

RURAL matters



The magazine of the Rural Community Assistance Partnership

2012
Issue 3

A wide-angle photograph of a rural landscape. In the foreground, a gravel dirt road curves from the bottom left towards the center. To the right of the road is a rustic log fence made of stacked logs. In the middle ground, there are several wooden barns and a field. The background is dominated by a dense forest of evergreen trees, with a large, snow-capped mountain peak rising in the distance under a cloudy sky.

Obama and Romney on rural America

Also inside this issue:

Understanding water-sector interdependencies

The need to manage our finite water resources

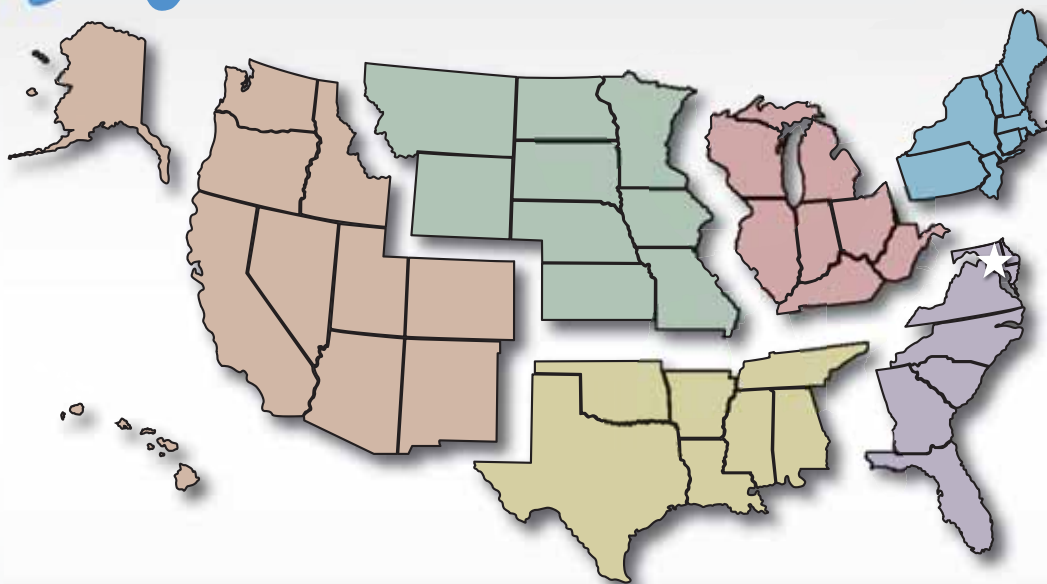
Need help with your community's water or wastewater system?

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.



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Great Lakes RCAP

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Photo by Win Henderson, FEMA



Practical solutions for improving rural communities

photo by David Lunde ©2012



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Director's letter



Robert Stewart
RCAP Executive Director

How do you deal with competing demands on your time or resources? Are your decisions based on emotions or reason—or a combination of both? Does it make a difference if a decision is required now or if it can be delayed?

Boards and councils that manage water and wastewater utilities are confronted continually with decisions that impact the sustainability of their systems and the level of service provided to customers. Choices made today (or delayed to another day) impact the future viability, sustainability or resilience of the utility.

RCAP works with communities to increase knowledge of a utility's operations, finances, management and planning, to provide support to decision makers and managers confronting difficult decisions, and to offer informed guidance on how to best meet competing demands. Many times RCAP staff can draw upon their experiences with other communities that have faced similar demands to provide examples of how to navigate seemingly uncharted waters.

Regardless of any assistance provided, it remains the responsibility of the utility's governing body, based on its own unique situation, to decide how to respond to current and emerging demands placed on its system. Many of the articles in this issue deal with the types of demands being placed on utilities and how they have responded.

A primary and ongoing demand facing all utilities is how to pay for repairs and improvements. For many small systems, financing alternatives are impacted by decisions made or decisions postponed by other groups. For instance, there has been no movement on the reauthorization of the Drinking Water or Clean Water State Revolving Funds, funding has been reduced for federal water infrastructure programs such as those operated by EPA or USDA, and there has been a reluctance to look at new or alternative methods of financing such as the creation of a water trust fund or infrastructure bank. Coupled with small systems' inability to access low-cost financing through the municipal bond market and the difficulty of raising rates to create reserve funds, the backlog of needed improvements continues to grow. As seen from a recent Black & Veatch survey of utility leaders, funding for system improvements remains the top concern.

The article on Appalachia in this issue speaks of the complementary demands of traditional and human infrastructure, while an insightful story from one of our partners, Ramón Lucero Jr., describes the process for planning and managing finite water resources in New Mexico that is applicable to all small utilities across rural America, especially those facing water-supply constraints. Looking at cooperative service-delivery approaches among nearby systems is one means to meet some of the new challenges or demands facing rural systems.

Finally, I would like to report that RCAP recently received funding from EPA to conduct an assistance program aimed primarily at developing the capacity of personnel and decision makers of tribally operated systems in EPA Regions 6, 8 and 9; and another award was received from EPA that enables RCAP to provide training and technical assistance to small, publicly owned wastewater systems, onsite/decentralized systems and to private water well owners. As always, more information is available on our website at www.rcap.org ■

rural developments



News and resources from the Environmental Protection Agency

EPA issues Clean Water State Revolving Fund Green Project Reserve highlights report, case studies, and fact sheets

EPA has released a suite of materials highlighting the innovative approaches states have used to successfully implement projects that address green infrastructure, water or energy efficiency, or other environmentally innovative activities using the Clean Water State Revolving Fund's (CWSRF) Green Project Reserve. The CWSRF program, through the reserve, is helping achieve innovative solutions to wastewater infrastructure needs, achieving economic and environmental benefits that will continue to accrue for years to come.

The Green Project Reserve requires all CWSRF programs to direct a portion of their capitalization grant toward projects that address green infrastructure, water or energy efficiency, or other environmentally innovative activities. While these types of projects have always been eligible

for CWSRF financing, the reserve originated with the American Recovery and Reinvestment Act (ARRA) of 2009. With the success

of the Green Project Reserve implemented under ARRA—approximately 30 percent of total ARRA funding for CWSRF projects went to reserve projects—the reserve has become a part of all subsequent CWSRF appropriations.

