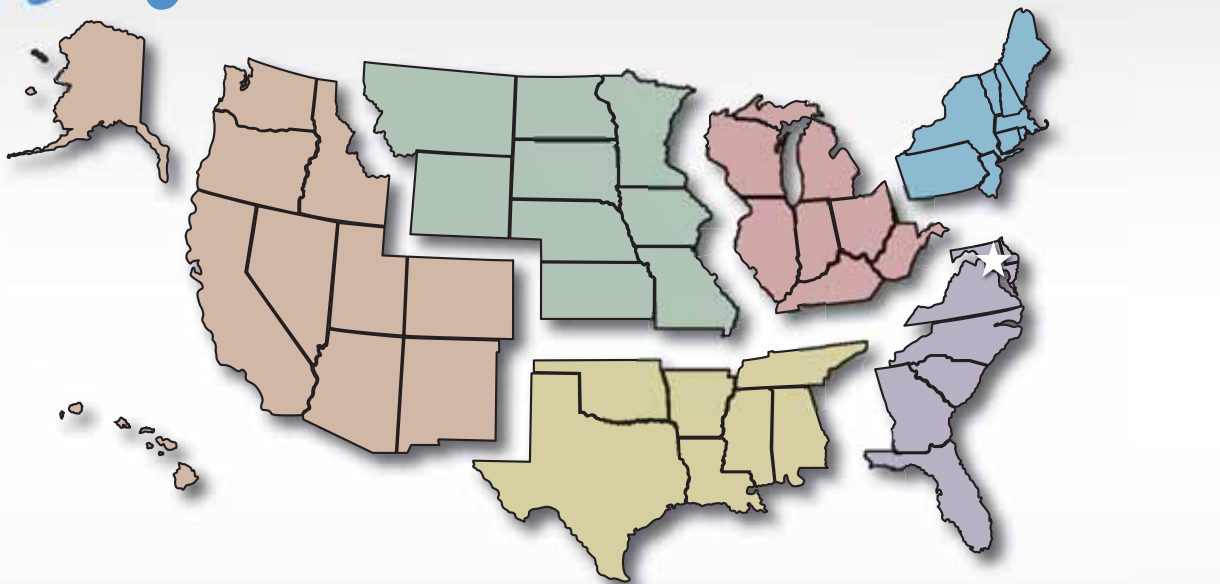
Need help with your community's water or wastewater system?

The Rural Community Assistance Partnership (RCAP) is a national network of nonprofit organizations working to ensure that rural and small communities throughout the United States have access to safe drinking water and sanitary wastewater disposal. The six regional RCAPs provide a variety of programs to accomplish this goal, such as direct training and technical assistance, leveraging millions of dollars to assist communities develop and improve their water and wastewater systems.

If you are seeking assistance in your community, contact the office for the RCAP region that your state is in, according to the map below. Work in individual communities is coordinated by these regional offices.



Rural Community Assistance Partnership



Western RCAP

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

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

Southern RCAP

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

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

Southeast RCAP

Southeast Rural Community Assistance Project
347 Campbell Ave. SW
Roanoke, VA 24016
(866) 928-3731
www.southeastrcap.org

★ RCAP National Office ★

1701 K Street NW, Suite 700 • Washington, DC 20006
(202) 408-1273 • (800) 321-7227
www.rcap.org

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Photo by Wendell Davis, courtesy FEMA

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Photo by Dave Lunde

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1701 K Street NW, Suite 700; Washington, DC 20006

Tel: (202) 408-1273 Fax: (202) 408-8165

www.rcap.org

Subscription/editorial/advertising inquiries: ruralmatters@rcap.org

PUBLISHER

Robert Stewart, RCAP Executive Director

MANAGING EDITOR

Stephen H. Padre, Director of Communications

EDITORIAL AND DESIGN SERVICES

Lauri Murphy Logan

CONTRIBUTING WRITERS

Roberta Acosta

Robert P. Britts, P.E.

Cover photo by Stephen H. Padre

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Director's letter



Robert Stewart
RCAP Executive Director

As you will read in this issue, once again, there are new reports about projected water and wastewater infrastructure funding requirements. Both the EPA and the American Society of Civil Engineers have published studies in recent months that document water infrastructure investment needs of between \$298 billion and \$384 billion.

However, federal expenditures to meet these needs have decreased steadily over the last ten years. In many cases, state and local governments are working to meet these unmet needs. For instance, in my home state of Texas, a recent state legislative initiative, if approved by the voters in November, will take \$2 billion from the state's "Rainy Day Fund" (rather ironic given the ongoing drought in the Southwest) to improve water infrastructure across the state. Notably, 10 percent of these funds will be dedicated to rural communities and 20 percent for water conservation and reuse. While all sides can find fault in some aspect of this initiative, it passed through the legislature with overwhelming bipartisan support, marking a continuing commitment to funding needed water projects, which create jobs and promote economic growth for the state.

After hearing the results of so many water and wastewater needs assessments, you would think everyone, at every level of government, would realize that vital water and wastewater systems are in dire need of increased investment. At the same time, attention needs to be paid to the important role of private-sector investments, even if efforts in this direction are in their infancy.

A provision in this year's Water Resources Development Act (WRDA) is set to create a pilot program to assess the feasibility of using innovative financing tools, that being to attract private investment capital, in order to fund additional water-resources development. For rural communities, this program may not be of much benefit in its current form as it expects projects to be in excess of \$5 million, far more than what is usually needed for small, rural utilities. At least that marks some small movement to address this situation.

Traditionally, the federal government has provided financing support to rural water utilities through the EPA's State Revolving Fund and USDA's Rural Utilities Service. RCAP feels strongly that these funding sources should be maintained and strengthened. Small, typically lower-income rural communities need some level of grants and reduced-interest loans to make vital water services available to their residents.

All of this brings us back to the needs assessments. You might wonder why we continue to spend resources to document these water and wastewater infrastructure needs if they routinely show the same, ever-increasing needs, needs that are being ignored at the peril of our public health and our economic viability. ■

rural developments



News and resources from the Environmental Protection Agency

Report on green infrastructure operation and maintenance practices



EPA has released a report that examines the operation and maintenance practices of several green infrastructure projects funded by the Clean Water State Revolving Fund under the American Recovery and Reinvestment Act and that identifies trends and common elements shared by the various projects. The report provides information to communities and operators on funding programs to help ensure that green infrastructure projects are operated and maintained to optimize long-term performance and effectiveness.

