RURAL matters

The magazine of the Rural Community Assistance Partnership

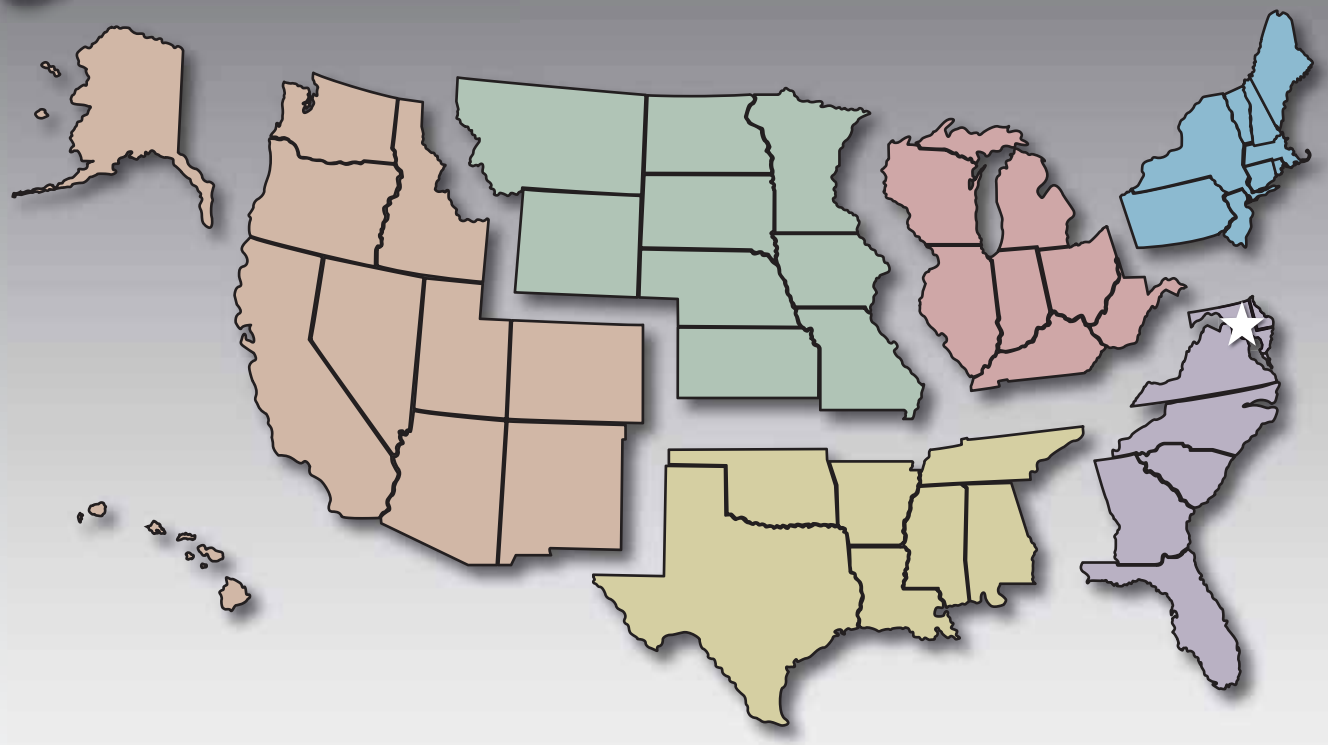
2012
Issue 1

RCAP goes to Capitol Hill

5 things that will save energy at your utility

New RCAP publications for communities

Rural Community Assistance Partnership:
A network of six regions and a national office



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features

departments

Photo by Stephen Padre

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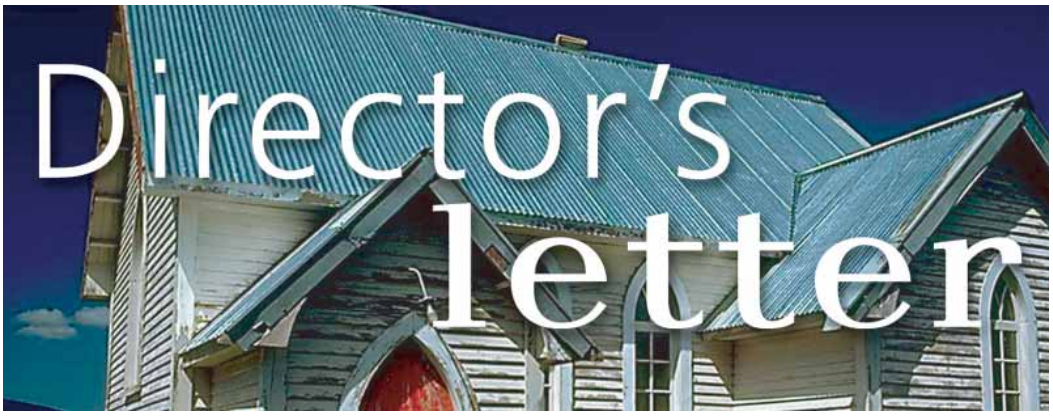

Robert Stewart
RCAP Executive Director

In the past few months, I've been invited to speak at various webinars and conferences about RCAP's work and the importance of sustainable water utilities in rural areas.

One of these occasions was USDA's Agricultural Outlook Forum, where the panel I was on, moderated by Rural Development Chief of Staff John Padalino, addressed the subject "Why Every American Should Care about the Future of Rural Water." Dr. James Richardson from Texas A&M University spoke of the water requirements in producing various biofuels, while Charles Hinton, a utility manager from South Carolina, recounted his efforts to supply water for a changing manufacturing base in his rural community.

All of the panelists emphasized the importance of rural water resources and rural water utilities in every facet of life in America. Rural water resources and utilities are used for virtually every agricultural activity, including biofuel production, as well as for oil and gas production, mineral extraction, recreation, to support households and commerce in thousands of small communities, and to provide water for urban areas.

Over the years there have been countless studies that quantify water use in these and other economic pursuits. What we have not determined is how we can prioritize use of a diminishing resource among a variety of domestic, commercial, industrial, environmental, agricultural and energy-related (oil/gas/coal/nuclear/hydro) activities. Population growth and the increasing prevalence of droughts have placed additional pressures on water resources. In the meantime, investment in water infrastructure and in measures to ensure the protection of vital watersheds has been minimal in relation to the documented needs. When (and how) will our nation come to terms with the competing demands for water resources?

Brendan McGinnis, Water Division Director of The Horinko Group (*www.thehorinkogroup.org*), hosted a webinar titled "Family Farms, Rural Landscapes and the Farm Bill." In this discussion moderated by Dr. Richard Warner of the University of Illinois, Urbana-Champaign, I spoke of the need for investment in rural water infrastructure to support these vital economic activities and rural communities located in every state. These investments pay dividends in the form of increased employment, a heightened economic-development climate, greater private-sector investment opportunities, higher property values, and improved public health, to name just a few.

However, while the need for investment is almost universally recognized, funding that will support these foundations of our current and future economy is not forthcoming. Many believed the Recovery Act (ARRA) of 2009 provided for these investments. However, of the nearly $800 billion expended, more than two-thirds was dedicated to tax benefits and entitlement programs. Less than $60 billion was provided to infrastructure investment of all types, and only about 10 percent of that amount was dedicated to water and wastewater infrastructure.

As I have mentioned here before, documented needs for water and wastewater infrastructure over the next 20 years are approaching $1 trillion. All of this forms a puzzle where competing interests hold a piece to the solution. Yet the requisite impetus has not yet appeared to allow for a comprehensive solution to be enacted. Do we need to wait for another crisis to occur (remember Milwaukee and Alamosa)? Obviously much of this is about money; who will pay and who will benefit. One notion I always return to is that everyone must contribute so that everyone may reap the benefits.

While solutions to these problems are not so simply reached, unless we continue to discuss these issues and honestly work toward solutions in the near term, the future of our economy and our way of life is jeopardized. There are solutions. There are resources. There is the expertise. And within the water community, there is a sense of urgency that we must take measures to address these water uses, water allocation and water-infrastructure needs now and not leave this for future generations to solve. ■

ruraldevelopments

News and resources from the Environmental Protection Agency

EPA announces final study plan to assess hydraulic fracturing

WASHINGTON (EPA)—The EPA announced Nov. 3, 2011, its final research plan on hydraulic fracturing. At the request of Congress, EPA is working to better understand potential impacts of hydraulic fracturing on drinking water resources.