More information: http://water.epa.gov/grants_funding/cwsrf/Green-Project-Reserve.cfm

Videos show how water utilities can help each other in emergencies

EPA has produced two videos on Water and Wastewater Agency Response Networks (WARNs), which are intrastate networks of “utilities helping utilities” to respond to and recover from emergencies by sharing resources with one another. The videos aim to improve awareness of the WARN initiative, attract new members to existing WARNs, and promote the benefits of WARN and conducting tabletop exercises.

The first video, titled “Background on the WARN Initiative”, is targeted to non-WARN members and response partners unfamiliar with WARN. The video describes the benefits of joining a WARN, how WARN programs were started, and the current status of WARNs across the United States.

The second video, “WARN Tabletop Exercises”, targets existing WARN members and uses footage from actual tabletop exercises. The video describes the benefits of tabletop exercises, discusses key issues and lessons learned from previous exercises, and encourages participation in tabletop exercises.

Both videos can be viewed on (and shared from) the EPA Office of Water's Mutual Aid and Assistance webpage at <http://water.epa.gov/infrastructure/watersecurity/mutualaid/index.cfm>

New tool helps estimate the affordability of water-pollution control requirements

EPA has released a new, web-based tool to help a variety of stakeholders evaluate the economic and social impacts of pollution controls needed to meet water-quality standards set for specific uses for a waterbody, such as swimming or fishing. This tool could be used by states, territories, tribes, local governments, industry, municipalities and stormwater management districts.

The tool will help stakeholders identify and organize the necessary information. It will perform the calculations to evaluate the costs of pollution-control requirements



necessary to meet specific water-quality standards. The tool prompts users to submit treatment-technology information, alternative pollution-reduction techniques and their costs and efficiencies, and financing information, as well as explain where that information can be found.

<http://water.epa.gov/scitech/swguidance/standards/economics/>

Principles for an Energy Water Future document available

Water and energy consumption are interdependent – the more water we use, the more energy we need, and vice versa. In fact, approximately four percent of the nation's electricity is used just for moving and treating drinking water and wastewater. Conversely, it takes 3,000 to 6,000 gallons of water annually to power just one 60-watt incandescent bulb for 12 hours per day.

To help move toward a more sustainable energy and water future, EPA has drafted *Principles for an Energy Water Future*. EPA encourages all stakeholders—including government, utilities, private companies and ratepayers—to consider these principles and incorporate them into their work.

The principles are familiar concepts: water and energy efficiency, a water-wise energy sector, an energy-wise water sector, viewing wastewater as a source of renewable resources, integrated resource planning, and maximizing social benefits. EPA hopes that having them listed in one document that touches upon all aspects of energy and water's interdependency will help to further raise awareness, stimulate discussion and advance progress.

Read the principles at <http://water.epa.gov/action/energywater.cfm>



Get *Rural Matters* electronically and save a tree

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 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.

To change your subscription to email delivery, please provide your current mailing information (so we know what postal address to remove from our mailing list) and your email address at www.rcap.org/RMmailtoemail

Your subscription will then be converted to email-only.

Other news and resources

AWWA website has new and improved section for small systems

The website of the American Water Works Association (AWWA) has a newly redesigned page for small systems. It has listings for conferences, online learning opportunities and webcasts. It also has links to management-assistance resources and handy tools.

The page for this topic is one of AWWA's online "Communities." The other communities are on the topics of conservation, customer service and desalination.

The AWWA website also offers Resource Pages, which cover backflow and cross-connection control; emergency preparedness; and asset management. These pages are restricted to AWWA members only and are intended to disseminate technical information and learning opportunities.

Communities accomplish this too while also promoting information exchange and other networking opportunities. You can create a free AWWA login to access the Communities.

Visit www.awwa.org/Resources/index.cfm?navItemNumber=1416

New report highlights benefits of regional collaborations

Sometimes it makes a lot of sense to partner with communities of a similar size as yours or even of a much different size. A new report funded by the American Water Works Association, *National Inventory of Regional Collaboration Among Water and Wastewater Utilities*, includes examples of communities small and large participating in collaborative projects.

From joint purchasing programs to developing a regional water authority, the economic, environmental and social benefits are explored in this report as well as the lessons learned from the case studies. The report can be useful to small communities looking for innovative approaches to remaining sustainable for the long term.

Get the report at www.awwa.org/files/Resources/TECProjects/AWWAUtilityCollaborationFinalReport.pdf

continued on next page

New guide lists federal resources to assist rural communities

USDA Rural Development has published a guide outlining programs the federal government has available to support rural communities as they promote economic development and enhance the quality of life for rural residents.

“Creating great places to live, raise families, provide recreational opportunities, and infrastructure for high paying jobs in rural America is very important to the Obama administration and our efforts at USDA, said Under Secretary for Rural Development Dallas Tonsor. “This publication will provide easy, one-stop access to federal programs.”

The publication, *Federal Resources for Sustainable Rural Communities*, is a collaborative effort among USDA, the Department of Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency. It ensures rural communities have access to all of the federal resources that can support their efforts to promote economic competitiveness, protect healthy environments, modernize infrastructure, and provide services to residents. The guide has key information on funding and technical-

assistance opportunities available from the four agencies as well as examples of how rural communities across the country have benefitted from federal resources.

Get the guide at www.rurdev.usda.gov/supportdocuments/RD_FedResourcesSustainableCommunities.pdf



USDA announces efforts to improve the quality of life of two major populations

The U.S. Department of Agriculture (USDA) announced July 24 that low-income rural areas in the Southwest will benefit from changes in the way USDA funds water and wastewater projects. USDA also announced in June that it will make it easier for individuals living in Substantially Underserved Trust Areas (SUTA) to obtain USDA funding to improve basic services, including water and sewer systems, broadband and electric infrastructure.

“This change in our water and wastewater funding process will provide more assistance to colonias to address significant health risks in communities along the U.S.-Mexico border,” said Rural Development Acting Deputy Under Secretary Judith Canales. “Many of these areas are not served by water and waste facilities. The change to our funding process will assign priority points for projects in colonias, which will help increase investments needed to strengthen these communities and improve the quality of life for their residents.”