View the report at http://water.epa.gov/grants_funding/cwsrf/upload/Green-Infrastructure-OM-Report.pdf

Report on emerging technologies for wastewater treatment and in-plant wet-weather management

EPA has released a report on emerging technologies for wastewater treatment and in-plant wet-weather management to assist municipal wastewater utility owners and operators, local governments, engineers, and planners find information on new wastewater treatment and in-plant wet-weather management technologies. The document includes technical and cost

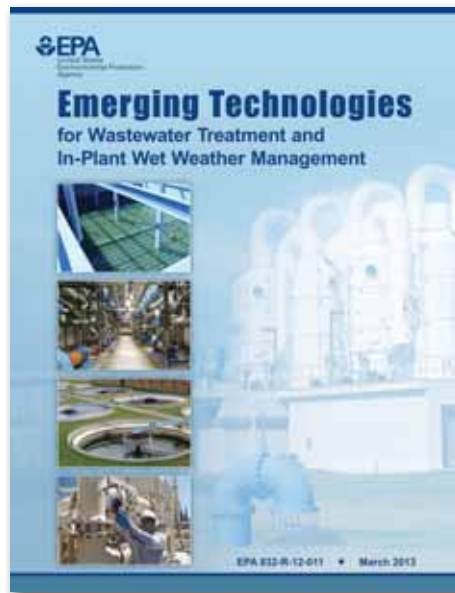
information to assist users in considering using more efficient, sustainable, and cost-effective wastewater treatment and in-plant wet-weather management technologies. Updated from the 2008 publication, the report provides information on four categories of technology development: research stage; emerging; innovative; and adaptive use.

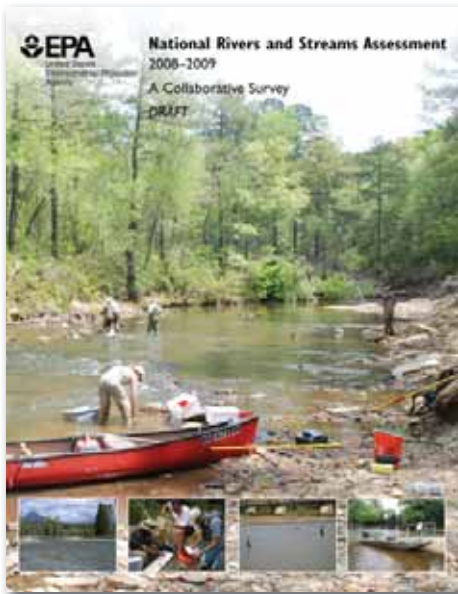
For more information and to view the report, visit <http://water.epa.gov/scitech/wastetech/publications.cfm>

EPA survey finds more than half of the nation's river and stream miles in poor condition

WASHINGTON (EPA)—The EPA released in March the results of the first comprehensive survey looking at the health of thousands of stream and river miles across the country, finding that more than half – 55 percent – are in poor condition for aquatic life.

“The health of our nation's rivers, lakes, bays and coastal waters depends on the vast network of streams where they begin, and this new science shows that America's streams and rivers are under significant pressure,” said Office of Water Acting Assistant Administrator Nancy Stoner. “We must continue to invest in protecting and restoring our nation's streams and riv-





ers as they are vital sources of our drinking water, provide many recreational opportunities, and play a critical role in the economy.”

The 2008-2009 National Rivers and Stream Assessment reflects the most recent data available and is part of EPA’s expanded effort to monitor waterways in the U.S. and gather scientific data on the condition of the nation’s water resources.

EPA partners, including states and tribes, collected data from approximately 2,000 sites across the country. EPA, state and university scientists analyzed the data to determine the extent to which rivers and streams support aquatic life, how major stressors may be affecting them and how conditions are changing over time.

Findings of the assessment include:

- Nitrogen and phosphorus are at excessive levels. Twenty-seven percent of the nation’s rivers and streams have excessive levels of nitrogen, and 40 percent have high levels of phosphorus. Too much nitrogen and phosphorus in the water—known as nutrient pollution—causes significant increases in algae, which harms water quality, food resources and habitats, and decreases the oxygen that fish and other aquatic life need to survive.

- Streams and rivers are at an increased risk due to decreased vegetation cover and increased human disturbance. These conditions can cause streams and rivers to be more vulnerable to flooding, erosion, and pollution. Vegetation along rivers and streams slows the flow of rainwater so it does not erode stream banks, removes pollutants carried by rainwater and helps maintain water temperatures that support healthy streams for aquatic life. Approximately 24 percent of the rivers and streams monitored were rated poor due to the loss of healthy vegetative cover.
- Increased bacteria levels. High bacteria levels were found in nine percent of stream and river miles, making those waters potentially unsafe for swimming and other recreation.
- Increased mercury levels. More than 13,000 miles of rivers have fish with mercury levels that may be unsafe for human consumption. For most people, the health risk from mercury by eating fish and shellfish is not a health concern, but some fish and shellfish contain higher levels of mercury that may harm an unborn baby or young child’s developing nervous system.

EPA plans to use this new data to inform decision making about addressing critical needs around the country for rivers, streams, and other waterbodies. This comprehensive survey will also help develop improvements to monitoring these rivers and streams across jurisdictional boundaries and enhance the ability of states and tribes to assess and manage water quality to help protect our water, aquatic life, and human health. Results are available for a dozen geographic and ecological regions of the country.

More information:
www.epa.gov/aquaticssurveys

OTHER NEWS AND RESOURCES

Video demonstrates in visual way what not to flush

“What comes out of you and toilet paper” is what a YouTube video say are the only things that should be flushed down the toilet. This informative video shows in a visual way what happens to come common bathroom throw-aways when they’re flushed down the toilet, including so-called “flushable” things like kitty litter or baby wipes. In a demonstration by a sewage pre-treatment technician, wastewater customers (all of us) can see what happens when facial tissue, dental floss, cotton swabs and feminine napkins are sent through the wastewater system.

Find the video *Will it Flush?* at:
<http://youtu.be/SLTVqkXVvNk>

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Deficit in nation's aquifers accelerating

(USGS)—A new U.S. Geological Survey study documents that the nation's aquifers are being drawn down at an accelerating rate.

The study, "Groundwater Depletion in the United States (1900-2008)," comprehensively evaluates long-term cumulative depletion volumes in 40 separate aquifers (distinct underground water-storage areas) in the United States, bringing together reliable information from previous references and from new analyses.

"Groundwater is one of the nation's most important natural resources. It provides drinking water in both rural and urban communities. It supports irrigation and industry, sustains the flow of streams and rivers, and maintains ecosystems," said Suzette Kimball, acting USGS Director. "Because groundwater systems typically respond slowly to human actions, a long-term perspective is vital to manage this valuable resource in sustainable ways."

To outline the scale of groundwater depletion across the country, here are two startling facts drawn from the study's wealth of statistics. First, from 1900 to 2008, the nation's aquifers, the natural stocks of water found under the land, were depleted

by more than twice the volume of water found in Lake Erie. Second, groundwater depletion in the U.S. in the years 2000 to 2008 can explain more than 2 percent of the observed global sea-level rise during that period.

Since 1950, the use of groundwater resources for agricultural, industrial, and municipal purposes has greatly expanded in the United States. When groundwater is withdrawn from subsurface storage faster than it is recharged by precipitation or other water sources, the result is groundwater depletion. The depletion of groundwater has many negative consequences, including land subsidence, reduced well yields, and diminished spring and stream flows.

While the rate of groundwater depletion across the country has increased markedly since about 1950, the maximum rates have occurred during the most recent period of the study (2000 to 2008), when the depletion rate averaged almost 25 cubic kilometers per year. For comparison, 9.2 cubic kilometers per year is the historical average calculated over the 1900 to 2008 timespan of the study.