In March 2010, EPA announced its intention to conduct the study in response to a request from Congress. Since then, the agency has held a series of public meetings across the nation to receive input from states, industry, environmental and public health groups, and individual citizens. In addition, the study was reviewed by the Science Advisory Board (SAB), an independent panel of scientists, to ensure the agency conducted the research using a scientifically sound approach.

The initial research results and study findings will be released to the public in 2012. The final report will be delivered in 2014.

The final study plan looks at the full cycle of water in hydraulic fracturing, from the acquisition of the water, through the mixing of chemicals and actual fracturing, to the post-fracturing stage, including the management of flowback and produced or used water as well as its ultimate treatment and disposal. Earlier in 2011, EPA announced its selection of locations for five retrospective and two prospective case studies.

More information: *www.epa.gov/hydraulicfracturing*

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EPA's WaterSense program to label innovative watering technology

WASHINGTON (EPA)—The EPA's WaterSense program announced Nov. 3, 2011, that irrigation controllers will soon be the first outdoor product eligible to earn the WaterSense label. The most efficient irrigation controllers, which operate like a thermostat for your sprinkler system by telling it when to turn on and off, may provide home and building owners the ability to save 110 billion gallons of water and roughly $410 million per year on utility bills.

"As much as half of the water we use on our landscapes goes to waste due to evaporation, wind, and improperly scheduled irrigation systems," said Sheila Frace, Director of EPA's Office of Water's Municipal Support Division. "WaterSense-labeled irrigation controllers are designed to do the thinking for you and apply water only when needed, to ensure a healthy landscape that doesn't waste water."

Residential outdoor watering in the United States accounts for more than 7 billion gallons of water each day, mainly for

landscape irrigation. For many homeowners, the practice is "set it and forget it." When watering schedules for irrigation system are set during the hottest and driest months and not adjusted when the weather changes, the result is overwatering for much of the year. WaterSense-labeled irrigation controllers, which monitor watering needs based on local weather data, can use significantly less water by applying water only when plants need it – reducing annual water bills and offering convenience and peace-of-mind while keeping landscapes healthy.

Controllers with the WaterSense label could be available this spring. Like all WaterSense-labeled products, WaterSense-labeled irrigation controllers must be independently certified to meet EPA's criteria for water efficiency and performance.

WaterSense, a partnership program sponsored by EPA, seeks to protect the future of the nation's water supply by offering people a simple way to use less water with water-efficient products, new homes, and services. More information on WaterSense is at *www.epa.gov/watersense*

Revamped sustainable water infrastructure web pages

Communities depend on drinking water, wastewater and stormwater infrastructure for the health of their people and the vitality of the local economy. With the release of the Wastewater and Drinking Water Infrastructure Sustainability Policy last fall, the EPA took the next step in its efforts to work with the water sector as it moves towards more sustainable practices. To this end, the EPA has launched an enhanced set of web pages to provide information and resources for meeting the water infrastructure challenges faced in communities across the country.

Local elected officials and decision makers play a vital role in safeguarding the shared community assets that make up the nation's water infrastructure. To support local officials as they meet these challenges, the updated web pages also have a new section specifically for these officials. The pages provide information, resources, and materials designed to meet the needs of local officials committed to leaving a legacy of sustainable water infrastructure. The section provides information that every local official should know about their community's water infrastructure and offers concrete, achievable steps that local officials can take to put their community on a more sustainable path or enhance existing efforts to address their water infrastructure needs.

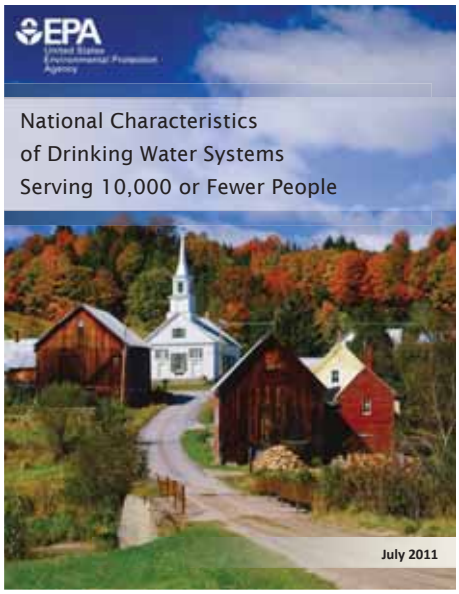
The revamped sustainable infrastructure web pages: *http://water.epa.gov/infrastructure/sustain/index.cfm.*

Section for local officials: *http://water.epa.gov/infrastructure/sustain/localofficals.cfm*

Report on the National Characteristics of Drinking Water Systems Serving 10,000 or Fewer People available online

The EPA has updated a report titled *National Characteristics of Drinking Water Systems Serving 10,000 or Fewer People.*

EPA first published this report in 1999, after the 1996 Amendments to the Safe Drinking Water Act, to serve as a source of information for small drinking water systems and stakeholders that work with



small systems. The central purpose of generating this report is to share characteristics of small public drinking water systems to better understand their challenges and better target technical assistance to improve their technical, managerial and financial capacity.

This report updates the data on small systems based on the new information drawn from the 2006 Community Water System Survey, the 2007 Drinking Water Infrastructure Needs Survey and Assessment, the Safe Drinking Water Information Systems (SDWIS), the Drinking Water State Revolving Fund National Information Management System and the Bureau of Labor Statistics.

The report is available at *http://water.epa.gov/type/drink/pws/smallsystems/state_guidance.cfm*

EPA launches new mapping tool to improve public access to enforcement information

WASHINGTON (EPA)–The EPA has released a new mapping feature in EPA's Enforcement and Compliance History Online (ECHO) database. As part of EPA's ongoing effort to improve transparency, the EPA and State Enforcement Actions

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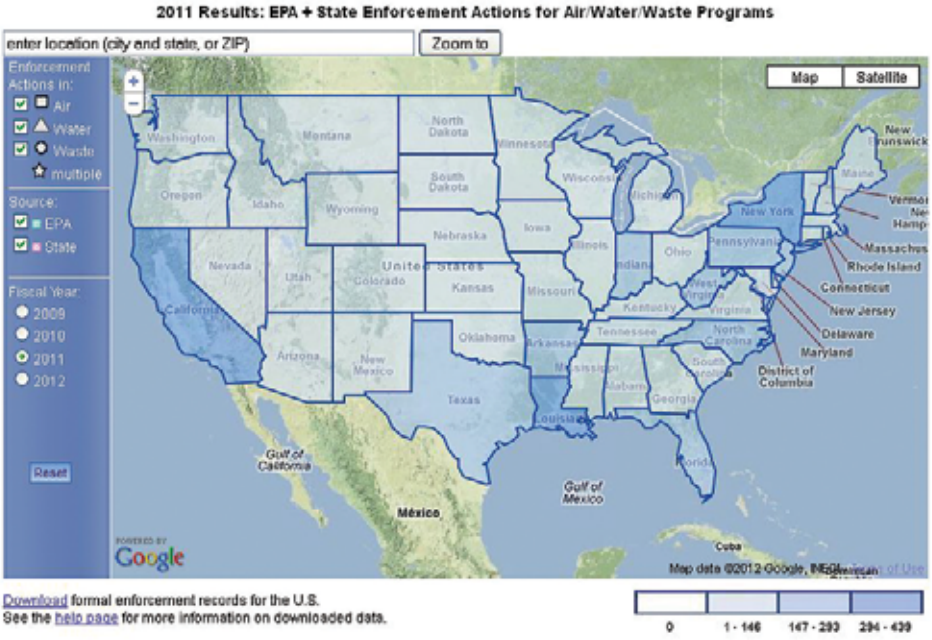
Map will allow the public to access federal and state enforcement information in an interactive format and to compare enforcement action information by state. The map will be refreshed monthly to include up-to-date information about the enforcement actions taken to address violations of air, water, and waste laws.