Water and waste funding is made through USDA’s Rural Utilities Service (RUS), a Rural Development agency. USDA outlined the changes to the funding process in a regulation published on page 43149

of the July 24, 2012, Federal Register. Colonias are defined as those recognized by states or counties before Oct. 1, 1989. They must lack adequate infrastructure, including water and sewer facilities.

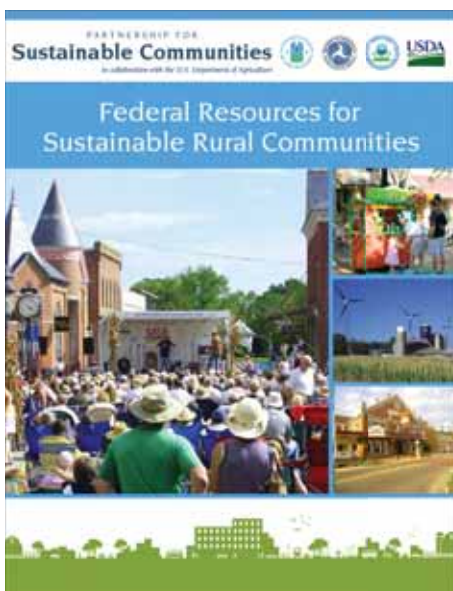
Regarding changes to funding for Tribal areas, USDA Secretary Tom Vilsack said they are a crucial step for American Indians, Alaska Natives, Native Hawaiians and Pacific Islanders to build modern utility infrastructure, create jobs and improve their quality of life. “The changes will put resources where they are most needed and will give USDA Rural Development added flexibility that will help tribes located in Trust Areas.”

A Substantially Underserved Trust Area is any land that: (1) is held in trust by the United States for Native Americans; (2) is subject to restrictions on alienation imposed by the United States on Indian lands (including Native Hawaiian homelands); (3) is owned by a Regional Corporation or a Village Corporation as defined in the Alaska Native Claims Settlement Act; or (4) is on any island in the Pacific Ocean if such land is communally-owned land by cultural tradition.

The changes, which apply to the Rural Utilities Service program area (RUS), give the Secretary of Agriculture authority to:

- make loans and issue loan guarantees with interest rates as low as 2 percent and with extended repayment terms
- waive certain matching-fund or credit-support requirements for loans and grants. This will facilitate infrastructure construction, acquisition or improvements.
- give highest priority to designated projects on Substantially Underserved Trust Areas.

The enhancements are being implemented through a final regulation published on page 35245 of the June 13, 2012, Federal Register.



The presidential candidates and

Following are ways each of the two major parties' presidential candidates would address

photo courtesy of the White House



President Barack Obama

President Obama understands the economic competitiveness of rural America depends on its transportation and water, sewer, and broadband infrastructure.

He is investing in building 21st century infrastructure in rural communities, including bridges, critical roads and rail in rural areas and 5,100 water and waste water community infrastructure projects to safeguard the health of 18 million rural residents and support 135,000 jobs.

—From point 3 of Obama's plan for stronger rural communities (right)

This information was submitted by Obama's campaign and has been edited only for length and to provide focus on the topic of infrastructure as much as possible.

Stronger rural communities

"Strong rural communities are key to a stronger America ...we're working across government to strengthen rural communities and promote economic growth."

—President Barack Obama

President Obama believes strong and prosperous small towns and rural communities mean a strong and prosperous America.

President Obama is making the rural economy built to last—one focused on reclaiming the security of the rural middle class by growing products that the rest of the world buys, and restoring the basic values of hard work and fair play that made our country great. He is expanding water, sewer, and broadband infrastructure and investing in agricultural innovation to promote rural economic development, protect public health, and create a global economy for American agriculture.

Since he came to office, President Obama has taken important steps to reduce federal spending and the deficit while protecting vital programs that serve our small towns and rural communities. Under his leadership, government programs are becoming more efficient—trimming waste and improving programs to better serve rural communities.

Investing in a rural economy built to last

By investing in job creation, clean energy, agriculture and education, President Obama is building a rural economy built to last—and where future generations can enjoy the way of life in rural America. He plans to accomplish this by:

1. Boosting Small Business for an Economy Built to Last
2. Building a Clean Energy Economy and Promoting Energy Independence
3. Investing in a 21st Century Infrastructure
4. Opening New Markets for Farm Exports
5. Strengthening American Agriculture
6. Honoring the Service of our Veterans in Rural America
7. Investing in Our Future with Rural Education
8. Securing the Middle Class by Helping American Homeowners
9. Providing Affordable Health Care to Rural Communities
10. Conserving Public Lands while Boosting Recreation and Tourism

rural America

rural, water and related issues.

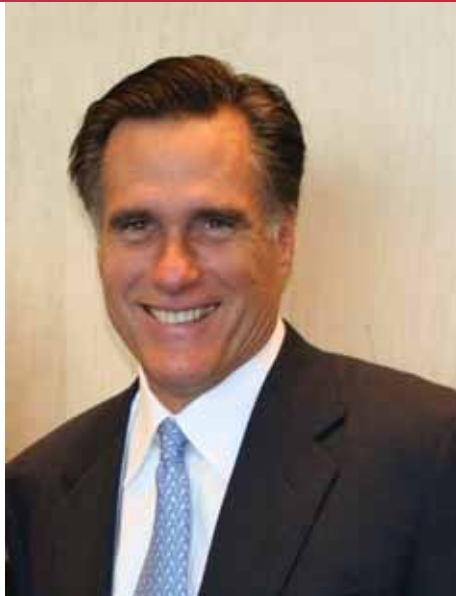


photo by Ann Marie Curling

Governor Mitt Romney

“A federal-State-private partnership must invest in the nation’s infrastructure: roads, bridges, airports, ports, and water systems, among others.”

“What most Americans take for granted—the safety and availability of our water supply—is in perilous condition. Engineering surveys report crumbling drinking water systems, aging dams, and overwhelmed wastewater infrastructure. Investment in these areas, as well as with levees and inland waterways, can renew communities, attract businesses, and create jobs. Most importantly, it can assure the health and safety of the American people.”