One of the best known and most investigated aquifers in the U.S. is the High Plains (or Ogallala) aquifer. It underlies more than 170,000 square miles of the nation's

midsection and represents the principal source of water for irrigation and drinking in this major agricultural area. Substantial pumping of the High Plains aquifer for irrigation since the 1940s has resulted in large water-table declines that exceed 160 feet in places.

The study shows that, since 2000, depletion of the High Plains aquifer appears to be continuing at a high rate. The depletion during the last 8 years of record (2001 through 2008) is about 32 percent of the cumulative depletion in this aquifer during the entire 20th century. The annual rate of depletion during this recent period averaged about 10.2 cubic kilometers, roughly 2 percent of the volume of water in Lake Erie.

Read the report:

<http://pubs.usgs.gov/sir/2013/5079/>



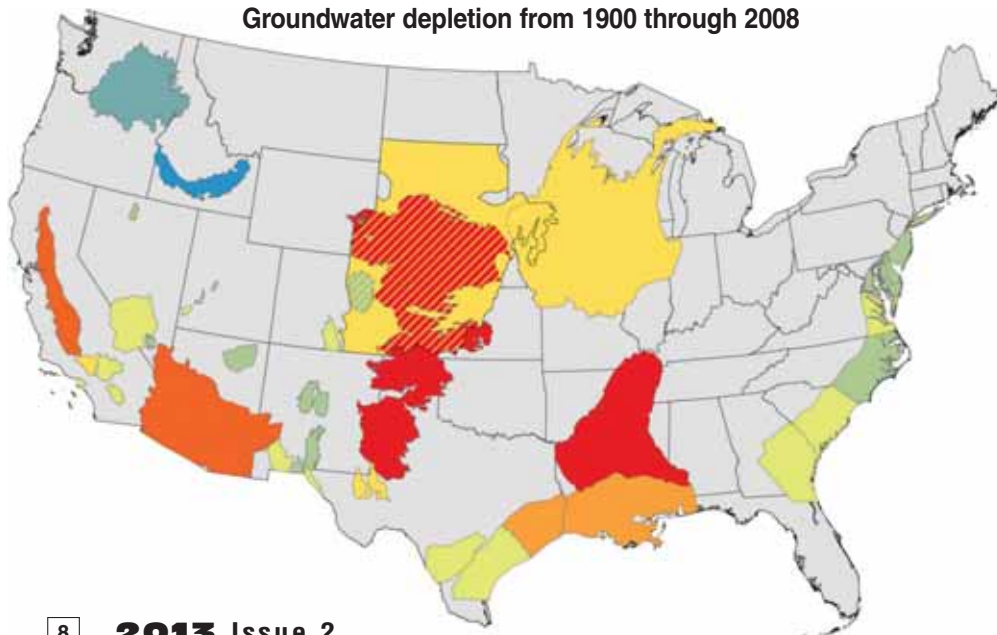
Expert in community economic development offers 10 keys to success

Don Macke, Director of Entrepreneurial Communities and co-founder of the Center for Entrepreneurship, is writing this year about ten keys to economic-development success in rural communities. The center is a resource for rural communities and regions interested in building more sustainable economic development frameworks around entrepreneurship. It researches entrepreneurship development and offers training, a newsletter, development tools, and other learning resources.

Macke's keys to success fall under these themes:

1. Local responsibility
2. Smart game plan

Groundwater depletion from 1900 through 2008



3. Robust investment
4. Entrepreneurial development systems
5. Sustained effort
6. Growth entrepreneurs
7. Attributes of an entrepreneurial community
8. Immigrants & new residents
9. Real regional collaboration
10. Civic & social entrepreneurs

To see Macke's writings on these topics, sign up for the "Rural Entrepreneurship Newsletter" at www.energizingentrepreneurs.org/site/index.php?option=com_content&view=article&id=23&Itemid=22



Changes to the RCAP board of directors

New MAP executive director

The new representative on the RCAP board from the Midwest Assistance Program (MAP), the Midwest RCAP, is Michael Brownfield. Effective May 1, Brownfield is the new executive director for MAP, replacing CEO Marcie McLaughlin, who resigned.

Brownfield joined MAP four years ago as a technical assistance provider. He has also served as a field manager and program director for MAP. "Mr. Brownfield's experience with MAP and the RCAP network, as well as his years managing several aspects of the Missouri National Guard, makes him well qualified to assume MAP's leadership role," said MAP's board chair, Richard Cavender.

New members of the board

Christine (Chris) Galvin was seated on the national board of directors of RCAP last year as the official representative of Great Lakes RCAP. She is also on the WSOS Community Action Board, the oversight group for Great Lakes RCAP. She serves on the WSOS board representing Ottawa County, Ohio (the "O" in WSOS).

Galvin is the area director for United Way in Ottawa County and has served in that capacity since 1993. Prior to that, she worked for a major medical center in Toledo. Her commitment to individual and community development led to the creation of the Conestoga Project, a neighborhood revitalization program that helped a declining area in her hometown stabilize real estate prices and bring about infrastructure improvements; leverage local, state and federal resources to improve lives; and helped residents connect with health and social services. She is known as a connector and strategic problem solver with an ability to build community coalitions to address issues from homelessness to transportation. She brings her experience in board training and strategic planning to the RCAP board.



Chris Galvin

Anish Jantrania was elected to the board in Nov. 2012. His focus is promoting affordable and sustainable wastewater infrastructure to support economic growth and protection of water quality. He is currently a senior project manager at NCS Wastewater Solutions, a division of Northwest Cascade, Inc., a private company that designs, builds and operates wastewater services for areas not served by public sewer systems.

Formerly a technical services engineer for the Virginia Department of Health in the Onsite Sewage and Water Program, Jantrania is a nationally recognized technical expert and speaker at environmental health conferences and technical workshops such as ASAE, NEHA, WEF and NOWRA. Early in his career, he worked for the EPA National Small Flows Clearing House at West Virginia University and managed the first National Onsite Demonstration Project in Gloucester, Mass.

Before coming to the U.S. in 1983 for graduate studies, Jantrania earned his bachelor's degree in agricultural engineering in India and worked in rural communities in his birth state of Gujarat. He currently lives in Mechanicsville, Va., a suburb of Richmond. ■



Anish Jantrania



Nation's infrastructure grade inches up to a D+ on national report card

Engineering group's analysis finds investment and innovative solutions led to improvements in six sectors since 2009

The American Society of Civil Engineers (ASCE) released in March its 2013 Report Card for America's Infrastructure, a comprehensive assessment of the nation's infrastructure across 16 sectors. Updated once every four years, the latest Report Card found that America's cumulative GPA for infrastructure rose slightly to a D+ from a D in 2009. The Report Card estimates total investment needs at \$3.6 trillion by 2020 across all 16 sectors, leaving a funding shortfall of \$1.6 trillion based on current funding levels.

The nation's overall drinking water and wastewater infrastructure were each given a D, both up from their D-minus grades given in 2009.

None of the infrastructure categories received a lower grade than in 2009. Near-failing grades continue to be seen in numerous sectors that are crucial to the economy and Americans' quality of life, said the ASCE upon release of its assessment. The grades in 2013 range from a high of B-minus for solid waste infrastructure to a low of D-minus for inland waterways and levees.