Map users can choose the year, the media (air, water, waste, multiple), and whether they would like to display enforcement information for actions taken at the federal level, state level, or both. Users can then click on a state to view facility locations and click on a facility to list its name, the environmental statute the facility has an enforcement action under, and a link to a detailed facility compliance report.

ECHO provides integrated searches of EPA and state data about inspections, violations and enforcement actions for more than 800,000 regulated facilities.

Enforcement and Compliance History Online: *www.epa-echo.gov* ■

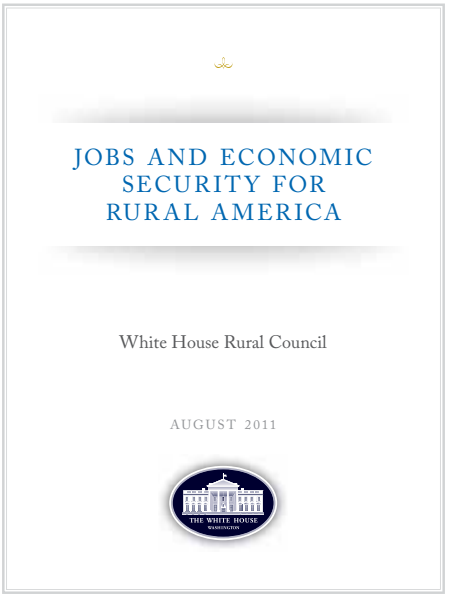


OTHER NEWS

White House Rural Council delivers report on jobs and economic security for rural America

The White House Rural Council released a new report in August last year titled "Jobs and Economic Security for Rural America," which lays out the economic landscape rural Americans face today and highlights the Obama administration's key accomplishments in rural communities. The report focuses on five critical areas: creating jobs and promoting economic growth, improving access to quality health care and education, fostering innovation, expanding outdoor opportunities, and supporting veterans and military families.

"This report underscores the commitment my administration is making to rural communities," said President Obama. "It highlights some of the many programs and policies my administration has implemented in rural America to support economic growth. It also offers a look at the economic agenda we will continue to pursue during my presidency."



"This report highlights the importance of understanding some of the specific needs as well as unique opportunities found within rural America," Secretary of Agriculture Tom Vilsack said. "It also presents vital strategies that can and will be used to seize those opportunities and tackle some of the toughest challenges facing our rural communities."

On June 9, 2011, Obama signed an Executive Order establishing the White House Rural Council to accelerate the ongoing work of promoting economic growth in rural America. The council is focused on increasing rural access to capital, spurring agricultural innovation, expanding digital and physical infrastructure in rural areas, and creating economic opportunities through conservation and outdoor recreation.

Related to the areas RCAP works in, the report notes that the administration has provided nearly 9 million rural residents access to a safe water supply and sanitary sewer system and over 3.7 million rural residents access to new or improved sys-

RCAP Executive Director Robert Stewart (right) signs a renewal of a six-year-old agreement among state and local governments and wastewater industry organizations aimed at improving the performance of septic systems on Nov. 9, 2011. Stewart committed RCAP to continue with the EPA and 15 partner organizations in a nonbinding memorandum of understanding to address pollution from the nation's 26 million septic systems. Photo by Eric Vance

tems that will deliver safe, clean drinking water.

In August, the president took a three-day economic bus tour in the Midwest. As part of the tour, he and members of the White House Rural Council hosted the White House Rural Economic Forum in Peosta, Iowa, that brought together farmers, small business owners, private sector leaders, rural organizations, and government officials to discuss ideas and initiatives to promote economic growth, accelerate hiring, and spur innovation in rural communities and small towns across the nation.

The forum was part of a series of more than 100 events held across the country last summer with senior administration officials to advance the council's objectives.

Read the report here: *www.whitehouse.gov/sites/default/files/jobs_economic_security_rural_america.pdf*

USDA updates information on conditions and trends in rural income, poverty and welfare

The USDA's Economic Research Service (ERS) has provided an update of conditions and trends in the areas of rural income, poverty, and welfare as of Sept. 17, 2011. ERS research in this area focuses on the economic, social, and demographic factors that affect the income and poverty status of rural residents and their participation in federal-assistance programs, including food assistance programs.

The summary states:

Unprecedented economic growth during the 1990s benefited rural areas, but some of that benefit has since been lost due to nationwide recession. Between 1993 and 2000, real median income for nonmetropolitan (nonmetro) households grew by 10.5 percent, and the percentage of people in poverty fell from 17.2 to 13.4 percent. Between 2000 and 2009, nonmetro median household income decreased from $40,999 to $40,135 (in 2009 dollars), while the nonmetro poverty rate rose from 13.4 percent to 16.6 percent. The 2010 nonmetro poverty rate (16.5 percent) did not change significantly from 2009.

The past ten years have also seen the continuation of a 30-year trend toward rising government transfer payments to nonmetro residents, which in 2009 accounted for 24.9 percent of nonmetro personal income, compared to 15.2 percent in metro areas. The increase is mainly a result of the rising cost of medical care nationwide. However, recessionary growth in unemployment insurance compensation and food stamp payments has also been a contributing

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factor. The nonmetro/metro difference is largely due to a higher proportion of older people and persons with disabilities in nonmetro areas.

The share of residents with incomes below the poverty level is also greater in nonmetro than in metropolitan (metro) areas, a trend that has persisted since the 1960s when poverty rates were first officially recorded. In both metro and nonmetro areas, poverty is similarly characterized as unequally distributed by race/ethnicity, family structure, and age. Areas with a high incidence of poverty are concentrated in the South, and most reflect the relatively low income of their racial/ethnic minorities, female-headed families, and households with children.

All regions and most nonmetro population groups have recently experienced poverty-rate increases due to the 2007 to 2009 recession, but single-parent families and Hispanics in particular have been significantly impacted. In total, an estimated 7.9 million people living in nonmetro areas were poor in 2010, which is 0.6 million greater than the number of nonmetro poor in 2008.

More information: *www.ers.usda.gov/Briefing/IncomePovertyWelfare*

Former RCAP director: Minorities pay more for water and sewer

EAST LANSING, Mich. — Racial minorities pay systemically more for basic water and sewer services than white people, according to a study by Michigan State University researchers.

This "structural inequality" is not necessarily a product of racism, argues sociologist Stephen Gasteyer, but rather the result of whites fleeing urban areas and leaving minority residents to bear the costs of maintaining aging water and sewer infrastructure.

Gasteyer, assistant professor of sociology, is the former Director of Community Development at the RCAP national office.

"This study demonstrates a disturbing racial effect to the cost of basic services," said Gasteyer. "People of color have the fewest opportunities to leave urban centers and are left to pay for the crumbling legacy of a bygone economic era."

The findings by Gasteyer and Rachel Butts will appear in an upcoming issue of the research journal Environmental Practice.

The researchers analyzed census data on self-reported water and sewer costs in Michigan. The study found that urban residents actually pay more than rural residents, which refutes conventional wisdom, Gasteyer said.

But perhaps more importantly, Gasteyer said, water and sewer services cost more in areas with greater proportions of racial minorities.