—2012 Republican platform

Romney’s campaign did not respond to multiple requests for written information on the Republicans’ rural platform. RCAP has taken the following excerpts from Believe in America: Mitt Romney’s Plan for Jobs and Economic Growth. We attempted to identify the sections that most closely touch on the ways the federal government affects water and wastewater infrastructure. Romney’s plan does not speak about rural issues specifically. Find Romney’s full plan at www.mittromney.com/sites/default/files/shared/BelieveInAmerica-PlanForJobsAndEconomicGrowth-Full.pdf

Regulatory Policy: Excessive Environmental Regulation

In the face of our economic travails, the most active regulator is the Environmental Protection Agency (EPA)...[which] continues to issue endless new regulations touching on countless other forms of economic activity—regulations that drive up costs and hinder investment. To take just one example, the EPA has proposed a new regulation that could designate nearly every county in the United States that monitors ozone levels as “out of attainment” with the government standard. The result could be up to \$90 billion in new costs on American industry annually and the loss of more than seven million jobs. Although the EPA has repeatedly postponed implementation of the rule in the face of criticism, the agency remains “fully committed” to the rule’s implementation. It is this kind of reckless regulatory behavior that makes the American economy inhospitable to investment (p. 56).

Regulatory Policy: Reform Environmental Regulation

Romney will also press Congress to reform our environmental laws and to ensure that they allow for a proper assessment of their costs. Laws that forbid cost assessment may have had some merit in the era in which they were passed. But that was a time when the environment was severely contaminated and the United States enjoyed full employment and low energy prices. Today, such laws are a costly anachronism and are in urgent need of reform. Romney will seek to amend the Clean Air and Clean Water Acts to ensure that cost is taken properly into account at every stage in the regulatory process.

In addition, Romney will seek amendments that provide a multi-year lead time between the date when a new regulation is issued and the date by which companies must come into compliance. If there are compelling human health reasons to restrict industrial emissions, regulatory bodies must issue standards that can be achieved over a reasonable period of time, affording industries fair notice and a significant window in which to invest in the development and installation of new technology that would bring their facilities into compliance (p. 60).

Energy Policy: Overhaul Outdated Legislation

The Clean Air Act, Clean Water Act, and other environmental laws need to be overhauled. Laws that require every significant scientific innovation or technological breakthrough to trigger prolonged regulatory scrutiny and years of spurious litigation are an excellent means of imposing self-inflicted wounds on our economy. As president, Mitt Romney will propose thoughtful and measured reforms of the statutory framework to preserve our environmental gains without paralyzing industry and destroying jobs (p. 92). ■

Aging infrastructure, capital costs and funding top concerns for U.S. water utility leaders

A report released in June by an international firm working in consulting, engineering, construction, operations and program management shows that American water-utility leaders are concerned about the funding to sustain their systems.

Black & Veatch's *Strategic Directions in the U.S. Water Utility Industry Report* identifies the top challenges in the water and wastewater industry. The report is based on a comprehensive survey of U.S. utility leaders and includes analysis and recommendations from Black & Veatch water-industry experts.

"Utility leaders are continuously challenged to make the most of limited budgets—a situation truer today than just five years ago," said Cindy Wallis-Lage, President of Black & Veatch's global water business. "As a result, the vast majority of survey

respondents doubt the sufficiency of their future funding to manage and maintain their systems."

The water report is the water industry's version of Black & Veatch's widely referenced *Strategic Directions in the U.S. Electric Utility Industry Report*, which has been published for six years.

Key findings from the water report are:

- Issues that drive investment or cost are the top concerns among water-utility leaders. Aging infrastructure is the most pressing concern within the industry.
- More than 75 percent of respondents have taken measures to reduce energy consumption within their utility operations. Electricity used to produce water

can account for as much as 30 percent of water-utility budgets.

- More than half of survey respondents stated they are implementing asset-management improvement programs.
- 85 percent of respondents said average water consumers have little to no understanding of the gap between rates paid and the cost of providing water and wastewater services.
- Nearly half of utility leaders believe that customers will probably be willing to pay higher rates needed to pay for capital improvements.
- Despite funding concerns, the majority of utilities are not considering other forms of financing, such as public-private partnerships.

"Overcoming today's challenges requires a significant change in how utilities develop and implement strategic and capital plans," said John Chevrette, President of the company's management-consulting division. "At the same time, consumers must better understand that water and wastewater services are not free or low-cost. Rather, these are services that must be paid for in an equitable and responsible manner, helping consumers better realize the value of both the service and the resource."

Black & Veatch's inaugural report on this issue is based on an industry survey conducted this spring and expert analysis.

The full report is available at www.bv.com/survey ■



About the cover photo

The photo on the cover of this issue of *Rural Matters* is one of the winners of RCAP's national photo contest. The RCAP national office challenged RCAP staff across the country to "picture RCAP"—to illustrate in photographs their work, what RCAP does, or where RCAP works. Another purpose of the contest was to encourage field staff of RCAP's six regional partners to share stories from the communities they work with—in the form of photos instead of the traditional written case studies.

The cover photo was the winner in both the rural landscapes and nature and "audience favorite" categories. It was taken by Kay Mulligan, Publications & Graphic Design Specialist for RCAC, the Western RCAP. Mulligan is based in West Sacramento, Calif. Her photo was taken in June 2010 near Moran, Wyo., about ten miles east of Grand Teton National Park.

Upcoming issues of *Rural Matters* will feature the contest's other winners.



Photo by Robert Kaufmann, FEMA

Why it's important to discuss water-sector interdependency in your community

Hurricane Isaac hitting the Gulf Coast in late August, and the specter of Katrina that it brought, was yet another reminder of how we are often at the mercy of the weather. Caught in a storm or any other sort of disaster, we feel it the most when we lose the essentials—electricity, access to food, and water service.

Rural communities are susceptible to disruptions in water services just like their urban counterparts. Restoring drinking water and wastewater service after a disaster can be difficult for any utility but can be especially hard for small and rural systems.

Rather than using the term *disaster preparedness* or *readiness*, the U.S. Environmental Protection Agency (EPA) uses the term *resiliency*. This term is more comprehensive and encompasses all phases of a disaster—before, during and after—and addresses ways that utilities, especially those in the water sector, can weather the storm, so to speak. It speaks about how utilities can survive disasters through reducing risks and preparing beforehand and responding and recovering in the aftermath.