Encouraging trends were found in sectors where focused investments were made. In addition to the drinking water and wastewater sectors, solid waste, roads, bridges and rail also experienced incremental improvements since the last assessment.

Trends contributing to rising grades

Key trends driving improvements included:

- Renewed efforts in cities and states to address deficient roads, bridges, drinking water and wastewater systems
- Several categories benefited from short-term boosts in federal funding.

"A D+ is simply unacceptable for anyone serious about strengthening our nation's economy; however, the 2013 Report Card shows that this problem can be solved. If we want to create jobs, increase trade, and assure the safety of our children, then infrastructure investment is the answer," said ASCE President Gregory E. DiLoreto, P.E.

"We must commit today to investing in modern, efficient infrastructure systems to position the U.S. for economic prosperity," added DiLoreto. "Infrastructure can either be the engine for long-term economic growth and employment, or, it can jeopardize our nation's standing if poor roads, deficient bridges, and failing waterways continue to hurt our economy."

Grades for water sectors

Frequent water main breaks, pipes and mains that are frequently more than 100 years old are reaching the end of their life cycle and require significant investment and continue to account for the low grade in the drinking water infrastructure sector.

"Not meeting the investment needs of the next 20 years risks reversing the environmental, public health, and economic gains of the last three decades," the report says.

Capital-investment needs for the nation's wastewater and storm-water systems, namely to fix and expand pipes to address sanitary sewer overflows, combined sewer overflows, and other pipe-related issues, are estimated to total \$298 billion over the next 20 years.

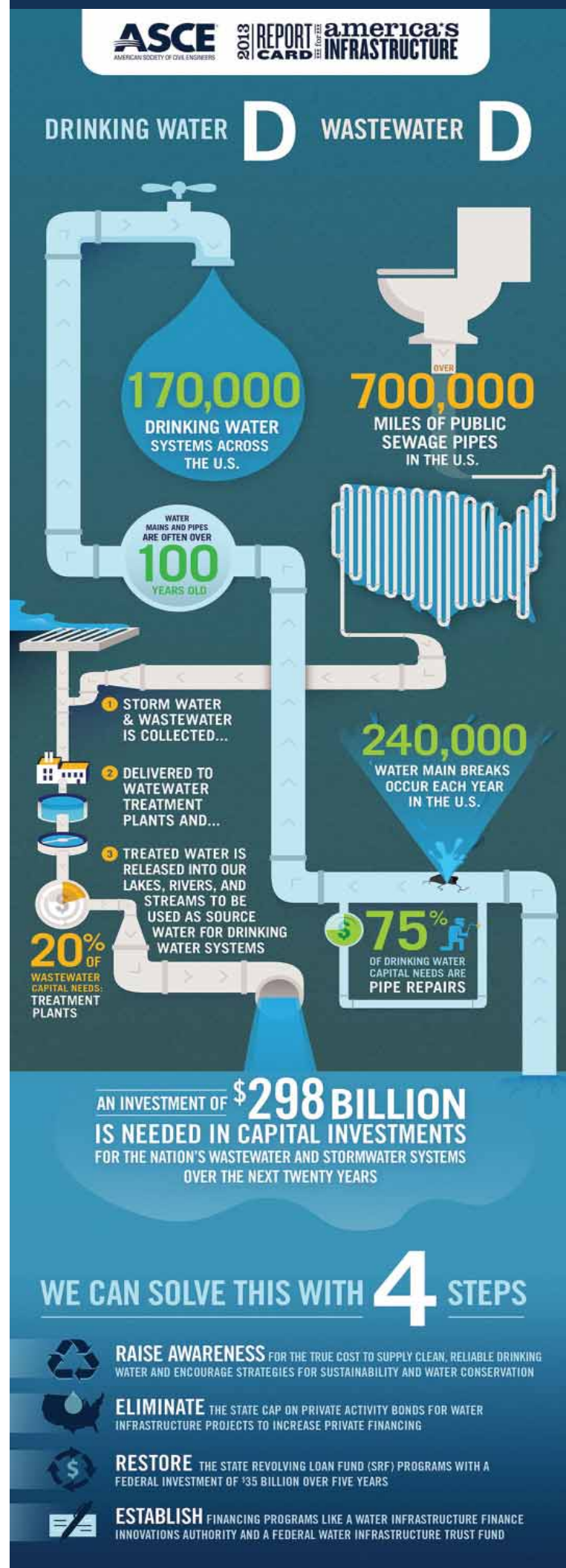
"Other costs will result from stricter permitting standards, nutrient removal requirements, technology updates, and new process methods, among others," the report warns.

The report offers several "solutions that work now" for both areas that include raising awareness for the true cost of water and reinvigorating the respective State Revolving Loan Fund (SRF) programs for the sectors.

New ways of delivering information

For the first time, the 2013 Report Card includes information on a state-by-state basis and highlights initiatives and innovations that are making a difference.

[continued on next page](#)



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Also for the first time, the Report Card is available as a digital application that includes videos and other multimedia tools. Available for download from iTunes and Google Play, the app is supported across all major platforms and devices. It is also accessible online at www.infrastructurereportcard.org, and is supported across all major platforms and devices.

About the Report Card

Using a simple A to F school report card format, the Report Card provides a comprehensive assessment of current infrastructure conditions and needs, both assigning grades and making recommendations for how to raise them. An advisory council of leading civil engineers appointed by ASCE assigns the grades according to the following eight criteria: capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation. Since 1998, the grades have been near failing, averaging only Ds, due to delayed maintenance and underinvestment across most categories.

To view and download the Report Card, visit www.infrastructurereportcard.org ■

EPA survey shows \$384 billion needed for drinking water infrastructure by 2030

WASHINGTON (EPA)—The U.S. Environmental Protection Agency (EPA) released on June 4 results of a survey showing that \$384 billion in improvements are needed for the nation's drinking water infrastructure through 2030 for systems to continue providing safe drinking water to 297 million Americans.

EPA's fifth Drinking Water Infrastructure Needs Survey and Assessment identifies investments needed over the next 20 years for thousands of miles of pipes and thousands of treatment plants, storage tanks and water distribution systems, which are all vital to public health and the economy. The national total of \$384 billion includes the needs of 73,400 water systems across the country, as well as American Indian and Alaska Native Village water systems.

"A safe and adequate supply of drinking water in our homes, schools and businesses is essential to the health and prosperity of every American," said EPA Acting Administrator Bob Perciasepe. "The survey EPA released today shows that the nation's water systems have entered a rehabilitation and replacement era in which much of the existing infrastructure has reached or is approaching the end of its useful life. This is a major issue that must be addressed so that American families continue to have the access they need to clean and healthy water sources."

The survey, required under the Safe Drinking Water Act to be submitted to Congress every four years by EPA, was developed in consultation with all 50 states and the Navajo Nation. The survey looked at the funding and operational needs of more than 3,000 public drinking water systems across the United States, including those in Tribal communities, through an extensive questionnaire.



Photo by Wendell Davis, courtesy FEMA

In many cases, drinking water infrastructure was reported to be 50 to 100 years old.