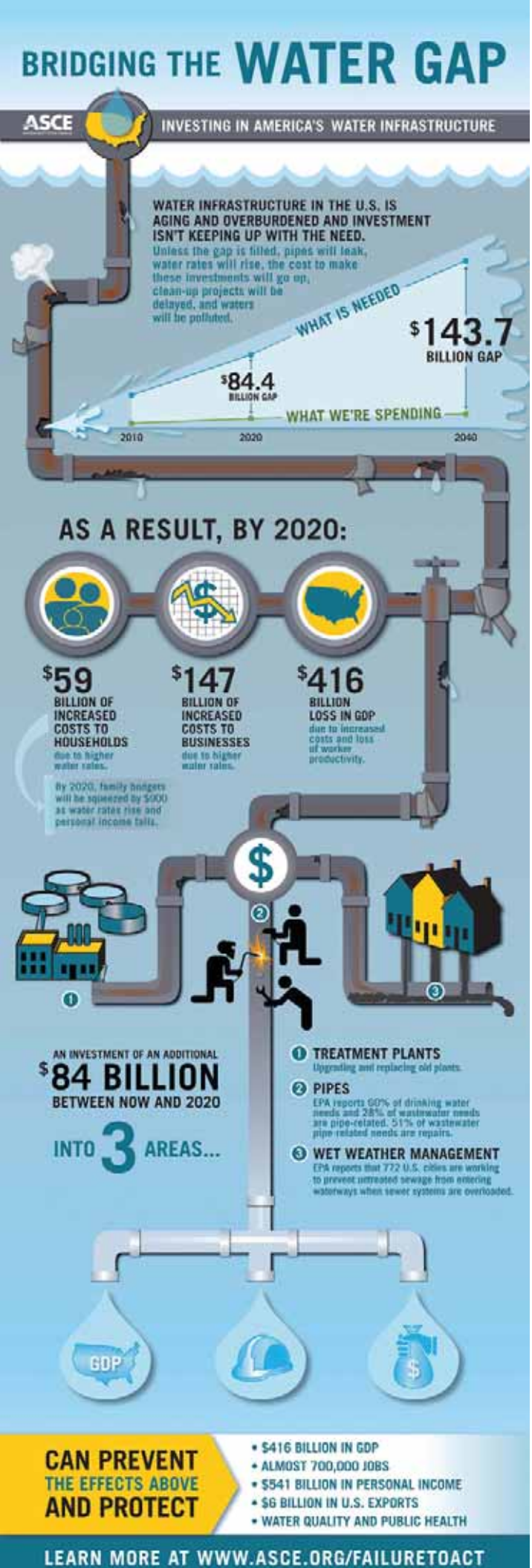
Detroit is the "poster child" for this problem, Gasteyer said. The city has lost more than 60 percent of its population since 1950, and the water and sewer infrastructure is as much as a century old in some areas. Billions of gallons of water are lost through leaks in the aging lines every year, and the entire system has been under federal oversight since 1977 for wastewater violations.

"A fair proportion of Detroit's large low-income population cannot afford the burden of rate increases meant to offset infrastructure repairs, leading to tens of thousands of customers getting their water turned off every year," Gasteyer said.

Water and sewer lines are aging throughout the country. According to the U.S. Environmental Protection Agency, hundreds of billions of dollars will be needed to repair deteriorating systems over the next 20 years.

Paying for those upgrades likely will be a major issue in shrinking cities such as Cleveland, Pittsburgh, St. Louis, Birmingham, Ala., and many others, Gasteyer said.

"Everything is wearing out, and we are going to have to grapple with how we pay for these so-called liquid assets that need to be upgraded," Gasteyer said. "At the same time, we need to be cognizant of who may be paying an unsustainable burden as those rates go up." ■



Report on nation's water infrastructure released

Infrastructure is the lifeline of our economy, and like everything, it has a lifespan. In many areas, the roads, drinking water systems and dams are simply too old. The 2009 Report Card for America's Infrastructure from the American Society of Civil Engineers (ASCE) has graded the country's water and wastewater infrastructure with a D-minus.

ASCE's report, released in mid-December last year and titled "Failure to Act: The Economic Impact of Current Investment Trends in Water and Wastewater Treatment Infrastructure," shows that this infrastructure is aging and overburdened and that investment is not keeping up with the need. However, a modest increase in investment in drinking water, wastewater, and wet-weather water-quality measures can prevent future economic losses.

The ASCE regularly evaluates infrastructure in each industry—transportation, water and sewer, bridges, dams and others.

The water report looked at the economic impact of underinvestment—the cost in terms of lost business sales, loss in gross domestic product, job losses, and water-borne illnesses if aging water and sewer systems are not replaced. According to the report's authors, the U.S. could suffer more than $700 billion in losses by 2020 and ten times that amount by 2040 if we don't act more quickly.

The authors also analyzed the water infrastructure needs in the U.S. compared with current and projected spending to identify the funding gap. The EPA sees the need at $126 billion in 2020, while roughly $42 billion will get funded, leaving a gap of $84 billion in repairs and projects that won't be addressed. This gap only widens over time.

The full report on water: *www.asce.org/uploadedFiles/Infrastructure/Failure_to_Act/ASCE%20WATER%20REPORT%20FINAL.pdf* ■

USDA and EPA encourage partnerships among water systems

According to a recent study conducted by the American Water Works Association, repair and expansion of the U.S. drinking water system over the next 25 years will cost at least $1 trillion. This includes fixing leaky pipes, replacing pipelines and expanding water systems to accommodate growing populations.

Do any of these scenarios sound familiar? If so, what should rural communities do when faced with increasing costs? One option to consider is partnerships among water systems. They are a way to build technical, managerial and financial capacity.

The Rural Utilities Service and Rural Development, part of the U.S. Department of Agriculture (USDA), along with the Environmental Protection Agency (EPA) have launched a series of webinars on water-system partnerships. This effort is part of a USDA-EPA memorandum of agreement that was signed in August 2011 to promote the sustainability of rural water and wastewater systems.

As part of this cooperation, EPA and USDA agreed to tell communities and utilities through workshops and webinars about the array of tools that are available through partnerships and to encourage struggling water systems to explore all options that may be available to increase sustainability.

System partnerships can provide opportunities to collaborate on compliance solutions and operations and maintenance activities and to share costs with other, nearby systems, thereby enabling them to become financially sustainable.

The first webinar, titled *Partnering Over Time: Vinton County Water joins Jackson County Water*, took place on Oct. 26, 2011. It featured these two water systems in Ohio as their partnership evolved from informal cooperation to physical connection. The webinar's presenters included: Larry Foster from Jackson County Water; Jim Holtz, formerly from Vinton County Water and now a board member of Jackson County Water; David Douglas, Community Programs Director, USDA RD, Ohio; Sarah Wallace from Ohio EPA; and John Rauch from Great Lakes RCAP. The presenters discussed effective strategies that federal and state agencies can use in promoting sound partnerships.

The partnership between the two systems began in 1992 when Jackson County Water provided used office equipment to Vinton County Water when it was created. Through the years, Jackson County Water continued to act as a good neighbor to Vinton County Water. The former was happy to provide assistance to the latter as long as it did not interfere with the former's ability to run its system and stay in regulatory compliance.

This understanding laid the groundwork for their future partnership. What started as an informal partnership later evolved into a new kind of partnership when Vinton County Water decided to contract with Jackson County Water to operate its system.

Then the two systems began talking about the idea of selling Vinton County Water to Jackson County Water. Several parties played a role in facilitating this process. The USDA played a role in bringing the utilities together by organizing meetings to discuss merging the two water systems. Great Lakes RCAP facilitated the process by helping to determine the needs of both systems. RCAP completed a five-year forecast and rate recommendations for Vinton County Water and conducted visioning sessions with the utility. Ohio EPA was able to offer funding under the American Recovery and Reinvestment Act that included 80 percent principal forgiveness.

The effect of the merger of Vinton County Water and Jackson County Water was quality service to the systems' users, compliance with EPA regulations, and affordable rates. Jackson County Water now has more capacity to serve its residents, and it can build on Vinton County Water's infrastructure.

Creating a water-system partnership is as simple as two or more systems working together to overcome challenges, build capacity, and to create a win-win situation for all systems. ■

For more information:

- the agreement between EPA and USDA: *http://water.epa.gov/type/drink/pws/smallsystems/partners.cfm*
- slides from the webinar described above about Vinton and Jackson Counties: *www.glrcap.org/index.php?page_name=Presentations*
- water-system partnerships: *http://water.epa.gov/infrastructure/sustain/partnerships.cfm*
- USDA's Water and Environmental Programs for rural communities: *www.rurdev.usda.gov/UWEP_HomePage.html*

Five things you can do to save on energy in your utility

by Scott A. Strahley, P.E., C.E.A.

How can a drinking water or wastewater system in a rural community become more energy-efficient and, at the same time, reduce its operating budget? There are a few quick answers and easy targets in the pursuit to conserve energy. However, as with most changes to procedures, there are caveats and a few potential hazards lurking that you must take into account should you decide to address your energy usage. Here are five areas to focus your efforts on in order to have an effective energy-reduction program.