Water-sector resiliency in rural areas, in both drinking water and wastewater utilities, can be hindered by lack of finances, lack of

[continued on next page](#)



*Franklin, Va.,
September 22, 1999:
Aerial view of
flooded town shows
oil contamination
resulting from propane
tanks and cars under
water while a hazmat
team assesses the
situation.
Photo by: Liz Roll/
FEMA News Photo*

[continued from previous page](#)

interconnections to other utilities, or even difficulty getting spare parts. Many residents and local officials also take drinking water and wastewater services for granted and believe they always can be—and will be—provided, no matter what.

Communities rely on service from their water utilities, but in the event of a disaster, the utilities are often ill-equipped to function and experience service interruptions. Improving preparedness, not only at the utility level, but also with other sectors that are dependent on community water systems, is crucial to the overall emergency and disaster resilience in every community.

This is where the principle of interdependency comes in. Most people, because of their daily habits, think only about our water utilities providing service in our homes. But there are other important components of a community, from businesses to schools to farms. One way they are linked to and dependent on each other is through water services. A hospital depends on a steady supply of clean, sanitary water to care for patients. A power plant needs water to operate, and a drinking water plant needs electricity to operate, which is a true interdependency. If water services are interrupted at any of these entities, their operations start to break down fairly quickly. Trucking in water or relying on bottled water can be costly and isn't always feasible.

EPA is helping the water sector and the communities it serves improve overall preparedness through better understanding of interdependencies among sectors and by supporting local pre-

paredness efforts. Other sectors include health care providers, emergency responders and industrial operations.

In one case, EPA provided subject-matter experts to support a workshop held in May 2012 in St. Clair County, Mich. Below are some of the many lessons the county learned through its efforts—lessons that can help other communities increase their water preparedness.

St. Clair County water-resiliency roundtable

The St. Clair County Homeland Security – Emergency Management (HSEM) Office, in collaboration with EPA, conducted a roundtable workshop to discuss water security. This workshop helped prepare the county's drinking water and wastewater utilities, as well as the broader community, for possible interruptions in water service.

The day-long event brought together water utilities and local elected and appointed officials, emergency managers, members of the business community, and residents to talk about emergency preparedness. A primary focus was on helping participants understand the water utilities' operations, capabilities during a disaster, and impacts on the community should service be disrupted. Participants then discussed what actions and resources were necessary to respond to and recover from a future water emergency.

Together drinking water and wastewater utilities provide a critical public service to their communities. Just as each community is unique, each water system is also unique. Utility owners and operators, in collaboration with members of their community, are in the best position to know what preparedness activities will best meet their needs. To develop a sound preparedness plan, communities need to bring together all major stakeholders in the community that could be affected during an interruption in service.

St. Clair County brought together 40 representatives of essential community services, as well as state and federal agencies, to discuss their critical water interdependencies. Participants represented water utilities, public works departments, public health agencies, school districts, and emergency services/first responders. The strong local presence was supplemented by state- and federal-level officials to produce a diverse yet focused group that was able to discuss their respective roles and responsibilities during a disaster. They were also able to identify gaps in emergency plans and determine what resources might be needed during a water emergency.

After a series of informational briefings, St. Clair County separated participants into smaller discussion groups based on their sectors. For example, groups were created for water utilities, critical water users, first responders, and emergency-management officials.

Groups reviewed scenarios describing utility disruptions of three days and three weeks and discussed how each of their facilities or organizational operations would be impacted. Scenario details were designed to be vague so participants focused on their actions during the scenario rather than on the cause of the incident. This

was important because water-service interruptions can have many causes—natural or human. The focus of the workshop was preparing for any interruption in service, whether from drought, hurricane, flood, or an accidental or deliberate contamination.

The exercise allowed each group to better understand how a sector would be impacted in the event of a water-service interruption, what members of a sector could do to reduce negative impacts, and what support they could reasonably expect from others in their community. The workshop helped participants identify both quick fixes and longer-term ideas to increase resiliency. Participants also drafted recommended follow-up action items they believed would help their community better prepare for and respond to a water-sector emergency.

The availability of resources is important in a recovery but is only one part of what makes a community resilient. Communities also need an intangible but vital part—being prepared and able to react decisively to an unexpected disaster.

The value of bringing together representatives of different sectors in a community to work on relationships cannot be overlooked. One advantage rural communities have lies in their ability to communicate quickly and easily across different community organizations, which is something that can be challenging in larger communities.

Hosting community discussions before disasters strike can help establish relationships that can prove invaluable in times of crisis and result in more efficient and effective response and recovery actions.

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Photo by Linda Winkler, FEMA

This is your community. This is your community without water. Water-sector interdependencies are real!

To discover how real an emergency without water can get, consider these questions, which are related to some disaster scenarios presented in the Community-Based Water Resiliency (CBWR) electronic tool (see main article). These questions point to the intricate ways that water is linked to other parts of a community and vice versa:

- If your community has a hospital or clinic, it uses water for hygiene procedures. What if medical personnel did not have running water for more than three days? Could they perform critical surgeries or treat patients in the emergency room?
- If your community has a manufacturing plant, like a food-packaging facility, it uses water to wash all of its jars before filling them. What if it didn't have water for a week? Would it be able to stay in operation? What would happen to it economically if it were not able to ship and sell its products?
- If schools are used as emergency shelters to house displaced residents, what if the toilets could not flush from lack of water? This happened at the Superdome in New Orleans during the Hurricane Katrina crisis.

What you can do in your community

You can start by assessing your community's state of preparedness. As noted earlier, rural communities can be challenged to respond to water-service interruptions for many reasons. To gain a better understanding of your community's strengths and weaknesses, you can use EPA's Community-Based Water Resiliency (CBWR) electronic tool.



The CBWR tool helps users understand the interdependencies between the water and other sectors, assess their community's current resiliency to water-service interruptions, and find specific tools and resources to fill their preparedness gaps. With more than 400 resources available in the toolbox, users have access to the most appropriate tools and resources based on their unique characteristics, including size, location and stakeholder type. Each participant in the St. Clair County workshop left the meeting committed to completing the CBWR self-assessment as an initial step in preparing for a water-related emergency.