The assessment shows that improvements are primarily needed in:

- Distribution and transmission: \$247.5 billion to replace or refurbish aging or deteriorating lines
- Treatment: \$72.5 billion to construct, expand or rehabilitate infrastructure to reduce contamination
- Storage: \$39.5 billion to construct, rehabilitate or cover finished water storage reservoirs
- Source: \$20.5 billion to construct or rehabilitate intake structures, wells and spring collectors

EPA allocates Drinking Water State Revolving Fund grants to states based on the finding of the assessment. These funds help states to provide low-cost financing to public water systems for infrastructure improvements necessary to protect public health and comply with drinking water regulations.

Since its inception in 1997, the Drinking Water State Revolving Fund has provided close to \$15 billion in grants to all 50 states and Puerto Rico to improve drinking water treatment, transmission and distribution. The Drinking Water State Revolving Fund program has also provided more than \$5.5 billion to protect drinking water in disadvantaged communities.

More information:

http://water.epa.gov/grants_funding/dwsrf/index.cfm ■

Exhibit 1.5: Total 20-Year Need by System Size and Type and Project Type (in billions of January 2011 dollars)

System Size and Type	Distribution and Transmission	Treatment	Storage	Source	Other	Total Need
Large Community Water Systems (serving over 100,000 persons)**	\$98.0	\$27.5	\$11.2	\$6.7	\$1.7	\$145.1
Medium Community Water Systems (serving 3,301 to 100,000 persons)**	\$108.1	\$28.6	\$16.2	\$7.1	\$1.9	\$161.8
Small Community Water Systems (serving 3,300 and fewer persons)†	\$38.7	\$10.0	\$9.5	\$5.6	\$0.7	\$64.5
Not-for-Profit Noncommunity Water Systems‡	\$0.6	\$0.9	\$2.2	\$0.9	\$0.0*	\$4.6
Total States and U.S. Territories Need	\$245.4	\$67.1	\$39.1	\$20.3	\$4.2	\$376.0
American Indian Water Systems	\$1.8	\$0.3	\$0.3	\$0.2	\$0.1	\$2.7
Alaska Native Village Water Systems	\$0.3	\$0.2	\$0.1	\$0.0*	\$0.0*	\$0.6
Costs Associated with Proposed and Recently Promulgated Regulations§		\$4.9				\$4.9
Total National Need	\$247.5	\$72.5	\$39.5	\$20.5	\$4.2	\$384.2

Note: Numbers may not total due to rounding. *Actual "Other" need \$1.04 million for NPNCWS; Alaska Native Village water system "Other" need \$4.9 million and "Source" need \$39 million.

** "Large" and "medium" community water systems are defined differently for this Assessment than in the 2003, 1999, and 1995 Assessments. See Appendix A for more information.

† Based on 2007 Assessment findings adjusted to 2011 inventory and cost models.

‡ Based on 1999 Assessment findings adjusted to 2011 dollars.

§ Taken from EPA economic analyses.

Five things you can do to improve a community through empowerment

By Robert P. Britts, P.E.

*Editor's note:
This is one in a series of articles on "Five things you can do to improve..."*

Earlier articles have appeared in previous issues of Rural Matters and can be found at www.rcap.org/RMissues

Many rural communities, especially those in distressed areas, have suffered greatly for the past two decades. The closing of factories and local businesses have devastated some communities. Besides the loss of jobs, the service businesses that supported the industrial workers have closed as well. The residents, over time, have become discouraged about the prospects for permanent, well-paying jobs ever coming back. The youth have also gotten discouraged. Many of them leave home after graduating and move far away to seek employment. Those who stay may turn to alcohol, drugs or crime to deal with the apparent hopeless situation.

This is a sad state of affairs in many isolated rural communities. In the Southeast region of the United States, the closing of many textile mills was responsible for the loss of 60,000 jobs by 2009.

Many of these rural communities are in unincorporated areas of their counties. They do not have a town hall, a mayor and council or commissioners to assist the residents. The local elected officials, whether on the town, city, or county level, have tough choices to make. They may need to decide to raise taxes or fees on the individual residents or reduce services. To make matters worse, the existing water and sewer infrastructure may be more than 50 years old and need to be replaced. Recent environmental regulations may

require expensive upgrades to the utility systems.

Here are five things or "tools" that can be used to empower rural communities that do not appear to have the will, resources or leaders to address their needs and make their lives better.

Tool 1:

Identify the needs and resources necessary to satisfy the needs.

One community that had a need for safe drinking water is the New Prospect Community in northern Spartanburg County, S.C. Because this all-residential community is unincorporated, it does not have any local officials who represent only the community. The residents' county council member represents many communities in the far-flung part of the county.

The community has many low-income residents who have old, shallow wells and failing septic tanks. On the other hand, half the residents are middle-income people who work in Spartanburg or other large cities. These more prosperous residents can afford to drill a new well that costs about \$12,000 or pay for a septic tank pump-out. They are generally not interested in connecting to a public water system as their deep, private residential wells work fine. Some have stated that they have recently paid to have a new well drilled and

therefore do not need to be hooked up to the public water supply.

Southeast Rural Community Assistance Project, the Southeast RCAP, began working with New Prospect, and over the next few years assisted the community with private well water samples, door-to-door interest surveys, and applications for funding to Spartanburg County.

The local water district was willing to run a water line to the community if 45 percent of the project's cost would be paid by the residents. Only ten or so homes could commit to connecting to the public water supply at a cost of \$4,500 per house.

Meanwhile, due to the extended drought of 2007 to 2009, the local public utility, a water district, needed a new water supply, so it ran a water line from 20 miles away to its existing line nearby. A small church in the middle of the community paid \$40,000 to run a branch line two miles to its building. This new branch line was the beginning of several branch lines in the New Prospect Community.

This problem was solved with various entities coming together: Southeast RCAP, the resources of the small local church and the Spartanburg County Planning Department. These were the best resources for New Prospect Community to use to get public water in to the community.

Once a community's resources are known, leaders should document and capture them for future use. Town, city, township, county and state resources with addresses and phone numbers should be on publicly displayed lists at the town hall, libraries, and fire and police stations or on a website. These resources include schools, planning districts or council of governments, rural transportation companies, aging centers, early childhood centers, providers of mental health care, health departments, recreation departments, tourism offices, historical societies, and chamber of commerce or business groups.



A church in the New Prospect Community of South Carolina was one of the catalysts in getting public water to the community. The water line connection is in the foreground.

Tool 2:

Create a mission statement, strategic plan and work groups to implement the mission.

In northern Charleston County, S.C., is the Sewee to Santee Community, a predominantly low-income community with no industry. The residences are far apart, and the population is scattered over a 100-square-mile area. The nearest large employers are 35 miles south or 25 miles north. A nonprofit agency, Sewee to Santee Community Development Corporation (CDC), had been in existence for about eight years. The CDC had a director, an office assistant and a board of directors. The local Berkeley-Charleston-Dorchester Council of Governments (BCD COG) carried out a study to examine why Sewee to Santee CDC was not accomplishing much in the last few years.

Through a chain of contacts, Southeast RCAP became involved with the community. Southeast RCAP facilitated the drafting of a mission statement and strategic plan. Six work groups were established

to implement the strategic plan on these subjects: safe drinking water; recreation; housing repairs; preservation of historical heritage; tourism; and economic development.