But before we get to that list: You may be hesitant and a little wary of scams, schemes, and unrealistic projections when energy efficiency is mentioned. Some of these things do exist, and some communities have made poor decisions. However, by understanding your facilities and your energy usage, you can make good decisions and implement positive changes for your community.

1 Understand your current energy use by benchmarking.

Benchmarking is simply determining where you are at the moment. You must first know where you are in order to determine how you will get to where you want to be. How much energy are you using? Where are you using it? What are your costs for energy right now?

You will need to collect and analyze billing information and budget data over a 12- to 24-month period to identify trends and habits. Additionally, you can establish key performance indicators (KPIs), such as: cost per kilowatt-hour; kilowatt-hour per million gallons; cost per hour of street lighting; kilowatts per fixture. These allow for apples-to-apples comparisons with potential alternatives and modifications.

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Editor's note:

With this article, *Rural Matters* begins a series of articles on the theme of "Five things you can do" to improve your drinking water/wastewater utility or community. The articles are written by RCAP's field staff who are experts in the area they are writing about.

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This process can be time-consuming, but there are tools and guides to help you do it yourself. The U.S. Environmental Protection Agency will soon release a free benchmarking tool specifically targeted to rural facilities, so watch for this.

In addition, making your employees aware of the cost of energy in your facilities typically leads to more conscientious and efficient energy behavior, and thus energy reduction and savings. The sharing of information can empower your employees and open the lines of communication.

Teamwork is the cornerstone of every successful project, and energy efficiency is no exception. While there may be hesitation to share billing and account information with the field crews and operators, this cooperation between the office and the field can reap rewards for the bottom line.

2 Shed light on your technology and location of fixtures.

By now most of us are aware of new lighting technologies, including compact fluorescent lights (CFLs), light-emitting diodes (LED), and halogen. There is legislation to discontinue the manufacturing of some incandescent light bulbs, with 100-watt bulbs ceasing on Jan. 1, 2012, 75-watt bulbs ceasing on Jan. 1, 2013, and 60-watt bulbs ceasing on Jan. 1, 2014.

You can address replacing incandescent bulbs in your facilities. They can be replaced all at once or as they burn out. Pay special attention to the lumen output and the correlated color temperature (CCT) for your replacement bulbs to assure a good quality of light. Also, CFL bulbs contain small amounts of mercury, so in the event of a breakage, there are safe cleanup and disposal procedures to follow.

On a similar scale, every facility should address the replacement of older, overhead 4-foot T-12 fluorescent fixtures (magnetic ballast and bulbs) with more efficient technology, such as T-8, T-5, or even LED. Legislation has stopped the manufacture of the energy-hungry magnetic ballasts as of July 2010, although they may still be for sale. Replace these with the more efficient electronic ballast that can save more than 20 percent of the energy used.

Moreover, current legislation calls for the popular T-12 fluorescent bulbs to no longer be manufactured beyond 2015. Each system will need to address its lighting needs to suit its planning goals.

Another easy lighting step is to replace incandescent exit signs with LED exit signs, which will lead to consistent savings due to their 24-hour operation. A typical incandescent exit sign uses approximately 30 watts, while an LED exit sign uses only about 2 watts. There are simple and inexpensive conversion kits for around $15 to help make the change.

Most communities have exterior lighting for their buildings, parking lots, sidewalks, and streets. There are retrofit fixtures and bulbs to reduce the energy consumption of most types of fixtures. It is important to note that lights are designed to illuminate the roadways, crosswalks, and other important areas, and they cast their light in a controlled, designed pattern. Deviation from this design may affect the illuminated areas (create dark spots), potentially putting pedestrians, vehicles, or other items in harm's way. Be sure to not decrease safety or security while trying to decrease energy consumption.

And, lastly, you can install lighting controls, including motion sensors, light sensors, or even simple timers. The savings comes from using fewer kilowatt-hours for shorter periods of time. Identify the proper control for the right space to assure effective usage. There was a case of a motion sensor that was installed in a restroom, and a user got stranded while sitting in the stall as the sensor could not detect any motion. Be sure to consider potentially embarrassing or impractical situations like this!

HVAC: What is comfort?

Heating, ventilation, and air conditioning serve many roles, including: climate control for comfort, humidity control for equipment and personnel, and air quality for safety and the work environment. You must take these functions into account before you modify settings or working parameters.

Potential energy-saving opportunities include adjusting the thermostat slightly during working hours and adjusting the thermostat significantly during non-working hours. A rule of thumb is that by adjusting the thermostat 10 degrees for 10 hours, it is possible to save up to 10 percent of your energy use. It is important to respect the comfort levels of your employees who work inside. Proposed temperature changes can affect their attitudes and level of satisfaction with the workplace, and those are a few heating or cooling dollars worth spending.

An important physical aspect of HVAC controls and operations includes the building envelope, the building orientation, and the existing equipment. A dark roof or structure will absorb more heat than lighter-colored ones. Windows allow for higher heat transfer than solid walls. Focus on proper insulation, minimizing structural air gaps, addressing the use of doors and windows, providing regular service and maintenance of the filters and equipment, and even the replacement with more efficient equipment. These will all help to manage the HVAC system efficiency.

HVAC opportunities typically have very long paybacks, even with utility company incentives. It is important to understand the full scale of the proposed work. You should evaluate whether immediate action, or possibly waiting until equipment fails, is the most prudent and economical path forward.

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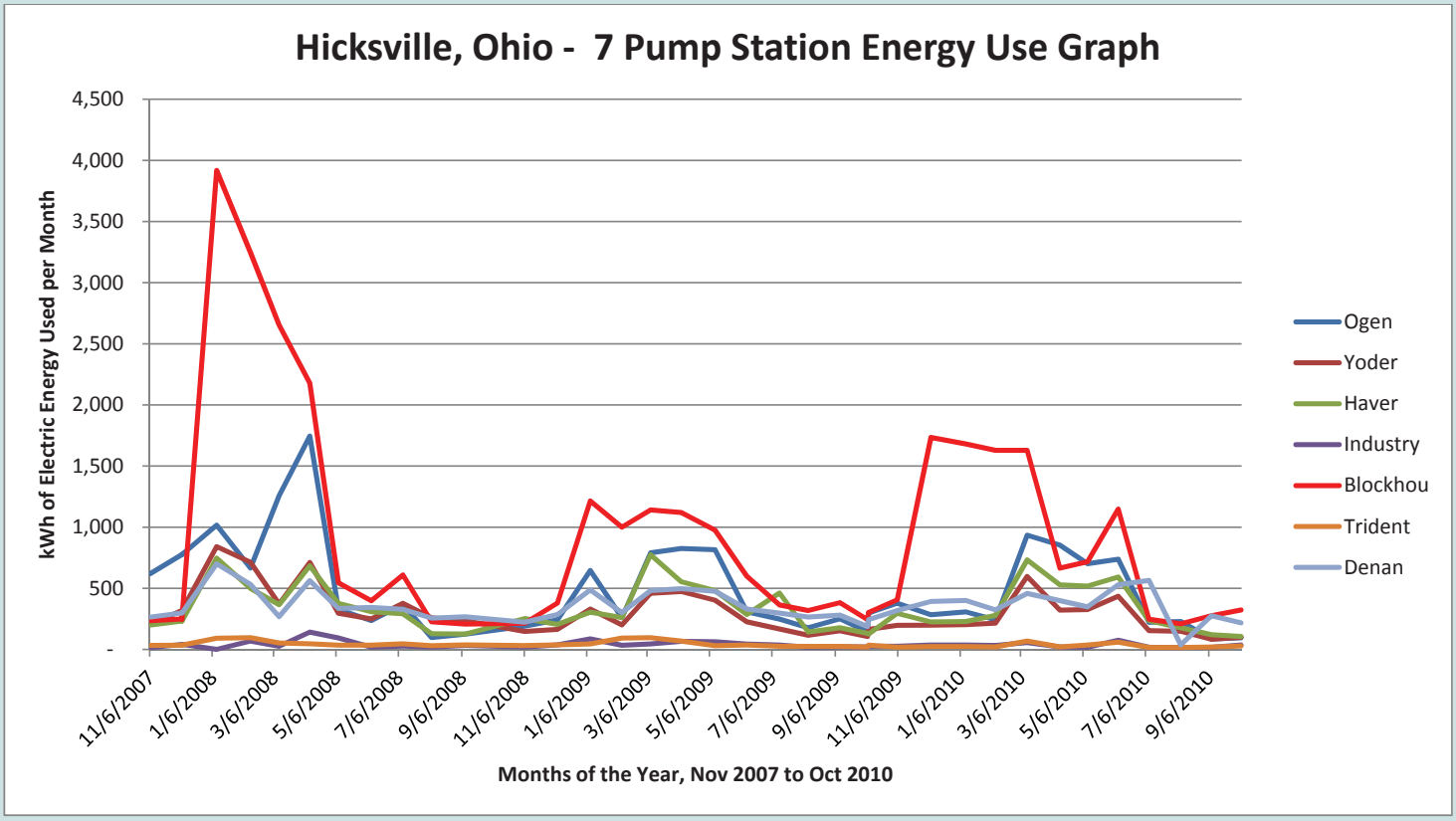