The CBWR tool will be updated soon to contain a new tool for hosting a roundtable workshop in your community. The Water Resiliency Action Plan, or WRAP Kit, guides users through a step-by-step process of hosting a water-emergency roundtable similar to the one in St. Clair County. The WRAP Kit offers suggestions on potential planning-team members and invitees as well as sample invitations, presentations, registration forms, after-action reports, and other important meeting materials. The kit is a one-stop-shop with everything you need to develop and host a water emergency-planning meeting in your community.

St. Clair County improved its water resiliency by hosting a roundtable discussion. Encouraging your community to do the same by bringing together the right people can greatly increase your ability to plan for and recover from a disaster in the most efficient and effective ways possible.

If you are interested in hosting a water emergency meeting in your community or would like to learn more about other EPA efforts to improve water security and resiliency, visit the Community-Based Water Resiliency website at <http://water.epa.gov/infrastructure/watersecurity/communities/index.cfm> or contact us at: WSD_Outreach@epa.gov. To download the CBWR tool, go to http://yosemite.epa.gov/ow/SReg.nsf/description/CBWR_e-tool ■

New study describes challenges and ways to strengthen rural communities in Appalachia

RCAP's experience in the region shows solutions that worked there can apply elsewhere

A groundbreaking study conducted by the University of Tennessee (UT), Knoxville, sheds light on the strengths and weaknesses of communities in Appalachia. Its findings show that a strong community is like a computer. It needs good “hardware”: transportation, housing and infrastructure, and “software”: education, health care, and workforce development.

The report, “Strategies for Economic Improvement in Appalachia’s Distressed Rural Counties,” was conducted for the Appalachian Regional Commission (ARC), a regional economic-development agency that represents a partnership of federal, state, and local government.

The report provides an understanding of the challenges confronting economic and community-development efforts in ten rural counties and explains ways local governments, agencies, and community organizations plan and respond to challenging issues. It details how five formerly distressed communities improved their local economies and illustrates the issues confronting counties still classified as distressed.

“We hope this report will be useful to community leaders in comparable areas who can draw upon what others have done and upon our recommendations to form their own successful strategies,” said Tim Ezzell, research scientist and lead author of the study.

RCAP’s work in economic development

RCAP has several decades of experience supporting economic development in small, rural communities across the country, including Appalachia. RCAP believes there is a direct connection between improving the operations and services of utilities in communities and the strength of their economies.

RCAP works to help drinking water and wastewater systems in small communities be sustainable. The goal is to lay the foundation in a community’s infrastructure and vital services, as well as in its leaders’ abilities, that will support other parts of the community—both the “hardware” and “software.” A reliable and stable water system in a community means that new businesses can open, a school can function normally, or residents who were previously not served by a system have more convenient water services. The work of RCAP’s regional affiliates in other areas outside water and wastewater services, such as housing or green services, further support the health of a community’s economy.

RCAP’s work in Appalachia

One point raised in the UT study is that in some communities, improvements in physical infrastructure and community facilities have led to improvements in both income and the local quality of life but that infrastructure alone cannot address the issues confronting rural Appalachian communities. “As these physical ‘hardware’ improvements reach completion, they should be accompanied by ‘software’ reforms in education, leadership development, and entrepreneurial initiatives to help address [these] persistent and significant cultural issues,” the report urged.

Kimberly Padgett, the State Director for Kentucky RCAP, a program of Community Action Kentucky, Inc., cited two small towns—Evarts and Hyden—in the southeast corner of Kentucky and deep in the state’s eastern coal fields. Residents in these and many other corners of Appalachia have suffered through the economic ups and downs that communities dependent on coal mining have been through over the decades.

Several years ago, Kentucky RCAP worked with the City of Hyden on a wastewater project and the City of Evarts on a drinking water project to extend servic-

es to both areas. Padgett described how ways opened up during the construction of these projects for possible community and economic growth in these towns. An entrepreneurial spirit motivated some to promote the area’s basic camping and RV sites, and tourists started coming to the area to rent cabins owned by private businesses. Around this expanding economic activity, restaurants and grocery stores expanded to accommodate the growth. And related businesses, such as repair shops, parts stores, and welders saw an increase in business.

The water services that RCAP helped Evarts with were vital to the development of another outdoor-adventure project. With additional help from RCAP, Evarts was able to form an off-road adventure park to take advantage of the thousands of acres of mountain trails in its area left by years of surface mining.

An outside grant was obtained to help with the project. “Had the [water] infrastructure not been in place, the funding would have gone to other entities,” said Padgett.

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Padgett described the connection between “hardware” and “software” improvements in a broader sense. She explained that, in the past, many educated young people were forced to leave the area to pursue better professional opportunities. “Successful leaders of rural communities are well-aware of this and realize that the ‘hardware’ components, such as safe highways, potable drinking water, and reliable broadband internet, are requirements to attract and keep this population subset,” she said. “This infrastructure is the foundation of a sustainable community.”

Padgett added that schools and institutions of higher education also need to play a role in developing leadership skills and encouraging entrepreneurial efforts among young people.

The UT study also identified a role for education. Improvements in local schools and the expansion of community colleges have played an essential role in boosting

local economies. The study also found partnerships with colleges and universities bring important benefits to Appalachian communities.

“These institutions bring skills and new ideas that help energize local efforts,” Ezzell, the study’s author, said. “Interestingly, the size of the institution doesn’t always matter. Small local colleges can, in their own way, be as beneficial as a major research university.”

Other challenges identified

Local attitudes may also play a role in a community’s success. The study cited officials in Avery County, N.C., who worked with nonprofits and local colleges to promote entrepreneurship, spurring business development. Residents of Lawrence County, Ala., credited pride associated with local contributions to the moon landings in helping change local perceptions about education and cooperation.

Kentucky RCAP’s Padgett said a community’s growth or sustenance requires individuals in leadership positions to rise above personal agendas and work effectively with others to ensure a high quality of life. It is important to get a diversity of groups involved and to draw in other institutions. “No one person or group possesses all of the necessary knowledge, skills, or experiences to lead successfully,” she said.