A concerns- or needs-list should be prioritized according to the most critical items. Those other than the first ten, for example, can be addressed after some of the most critical items are addressed. This prioritization needs to be explained so residents know why their particular needs are not being addressed as quickly as they would like.

Tool 3:

Have regular meetings, fundraisers, apply for grants, and publicize efforts.

The CDC held two highly publicized and successful fundraisers. Within a year, Sewee to Santee CDC had received two private foundation grants. The large public water system, Mt. Pleasant Water Works, drilled two community wells.

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A community's leaders and/or elected officials should hold regular meetings. The meetings should be held at least once a quarter and be announced in advance to identify concerns and discuss steps taken by the local leaders or officials.

Depending on their skills, experience and motivation, residents need to be asked and appointed to work groups so they will have involvement, input and ownership in solutions. Work groups should have meetings on a regular basis.

Sewee to Santee CDC publicized its successes and shared information about its efforts and results. Local partners like the Town of McClellanville and rural churches were made aware of what was going on with the CDC.

Status updates and newsletters need to be posted at the community meeting hall or equivalent once a quarter. These should also be sent to those with e-mail.

Tool 4:

Build on successes.

After the mission statement and strategic plan have been written and resources have been tapped, the community is in a position to build on its achievements. The community has successes that its members can now be proud of: mission statement, strategic plan, work groups, regular meetings, regular reports, resources identified and used, fundraisers, grants applied for and awards received, volunteer labor received, monetary contributions, materials and supplies donated, etc.

When small grants were awarded and received, that was an incentive to apply for larger grants for different types of funds for other needs. Success breeds success and encouragement to apply for more grants and solicit donations from local businesses and possibly loans from local banks. The community leaders need to look at other areas of their strategic plan. In their first year or two, they can point to receiving



A new clean water dispensing station is dedicated in Sewee to Santee community, S.C. It was the result of some focused work by the community to address its needs.

grants for environmental needs such as safe drinking water, septic tank maintenance and repairs, and clean waste water. Now they can tap resources for housing repairs, recreation, children's health, such as lead-based paint remediation, cultural preservation, recruiting small businesses, and community facilities like meeting halls and senior centers.

When word of funding successes gets out, more people will be interested in participating in the process and being a part of the work groups. Local citizens who were standing on the sidelines will want to get involved. With additional people involved, membership in the work groups can be expanded, or the number and kind of work groups can be increased.

Tool 5:

Continue with the strategic plan, or revise it for long-term success.

The community organization has accomplished a lot in a short time. The community leaders will need to revisit their strategic plan, probably every year. For a truly empowered community, the organization needs to have achievements, be sustainable and continue every year and grow its assets over time. If it has not done so already, the community organization

can incorporate to become a 501(c)(3). This will make it eligible for county and state funding as well as private foundation grants.

Based on its successes and current needs, the community can revise its strategic plan. As in this entire community-empowerment process, the public needs to feel ownership and thus be invited to all meetings. These meetings need to be in a public place and convenient time and be publicized in advance. When the strategic plan is revised, the mission statement may also need to be revised to reflect the current mission. All of the funders and resources that were used need to know that this revision of the strategic plan is a natural and expected part of the empowerment process.

There may be some residents who have legitimate concerns about changes to the mission statement and strategic plan. The community leaders need to have answers for any complaints or concerns. The new mission statement and strategic plan should be published in the normal channels as a draft. A second meeting will be needed to finalize the changes. ■

Britts is the Director of Regional Programs for Southeast Rural Community Assistance Project, the Southeast RCAP.

So, you think you want to build a decentralized wastewater treatment system?

By Roberta Acosta

Rural communities across the country struggle to find reasonable and affordable options for wastewater treatment. Daunting capital investments, shrinking federal-assistance programs, increasing operational expenses, and stricter regulations along with a small customer base and geographic isolation make installing a new sewer system seem impossible.

Centralized or traditional sewage-collection and treatment systems often require large investments and intense management and operations oversight. Debt-service requirements, energy costs and overall operations and maintenance activities can quickly spiral out of control and can drain a community's budget.

But there is hope.

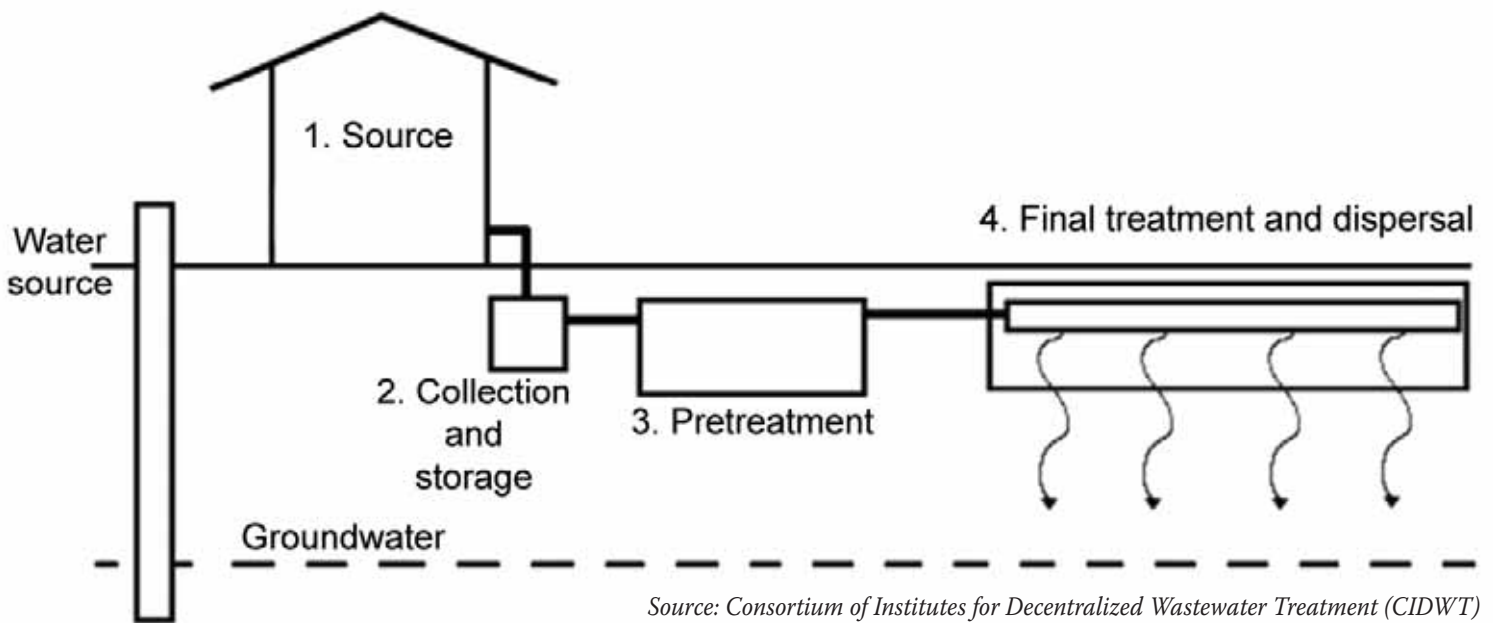
In 1997, the U.S. Environmental Protection Agency (EPA) determined that the use of decentralized systems for addressing small-community wastewater needs is a viable, long-term solution, if these systems are planned for, designed and maintained properly. EPA further stated that these systems are often less costly to install and operate than centralized sewer systems.