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4 Water production: The cost for clean water

Whether you have a groundwater or surface water system, the treatment processes are relatively similar. You treat the water, store it, and then distribute it. Your water-production facilities are full of capital-intensive assets, from the clear well, to the storage tank, and including the pipe network and appurtenances.

The largest energy users in these systems are the pumps, accounting for approximately 85 percent of the costs. You can replace pumps with higher-efficiency models or use combinations of pumps to better meet the actual pumping volumes. It is also important to address your system pressure, your time of use, check for throttled valves, consider variable speed drives, and to review your controls. Ohio RCAP has identified potential water system cost reductions ranging from 20 to 70 percent with an average of 1-year simple payback for communities through energy audits.

Brand new water systems are tested and allowed to have minimal leakage. As time passes, these leaks, and potentially new leaks, can and do become larger, and water loss increases in the system. A community should track and understand how these losses impact the design and operation of their water facility. It may be more prudent to address water loss rather than upgrading and increasing the water treatment pumps and tanks. Water quality is paramount and cannot be compromised to save a few dollars.

5 Wastewater treatment: Energy to eliminate waste

There are many different types of wastewater treatment plants and designs, and typically the largest energy users in a system are the pumps and aeration systems. It is critical to first understand the operations and the design of the pumping system before any changes are recommended or implemented. It is very common for pumping systems to be very inefficient, so the potential for savings is most likely present.

Significant modifications may require regulatory review and may need professional design as well. Ohio RCAP has identified potential energy-cost reductions ranging from 6 to 62 percent, with an average of less than 1-year simple payback for communities through energy audits.

Other opportunities for energy savings in wastewater treatment are in solids management and also include the use of variable-speed drives and automated controls.

The area that is most likely to result in significant savings is the overall operations of the facility. While most rural wastewater systems are overdesigned and under-performing, it is important to understand why these conditions exist. Some communities anticipated growth and have instead experienced a population and industry reduction. Keep in mind that systems are designed for peak flow conditions, so the typical daily operating condition is not the design parameter to drive your modifications. It is also very important to maintain permit and discharge requirements along with operations and process constraints.

Conclusion of this article but only the beginning of your process

It is important to note that this list and article are only tips and suggestions and by their nature are not meant to be comprehensive or an exhaustive process for evaluating the potential energy savings in your system. This article is mainly to give you areas to start considering in a longer, more systematized process. The best way to become educated and initiate this process is to start with an energy audit.

There are many sources for audits, along with a variety of costs. You are encouraged to explore the options for energy audits and evaluate the auditor's experience and qualifications. Pay particular attention to any contract-related requirements for your community that may follow the audit. You should also compare not only the potential for savings but also the cost of changes, the payback period, the possible funding mechanisms, the potential for financial incentives, and the urgency of the proposal.

Contact the RCAP field staff member in your state for assistance with these options and opportunities. Find him or her at *www.rcap.org/regions* ■

Strahley is an engineer for Ohio RCAP, which is part of the Great Lakes RCAP.

RCAP shares the importance of its work with members of Congress

WASHINGTON—It has been an unusually mild winter in the nation's capital, but congressional business is nearly frozen in an election-year standstill. Despite this, RCAP field staff and other representatives from around the country received a warm welcome in the offices of their states' legislators when they came Feb. 13-16 for RCAP's annual week of visits to Capitol Hill.

More than 50 people participated in the visits, known as the fly-in, and participants visited more than 150 offices. Most were field staff from RCAP's six regions, and several were members of the board of directors of some of the regions.

The main purpose of the visits every year is to educate members of Congress and their staffs about the importance of RCAP's work in developing local leadership capacity in small, rural communities and to ask for their continued support for the programs that sustain the organization. RCAP staff spoke about the technical, managerial and financial assistance they have provided to communities' drinking water and wastewater systems.

It's personal and professional

The week after he came to Washington for visits to his state's congressional delegation, Tommy Ricks reflected in an email to fellow RCAP staff about the importance of playing a role, no matter how small, in addressing poverty. Ricks is the Mississippi State Coordinator for Community Resource Group, the Southern RCAP.

For Ricks, the visits to the nation's lawmakers in the capital have a direct connection both to his current work on the ground in Mississippi and to his past.

Ricks cited a Feb. 22 editorial by contributing columnist Charlie Mitchell in *The* [Jackson, Miss.] *Clarion-Ledger* in which he resurrects a story about a neighborhood called Sugar Ditch in Tunica County, Miss. Mitchell compares poverty data in the community from a time it gained national prominence from a visit by Jesse Jackson in 1985 to now. He points out that, even with the influx of not only federal aid to the area but the millions of dollars in private financing that has poured into the county with its casino industry, the poverty of the county is not only still there but is growing.

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As a young man, Ricks attended college in the Mississippi Delta where Sugar Ditch Alley was located, and, he said, "my eyes were opened to the widespread poverty" there.

"I believe we all need to be reminded that, while we all may be discouraged sometimes" with the challenges in small, rural communities, "we must all continue to do our little part," Ricks wrote. "Until someone invents a silver bullet that will end poverty, our work and that of others will continue to be critically necessary even long after we are all gone from this earth."

Ricks said he had good meetings with staffers of his congressional delegation. "They were all impressed with our numbers and the fact that we assisted 291 communities last year in Mississippi, even though we were working with a smaller number of staff because of last year's federal budget cuts," he said.

Importance of technical assistance

Matt Donnelly came from his home in Montana to take part in the Capitol Hill visits. He visited his entire congressional delegation and said that, because most of his state is rural, his message was well-received.

"The people I talked to recognized the plight of rural communities and recognized the need for technical-assistance programs," he said.

Donnelly, a professor of electrical engineering at Montana Tech in Butte, is a board member of the Midwest Assistance Program, the Midwest RCAP, which held a board meeting in conjunction with the visits. This was his second time visiting Capitol Hill on behalf of RCAP.

He took time away from his work and home to go to Washington because "we're losing our rural communities," he said. "The only way to save them is to ensure they have the proper resources to meet the demands on their infrastructure."

Setting the stage

The evening before their visits began, visitors to Washington received an orientation from staff of the RCAP national office and Bob Rapoza, RCAP's lobbyist. Rapoza provided the framework for the visits by explaining that the federal government is facing the prospect of a much leaner budget for the coming fiscal year. The reality of this was illustrated pointedly by President Obama's budget proposal, which was released earlier that same day. Rapoza provided a history of federal funding in the past several years for programs that have funded RCAP's work and noted declines, but he said that those making visits still had ways of gaining congressional support for assistance in rural areas.

"RCAP's visits to Congress are important every year but were especially critical this year when funding for assistance to communities is threatened more than ever," said Ari Neumann, RCAP's Director of Policy Development and Applied Research who coordinated the visits. "As members of Congress face pressure to cut the federal budget, we hope RCAP representatives convinced them of the real need for assistance to rural communities and how RCAP can be a key player in that assistance." ■

Update on federal legislation that affects RCAP

It's election season again. As the presidential race heats up and members of Congress prepare for their own re-election campaigns, the nation's capital is abuzz with predictions for the fall and the punditry of who's up and who's down and which races will be blowouts and which will be close.