Padgett explained that when RCAP works in communities, it sometimes needs to help in shifting the mindset of elected officials from relying on a small group of traditional leaders to accepting the responsibility of leading together to bring about positive change for the next generation.

Same principles, different places

Many of the principles applied by RCAP in Kentucky and cited by the study apply outside Appalachia. Some of the report’s recommendations for communities and agencies at all levels of government to make rural broadband access a priority are relevant in many states. The report also said small counties should consider shared government services and combined marketing and development programs.

“These recommendations are based on the case study findings and observations by local leaders and stakeholders,” Ezzell said. “It is our hope that they will be taken under consideration by ARC and leaders of rural Appalachian counties and other rural counties in America, because these findings can be applicable to them. These findings are important—albeit daunting—changes to turn the tide in these communities.”

Get the full report at www.arc.gov/research/researchreportdetails.asp?REPORT_ID=98

Photos courtesy of Kimberly Padgett, Kentucky RCAP

Managing our finite water resources

By Ramón Lucero Jr.

A New Mexico resident who works with supplying water reflects on the past and future of water use and suggests ways to create sustainable water systems in rural areas

Hot. Dry.

We can already put the summer of 2012 down in the record books for those two reasons.

July was the hottest month in the lower 48 states in records going back 117 years, the National Oceanic and Atmospheric Administration reported in early August. The 12 months ending in July were the hottest ever in the continental U.S. The average temperature was 77.6 degrees—3.3 degrees above normal.

As the summer wore on, the government declared that nearly two-thirds of the country was under drought conditions. The drought hit the lower Midwest hardest.

The majority of New Mexico, where I live, suffered under severe or extreme drought conditions this summer. This is a continuation of dry conditions from early 2011. The drought's impacts have accumulated in many areas and economic sectors.

The widespread drought is causing many Americans to take a serious look at water use, from farmers who need to irrigate vast

tracts of land to individual homeowners who turn on their showers and get nothing.

My passion for managing our finite water resources comes from the lackadaisical approach most of us have toward them. I have witnessed or participated first-hand in replacing the antiquated water infrastructure in more than 50 traditional Hispanic communities in northern New Mexico.

My mother, who was born in northern New Mexico, carried water for all of her family's needs, like the women of many Latin American and African countries. The arduous work of supplying water has resulted in a culture that has come to understand what the sanctity and utilization of water means for survival.

What will it take for the rest of us to appreciate that water is a finite natural resource?

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The implications of drought in New Mexico

Here is some of what drought conditions have triggered since last year:

- Even dry winter wheat crops have fared poorly.
- Irrigated agriculture can fare better, but scant rain and low stream flows require more groundwater pumping.
- Farmers start irrigating fields earlier in the year than usual.
- Due to low water allocations in the Elephant Butte Irrigation District, many farmers are pondering growing cotton, which requires less water than other crops grown in the region and which has a high market price. The losses incurred by extra groundwater pumping may be offset by additional revenue generated by high cotton prices.
- Farmers who cultivate less flexible crops such as pecans grown in the Middle Rio Grande have to pump large quantities of groundwater and endure higher operating costs.
- In Otero County, some ranchers are spending \$1,000 per month in feed for livestock to supplement poor pastures.
- Last year, six miles south of Las Vegas, N.M., approximately 70 water-supply wells went dry within the service area of El Creston Mutual Domestic Water Consumers Association (MDWCA). El Creston MDWCA began purchasing water from the city of Las Vegas and providing water-transport services to its members at a cost of \$110 per 1,600 gallons or approximately \$.069 per gallon. This continues today. Just 30 miles to the south, water associations were selling water to their customers at a cost of only \$9.60 per 1,600 gallons. According to local real estate agents, property values within El Creston's service area plummeted between 75 and 90 percent.

History of rural water associations

The current drought is the worst on record since the Spaniards made their way up El Camino Real to a place near present-day San Gabriel, just north of Española, N.M. Prior to establishing centralized water systems in northern New Mexico, the people in the isolated traditional northern communities of New Mexico obtained their water from the rivers or acequias (irrigation canals), which have survived for more than 400 years to the present day.

Centralized water was brought to the small northern communities in the 1950 and 1960s. The state passed legislation leading to the Sanitary Projects Act and the organization of mutual domestic water consumer associations (MDWCA). Construction was funded through grants from the state health department with community members providing the labor for trenching and installation of waterlines.

While the state funded the new water infrastructure, it did not provide basic managerial and technical training to the volunteers left in charge of operating and managing the newly formed water associations. Although the volunteers provided safe drinking water for the following 50 to 60 years, many of the water associations failed to stay in compliance with state and federal regulations. Water associations were often lacking a certified operator, failed to file their annual corporate report with the Public Regulation Commission, and missed paying their gross receipts tax to the taxation and revenue department.

As infrastructure aged and was not attended to, it started giving water associations problems. For the first 15 years, many communities' monthly water rates were between \$1 and \$5. As a result, they had no financial resources to repair or replace their leaking water tanks and waterlines.

Fortunately, while the state operated a surplus budget, funding became available through capital outlays in the form of legislative grants, grant/loan packages split 75/25 percent from USDA Rural Development, and eventually funding in the form of grants, and later grant/loan packages from the Water Trust Board.

Capacity development

Over the past ten years, MDWCAs in New Mexico have made great strides in capacity development. This has been largely due to technical assistance providers like the Rural Community Assistance Corporation, the Western RCAP, and the Capacity Development Program of the New Mexico Environment Department's Drinking Water Bureau. Technical assistance providers have helped MDWCAs update their bylaws, rules and regulations, create budgets and financial plans, and, as a result, establish adequate water rates. In the majority of cases, MDWCAs now employ certified operators and bookkeepers and, for the most part, are maintaining their compliance with state and federal regulations.

However, a weak economy, limited financial resources, a competitive funding market, additional state and federal regulations, an ever-increasing demand for water rights, and a changeable and unpredictable climate make it increasingly challenging for board members of MDWCAs to adequately operate, manage and provide their customers with that precious finite natural resource: water.

This situation begs us to create sound financial, technical and managerial practices to ensure that our water supply is safeguarded the next seven generations, which is the outlook of our Native American brothers and sisters. We must pull ourselves out of the "hydro-illogical-cycle: drought, concern, rain, apathy, drought, concern, rain, apathy..." as described by Paul Hawken in his book, *Natural Capitalism: Creating the Next Industrial Revolution*.