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AdvanTex® Wastewater Treatment Systems, manufactured by Orenco Systems. Photos courtesy of Innoflow.





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What exactly is a decentralized system?

There is a lot of debate and sometimes confusion about what a decentralized system is. Essentially, it is a cross between a conventional system and an onsite system. Decentralized systems typically employ more passive treatment technologies.

The term refers to the use of onsite or clustered systems to treat all of the wastewater generated in an area. A community may operate several small treatment “clusters,” rather than the more typical approach of installing large conveyance systems to one central treatment facility. This allows you to target areas of greatest concern, such as areas of dense population, and minimizes the investment in infrastructure.

Other advantages of decentralized systems include the ability for them to be “phased-in” and expanded for growth, and maximization of soil dispersal and reuse opportunities. The chart below summarizes the main differences between a decentralized system and more conventional sewage-treatment systems.

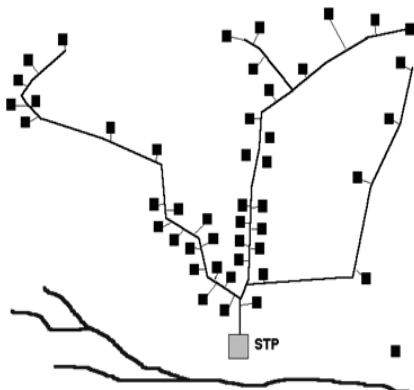
Centralized

One collector sewer moving wastewater to single treatment plant that discharges into receiving stream

Conventional gravity sewers that require regular manholes and frequent lift stations

Generally employs complex activated sludge treatment

This approach is very expensive (capital and operating costs), can upset basin water balances, and creates ill will among affected residents with functioning onsite systems.



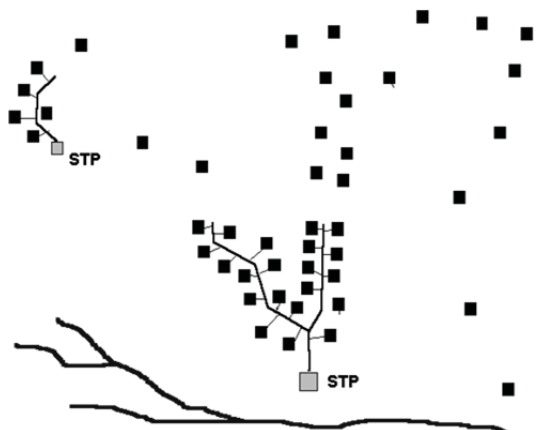
Decentralized

Existing onsite systems that work are generally salvaged.

Problem areas are addressed by either cluster systems or better onsite systems.

Soil dispersal and reuse opportunities are the highest-priority (surface discharge is last).

Clustered collection systems service only the problem areas, resulting in a number of more passive treatment facilities.



Installing a decentralized system

Any successful capital-improvements project takes planning. This is particularly true for a decentralized system. Community support and buy-in is especially important. Planning includes a number of items that will integrate the technical and institutional factors related to wastewater-system development, including socioeconomic, administrative, legal, public education, environmental and engineering factors.

The goal is to assess all practical wastewater solutions, including decentralized options, to develop a comprehensive plan that will guide you through the technical, managerial and financial issues of owning and operating a wastewater system. We recommend the following 8 steps in undertaking a decentralized project.

Step 1: Form a local stakeholder committee. This committee should include local officials but not be undertaken by the council. Interested residents and others with local business interests are good potential members. You should also ask your county officials, such as commissioners, sanitary engineers and health department staff members, who can provide additional resources. Your local primacy agency and third-party technical assistance providers are good choices.

Try thinking outside the box for potential committee members. Nonprofit groups, watershed organizations and local colleges and universities may be able to provide an interesting perspective on your problem and ultimate solution.

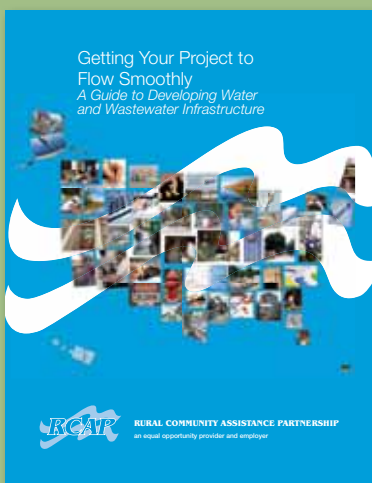


AdvanTex® Wastewater Treatment Systems, manufactured by Orenco Systems. Photo courtesy of Innoflow.

Whoever you select for your committee must be committed to the process. It is a long-term and, at times, intensive commitment. The committee will be responsible for facilitating and managing the project, including collection and organization of data; keeping the project on schedule; assuring that the project is achieving its goals and purpose as identified by the community; coordinating between local residents, professional consultants, regulatory agencies and funding agencies; and providing public outreach and education.

Step 2: Conduct a sewer-system assessment. This is an excellent way to start the outreach and educational components of your project as well as to determine your sewerage needs. Collecting information such as land use, basic soil characteristics, the types of systems that are currently in use in your community, locations and conditions of existing systems, and the proper identification of property owners as well as the location of private wells and water usage is extremely helpful.

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More help for managing a construction project

A helpful publication produced by RCAP that will help you carry out the planning, design and construction of a decentralized wastewater treatment system—or any large water infrastructure project—is *Getting Your Project to Flow Smoothly: A Guide to Developing Water and Wastewater Infrastructure*. This 66-page guide is a detailed how-to on all the steps a project owner (governing body of a utility) should go through in a complex water infrastructure project. The guide discusses the roles and responsibilities of the parties in a project – owner, engineer, inspector, contractor, etc.—and how to secure funding, stay organized, and maintain control of a project.

Download it at www.rcap.org/commpubs or get a hard copy from an RCAP staff member in your state.

If nothing else, you can generate a database of information and develop a low-level management program that would start with annual inspections and public education on the importance of septic-system maintenance.

Step 3: Coordinate with your regulatory agency. This is key to developing your entire project. Early, regular and timely coordination will ensure that you can come up with a solution that meets your needs and fulfills the regulatory requirements of your state.

Step 4: Build the public's support. Hold regular and informative public meetings. A decentralized system is not like a traditional sewer system in which waste is hauled away and someone else takes care of it in a "flush it and forget it" scenario. You may need to ask residents for maintenance easements if any of the system's components are installed on private property. You also have to be proactive in ensuring that the system is not abused. Local input early on will ensure the long-term successful operations of your system.

Step 5: Hire the right consultant at the right time. Make sure you follow the proper procurement procedures when hiring an engineer for your project. Oftentimes, a community will hire an engineer and then turn over control of aspects of the project to him or her. The only way to ensure that you get the right system for your community is to stay involved all the way through the planning, design and construction of the project. Make sure your engineer is experienced. Check references and conduct interviews with potential engineers.