Meanwhile, Congress and President Obama face a number of must-pass bills before they fully dive into their election campaigns late this summer. At the end of last year, they left a number of issues to be addressed, including reauthorizing the Federal Aviation Administration and keeping the nation's airports open, along with extending the payroll tax reduction and unemployment benefits for another year.

Two other major pieces of legislation are set to expire this year: the Highway and Transit Bill and the Farm Bill. The Highway and Transit Bill is set to expire on March 31, so Congress will work to pass that reauthorization first. However, there are substantial differences between the Senate and House of Representatives proposals, which are making passage before the end of March increasingly unlikely.

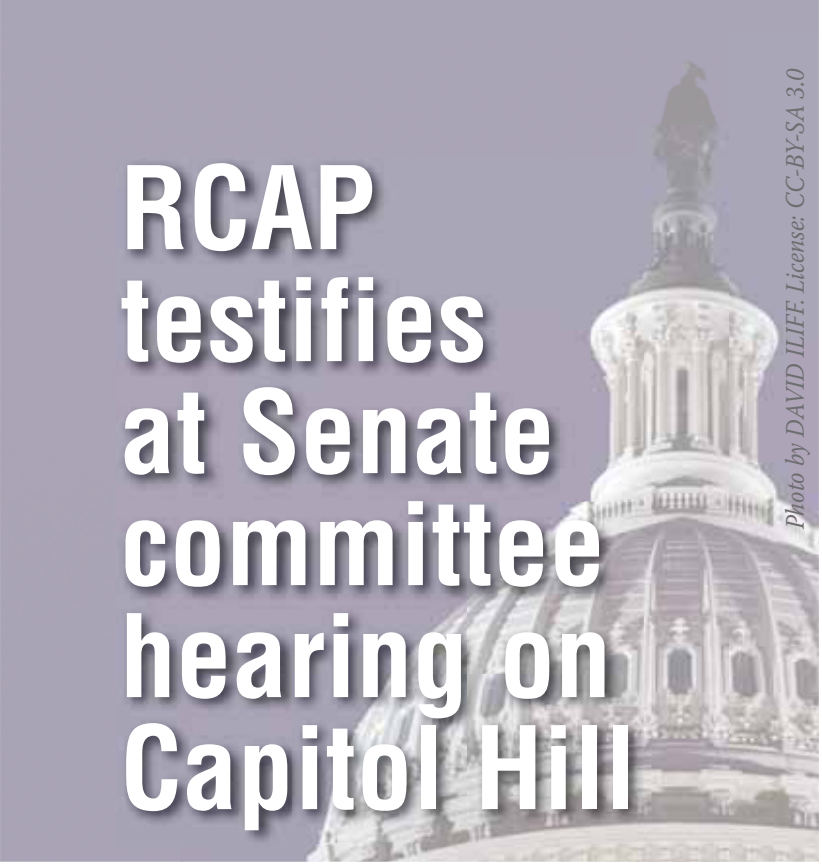
The Farm Bill is currently set to expire on Sept. 30. It authorizes most of the programs administered by the U.S. Department of Agriculture's Rural Development agency (USDA-RD). Other than the housing programs RD oversees, nearly all of its work is authorized by the Rural Development Title of the Farm Bill. However, with the deadline fast approaching and a lot of legislative work left to do this year—including the budget for the fiscal year beginning on Oct. 1—Congress may pass a short-term extension to allow them time to look at the Farm Bill next year.

Sen. Debbie Stabenow (D-Mich.), Chairwoman of the Senate Agriculture Committee, and Sen. Pat Roberts (Kan.), the top Republican on the committee, have said they are committed to getting a Farm Bill through their committee this spring, but it is uncertain if it will have sufficient support to pass the full Senate and if their counterparts in the House will be able to shepherd a bill through their chamber on time.

Recently, a group of more than 80 organizations, including RCAP and nearly all the major commodity groups, sent a letter to the House and Senate Agriculture Committees asking them to pass the Farm Bill this year to give farmers and rural residents certainty about the future (the text of the letter is at *www.rcap.org/node/790*). RCAP is also actively working with more than 30 other rural development-focused organizations through the Campaign for Renewed Rural Development. Two of the four panelists at the Feb. 15 Farm Bill hearing before the Senate Agriculture Committee (see related article on page 20) represented members of the campaign.

In general, RCAP expects Congress to stay busy through the end of July with the Highway Bill, the budget and appropriations for fiscal year 2013, and possibly a Farm Bill. Once they head home for the August recess, they will be in full-time campaign mode, and little legislation is expected to pass. Any pressing legislation that is not finished before the August recess is likely to be put off until a lame-duck session that will likely convene in December to wrap up legislative business regardless of the outcome of the elections. ■

RCAP testifies at Senate committee hearing on Capitol Hill



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A former small-town mayor from Colorado testified Feb. 15 at a Senate hearing on behalf of RCAP. Her appearance before the committee occurred during the same week that representatives of RCAP from around the country came to Washington, D.C., to educate their congressional delegations on RCAP's work in rural communities (see related article, page 17).

Dr. Florine Raitano, a board member of the Rural Community Assistance Corporation, the Western RCAP, testified at a hearing of the Senate Committee on Agriculture, Nutrition, and Forestry. She spoke about the importance of U.S. Department of Agriculture (USDA) Rural Development (RD) programs to rural America. Her testimony drew from her experience as the mayor of Dillon, Colo., the former executive director of the Colorado Rural Development Council and as the current chairman of the board for the Colorado Association for Manufacturing and Technology, Colorado's Manufacturing Extension Partnership (MEP) Center.

RCAP receives funding from USDA RD to provide technical, managerial and financial assistance to small, rural communities with their drinking water and wastewater systems. Communities themselves are also recipients of funding from RD programs for their water infrastructure and other community facilities.

Raitano was introduced with praise for her work by a member of the committee and a legislator from her home state, Senator Michael Bennet (D-Colo.). Testifying with Raitano were Mathias McCauley of the Northwest Michigan Council of Governments, Mark Rembert of Energize Clinton County [Ohio], and Charles Fluharty of the Rural Policy Research Institute.

"Without the help of technical assistance providers like the RCAP network, many small, low-income towns and counties have difficulty accessing RD programs," Raitano explained in her remarks. "The application process and eligibility requirements for each program are slightly different, and each poses unique challenges. Local leaders are most often volunteers who lack professional staff and the resources to find out what funding sources are available or the requirements for funding eligibility."

In their testimony, Raitano and the other panelists offered suggestions for improvement to development programs in rural communities. They emphasized the importance of regional collaboration and the need for flexibility within USDA programs to support regionalized development.

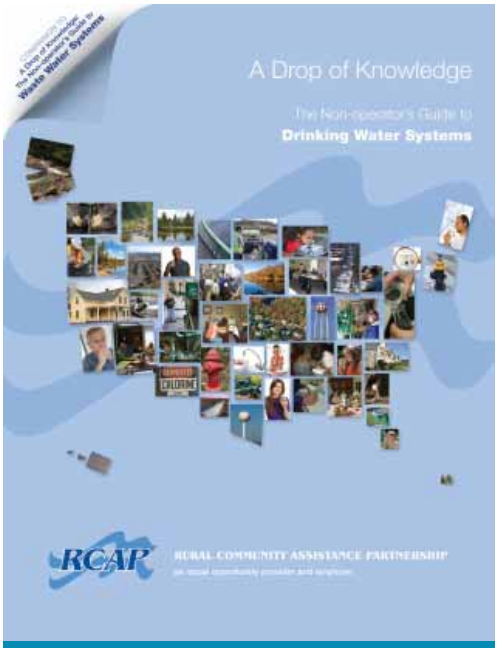
The panel also stressed the importance of technical assistance to small-town leaders and the opportunity presented by the Farm Bill to improve the efficiency and effectiveness of USDA RD programs by offering comprehensive technical assistance through RD's nonprofit partners, such as RCAP. A robust technical assistance program would enable local leaders—especially volunteer mayors and city council members—to more effectively access the resources that are available to them for infrastructure and economic development.