Ramón Lucero Jr. says his passion for managing our finite water resources also comes from his international travels and seeing water in many forms, from glaciers in South America to the crowded Bosphorus Strait in Turkey to piped-in water in Mexico. Above, children in the community of Miguel Hidalgo in the Montes Azul jungle in Chiapas, Mexico fill their water jugs from a waterline that had just been installed at a spring near their community. Before, the women and children obtained their water from a small stream that was closer to the community, but it was often full of silt and the path to the stream was covered in knee-high mud.

tion. We must embrace the concept that former Prime Minister Gro Harlem Brundtland of Norway defined when addressing the United Nations on sustainability: “to meet the needs of our present generation without compromising the ability of future generations to meet their needs.”

Implementing these concepts and practices provides us with the ability to predict that the consequences of our actions, when our actions are considered wisely, would provide the greatest good for the greatest number of people, everyone considered.

Formation of regional rural water associations

If we can get past local politics and manage water on the watershed level versus individual communities, regional water associations can provide an opportunity for long-term sustainability.

Over the past five years, the following regional rural water associations have begun to take hold in New Mexico:

- El Rito Regional Water & Wastewater Association, Rio Arriba County
- Cuatro Villas MDWUA, Santa Fe County
- La Jicarita Watershed and Wastewater Committee, Taos County
- Mora-El Alto-Del Rio MDWCA, Mora County
- Sangre de Cristo Regional, Guadalupe County
- Lower Rio Grande Regional, Doña Ana County
- El Valle Water Alliance, San Miguel County

While each association was formed under its own distinct organizational structure, the intent of their regional organization was similar—long-term sustainability through sound business practices.

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Each association has some of these common fundamental goals:

1. Develop a management team of paid professionals to promote and maintain sound business practices of a regional water and wastewater utility in order to maintain appropriate funds for financial self-sufficiency.
2. Maintain compliance with reporting requirements of local, state and federal drinking water regulations.
3. Maintain efficient water and wastewater systems that promote long-term protection of a regional aquifer and safe drinking water for future generations.
4. Protection of regional assets, memberships, water rights, service area, infrastructure and water.
5. Leverage local, state and federal funding with the goal of keeping water rates affordable to customers.
6. Inform the general population on the ever-changing water conditions, quantity, quality, utilization, consequences, etc.

Water management at the state level in the Southwest

As regional rural water associations are developing their organizational preparedness to deal with severe drought conditions and limited water supplies, there needs to be a higher level of water-resource management at the state level. Although the state has many regulatory bodies that promulgate rules related to water, the state of New Mexico lacks a water-resource management group that is proactively working toward sustainable solutions to meet everyone's needs.

The three states bordering New Mexico are currently in the process of implementing strategies that will help them proactively manage their water into the future. Examples:

- Texas: state and regional water-planning rules, 16 delineated regional planning areas, and individuals from interest groups serving as members of regional water planning groups to prepare plans for their respective areas. These groups must provide for public input in the planning process, hold public meetings and furnish a draft report of the plan for public review and comment.
- Colorado: formation of the Colorado Decision Support Systems to assist in making informed decisions regarding future use of water.
- Arizona: creation of the Water Resources Development Commission to assess the current and future water needs of the state. The legislature tasked the Director of the Arizona Department of Water Resources to appoint a Water Resources Development commission whose members must possess

knowledge about various water-resource and water-management issues in Arizona and represent a regional and geographic cross-section of the state.

More is needed in New Mexico

While New Mexico has completed and adopted regional water plans and a state water plan, they were completed without the benefit of full adjudication of the state's water resources or comprehensive hydro-geologic investigations.

In recent years, the majority of state water policies and projects have been in response to current needs, such as antiquated infrastructure or planning that occurred between 40 and 100 years ago. While many of these projects are important in helping to manage the state's water resources, they are only helping to address current instead of future water-management needs.

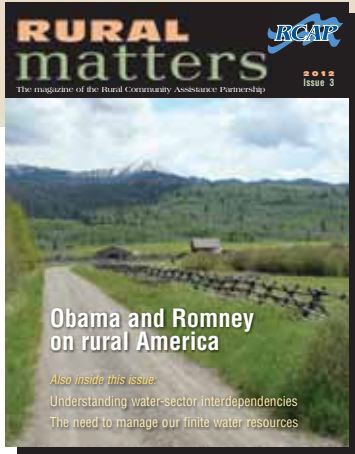
The Water and Natural Resource Legislative Committee, the Interstate Stream Commission, the Water Trust Board, the New Mexico Environment Department, the New Mexico Acequia Association and others perform an important function in water-resource management, but their role is not holistic.

Similar to some of the recent activities of our neighboring states, New Mexico must establish a group of water-resource management experts along with other stakeholders who equally represent the interests of every resident of the state—rural and urban, agriculture and domestic, and economic and cultural.

Although this group would have many goals, tasks and policies, it can begin by examining if the state's current water laws, policies and ordinances still represent our current and future needs. We currently have water-rights laws that make it nearly impossible to complete adjudication. Should we retain these laws if they no longer serve our current and future needs, or do we modify and develop new water-rights laws that assure that our future needs for water are going to be met?

In order to adequately plan how to meet our future water needs, we must convert our management practices from a reactive to a proactive approach. While the financial resources needed to complete this work may be great, we must consider how great the cost would be if we began to run out of water, as we currently are, without a plan. ■

Lucero lives and works near Santa Fe, N.M. He is a project manager for Souder, Miller and Associates, a civil and environmental firm with expertise in helping rural communities secure funding, design water-system improvement projects and managing construction projects. He is also the president of El Valle Water Alliance, a consortium of nine rural water associations along the Upper Pecos River Watershed. Photos by Ramón Lucero Jr.



RURAL matters is going digital!

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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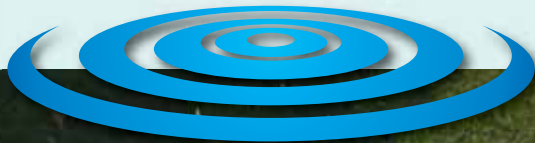


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