In addition to having the right qualifications, you need to find a consultant whom you can work with, who listens and understands your needs, and who will work with you as a partner. If he or she is working for you, then you should get what you want—not the other way around.

Step 6: Secure financing. As stated earlier, programs that support water and sewer infrastructure continue to shrink. Grants in particular are drying up and are more competitive than ever. Publicly financing a large project takes time and effort. In addition, funding agencies are requiring more local commitment to these projects than ever before.

When you have decided to pursue a new wastewater system, you should institute a user charge system. This will accomplish two main goals: 1) It establishes a fund for your infrastructure that will potentially pay for up-front planning costs and/or make local capital contributions to the project, which ensures you will borrow less; and 2) It gets residents accustomed to paying a monthly bill. You can start this charge relatively low and gradually increase it over time so that the burden is minimized.

Spend time researching state and federal funding programs available to you. Take special note of the eligibility requirements (i.e., income requirements, public health concerns, environmental contamination or compliance issues) and the timing of application submittals. A third party, such as RCAP, can help you determine eligibility for particular programs, put together the most feasible financing package, and coordinate application submittals.

Step 7: Review your permit. Prior to construction, you will be issued a permit to install (PTI) and/or a National Pollutant Discharge Elimination System (NPDES) permit (if your system will result in a discharge to a water of the state). It is important that you understand your permit, limits, operator requirements and reporting requirements. You should make it a point to continue to review this each time it is renewed for any unexpected changes.

Step 8: Complete your management plan. No wastewater system will operate properly and to its potential without proper oversight. The EPA has several documents available that discuss the particular needs of decentralized systems that can be found at <http://water.epa.gov/infrastructure/septic/>

At a minimum, your management plan needs to address:

- staffing requirements
- training requirements
- operations and maintenance plans (i.e., references and resources, day-to-day operational needs, long-term maintenance)
- emergency action plan
- safety program
- lab testing
- annual budget
- regulatory requirements
- public information and participation objectives

It will be what you make of it

Investment in infrastructure is a key component of all aspects of your community's health and development: economic, social and environmental. The right planning up front and diligence throughout your project development will ensure a positive outcome. You will inevitably hit road blocks and stumble, but with the right tools and a good plan to accomplish your goal, you will persevere. ■

Acosta is a Senior Rural Development Specialist for Ohio RCAP, part of Great Lakes RCAP.

Rural practices meet public policy as RCAP staff go to Capitol Hill



Staff of Southeast Rural Community Assistance Project, the Southeast RCAP, visit the offices of congressional representatives from their region on Capitol Hill.

WASHINGTON—Local met federal and practice and public policy came together when RCAP staff from across the country came to Washington, D.C., Feb. 12 to 14 for their annual visits to the offices of their national legislators.

Nearly 40 staff from RCAP's six regional affiliates made more than 200 visits to their representatives' and senators' Capitol Hill offices in a blitz coordinated by the RCAP national office dubbed the fly-in. A number of board members of some RCAP regions and the national RCAP board also participated in the visits.

RCAP staff come to the nation's capital every February to inform and educate members of Congress about RCAP's work. The visits are designed to encourage continued funding of RCAP's programs for small, rural communities through the U.S. Environmental Protection Agency (EPA) and the U.S. Departments of Agriculture and Health and Human Services.

John Crowder, State Manager for North Carolina for Southeast Rural Community Assistance Project, the Southeast RCAP, visited most of his state's representatives and one of its senators.

"At all the meetings held, each congressman or their representative gave a positive response to our request, and all were very attentive to the information that we presented," wrote Crowder in a report following his visits.

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Another success of the week was planting the seeds of a new program that could benefit RCAP and rural communities.

During their visits, RCAP representatives sought supporters to introduce an RCAP proposal to create a technical assistance provision in Rural Housing Service's Essential Community Facilities program. As a result of a meeting held during the week, Rep. Steve Southerland (R-Fla.), along with cosponsor Rep. Mike McIntyre (D-N.C.) introduced H.R. 1632, the Building Rural Communities Act, which was modeled after the RCAP proposal. The language was eventually incorporated into the version of the Farm Bill that passed the House Agriculture Committee in May.

Adding to the buzz of Washington was President Obama's annual State of the Union address, which occurred the same week as the RCAP visits.

Those making the visits gathered for breakfast before their first day on the Hill and heard remarks from representatives of RCAP's funding agencies.

John Padalino, Acting Administrator for Rural Utilities Service in the Department of Agriculture, began his remarks by noting that he is a former certified drinking water and wastewater operator. He thanked RCAP staff for their work and the technical assistance they provide to such operators and the systems they oversee.

Padalino described a shrinking rural America and said that people in cities and suburbs do not realize the benefits of rural areas. They conserve and preserve our water, since much of our water flows through rural areas, he explained.

"We need to get our rural folks to talk about their story to other people in this country," he said.

Peter Grevatt, Director of the EPA's Office of Ground Water and Drinking Water, also noted RCAP's important role. "I appreciate the great work that RCAP does," he said.

And he reminded the audience of his office's important role, saying that there is no single program that does more to protect the health of Americans and children than the one he heads.

Grevatt emphasized collaboration that should happen in various ways, such as RCAP providing input in EPA's rule-making processes. "I look forward to working with you in the future," he said.

The group also heard from Randy Hill, Deputy Director of the EPA's Office of Wastewater Management, who said that water and wastewater infrastructure is an issue that doesn't get enough attention at the national level, such as in the president's State of the Union address or in Congress. ■



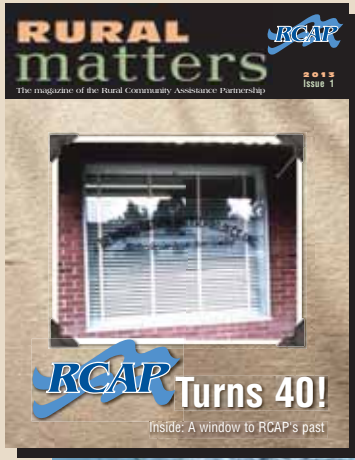
Peter Grevatt (left) of EPA addresses RCAP staff who had gathered in Washington, D.C., for their annual legislative visits on Capitol Hill while John Padalino of USDA, who also addressed the staff, looks on.



Representatives of RCAP from New England visit with Senator Angus King (I-Maine).



A large group of RCAP staff came to Washington, D.C., in February for their annual congressional visits on Capitol Hill. The occasion of staff coming together was used to celebrate the 40th anniversary of RCAP's incorporation in February 1973 with a large cake.



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In an effort to reduce postage costs and respect the environment by having to print fewer copies of the magazine to mail, *Rural Matters* is now officially offering an electronic-only subscription. When you sign up, you will be sent an email with a preview of each new issue's contents, and you will be able to click through to read the article or the full issue online at www.rcap.org

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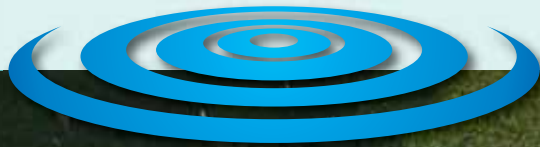


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