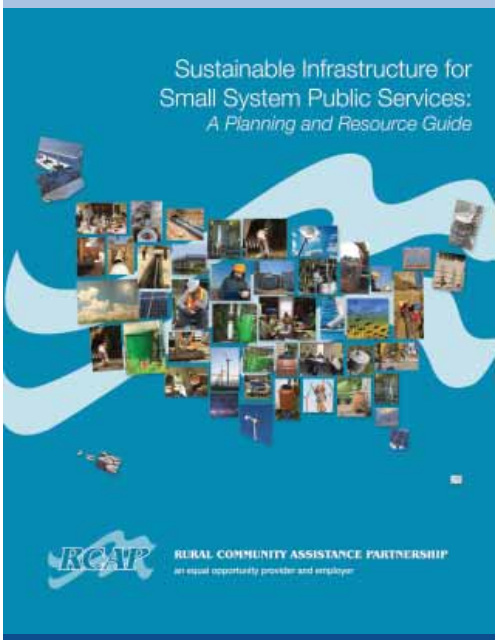
The committee's chairwoman, Debbie Stabenow (D-Mich.), and Ranking Member Pat Roberts (R-Kan.) questioned the panel members about barriers to regional collaboration and ways to leverage RD's limited resources to maximize the economic opportunities they create and their impact on job creation. Due to a scheduled vote on the Senate floor, other committee members were unable to ask their questions during the hearing, but planned to submit them to RCAP in writing for inclusion in the record.

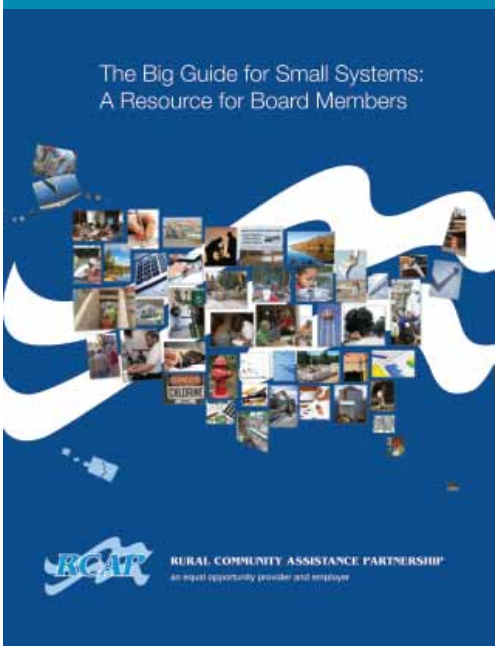
Raitano's panel was preceded by testimony from Secretary of Agriculture Tom Vilsack. He noted the importance of USDA's rural development and energy programs and the strategies USDA is pursuing to improve the quality of life in rural America. Many of the questions he faced from the committee related to the release earlier in the week of President Obama's fiscal year 2013 budget recommendations, but some committee members took the time to ask specifically about USDA's rural development programs. Senator Max Baucus (D-Mont.) questioned the secretary about the need for infrastructure to accompany the boom in oil and gas drilling in eastern Montana and western North Dakota.

Read the full text of Raitano's testimony at *www.rcap.org/raitanotestimony.* ■

RCAP produces new publications and other resources for small communities







Have you found the in-person assistance that an RCAP staff person provides in your community useful? Do you wish RCAP could provide more help and expertise in your town?

RCAP now offers some of its knowledge and expertise to small, rural water and wastewater systems in the form of publications and online resources. These new materials are aimed at boards of directors, councils, elected officials and staff who manage or oversee a system. They are useful as an introduction or background to a new project, as a reference between visits by RCAP staff, or as a guide to improving the way your system does business.

All print publications are available from your local RCAP Technical Assistance Provider. Ask him or her for a copy. Or you can download and print them yourself from the RCAP website at *www.rcap.org/commpubs*

The Big Guide for Small Systems: A Resource for Board Members
A comprehensive desk reference that is ideal as an orientation and background for new members on the governing body of a small water/wastewater system or as a guide of standards that all elected members can use. The main section of the guide covers: water and wastewater treatment basics; regulatory responsibilities of a board; ways for boards to better conduct their affairs; and a board's financial duties and responsibilities. The guide also includes an extensive glossary of operational, technical and financial terms and many appendices with sample standard operating procedures, sample policy statements, guidance on hiring and terminating employees, sample job descriptions, guidance on emergency-response planning, and much more.

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The Basics of Financial Management for Small-Community Utilities
This how-to guide provides an overview of financial management, from developing and balancing an expense budget to estimating and collecting revenue. This primer is ideal for a board member of a water/wastewater utility who needs to understand the financial aspects of a utility's operations. The guide explains in very simple, easy-to-understand terms how to read and interpret common financial statements (income statements, balance sheets, cash-flow statements) so more informed decisions can be made with the information that can be gained from them.

Formulate Great Rates: The Guide to Conducting a Rate Study for a Water System
A guide to developing a fair and equitable rate structure in a small water/wastewater system. This guide walks users step-by-step through various worksheets in a process to calculate rates. Detailed instructions (including calculations) are provided for each worksheet, which can be completed by hand with worksheets provided in the guide or on electronic versions (Excel spreadsheets) of the worksheets. The guide also provides guidance on financial management of a system related to rates as a system's income stream.

Getting Your Project to Flow Smoothly: A Guide to Developing Water and Wastewater Infrastructure
A detailed how-to on all the steps a project owner (governing body of a utility) should go through in planning, designing and constructing infrastructure. This guide discusses roles and responsibilities of the parties in a project – owner, engineer, inspector, contractor, etc. Discusses securing funding, how to stay organized, how to maintain control of a project.

Sustainable Infrastructure for Small System Public Services: A Planning and Resource Guide
Rather than presenting theories, this guidebook provides information, worksheets, examples, case studies and resources on water conservation, energy efficiency and renewable energy resources for small utilities. This planning and resources guide includes a step-by-step process for utility decision makers, staff and community members wanting to operate increasingly efficient utilities. It offers a flexible approach to evaluating sustainable alternatives for utility operations.

USDA Rural Utilities Service Borrower's Guide: A How-to for Water and Wastewater Loans from USDA Rural Development
Summarizes the managerial and financial requirements for communities that are receiving U.S. Department of Agriculture Rural Utilities Services (RUS) loan funds for their water or wastewater utility. Focuses on the requirements for submitting management reports and financial statements and walks borrowers through the steps of completing the forms and submitting the reports and statements. Comes with a CD with blank forms that are easy to fill in. Also provides ways communities can monitor the financial health of their utilities.

The two guides below are companion guides but are available separately.

A Drop of Knowledge: The Non-operator's Guide to Drinking Water Systems

A Drop of Knowledge: The Non-operator's Guide to Wastewater Systems

Each guide explains in simple, everyday language the technical aspects of drinking water/wastewater treatment and the components and operations of a small plant. They explain in just enough detail the major aspects of operations so a leader with no technical background can make more informed decisions about the maintenance or improvement of the facilities. These guides are ideal as orientation and background material for new small-utility board members and decision makers.

Online companions to the guides:

Water treatment explained for non-technical audiences

Special sections on the RCAP website explain the treatment process of drinking water and wastewater through the means of animated diagrams and short videos. Each of the two sets of videos is hosted by a member of RCAP's field staff who provides an overview of the treatment process as well as special considerations or concerns that a system's operator has in each step. The videos are meant to make non-operators more comfortable with the vocabulary and terms that a plant's operator uses and to help a utility's decision makers understand what is required to operate a dependable and sustainable water utility in terms of natural, human, financial and other resources. To access these sections, go to *www.rcap.org/DWWWtreatment* ■

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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The **Rural Community Assistance Partnership's** *eBulletin* is a FREE resource that provides tools focusing on issues facing water and wastewater systems, links to get advice from experts in the RCAP network, and quick access to loan information and applications.

The *eBulletin* comes straight to your email inbox every month and provides information for staff of systems, board members and city officials. The information will help you make informed decisions to benefit your community, stay in compliance with EPA regulations, and maintain water quality in the most proactive way.

To subscribe, visit **www.rcap.org/ebulletin**

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