Outside of the major cities along the Rio Grande corridor, much of New Mexico remains relatively rural. Recent population studies estimate a 2010 population of around 2,100,000 statewide. More than 400,000 people, or about 20% of the population, receive their drinking water from a system that serves less than 5,000 people. There are approximately 1,400 water systems that provide drinking water in New Mexico; more than 500 of those systems serve less than 100 people. Although this article is titled “Rural Water Systems,” numerous small systems serve residences, schools, small businesses, and commercial enterprises throughout New Mexico. Even in the more densely populated areas of the state, small systems provide water adjacent to the larger municipal systems.

Challenges facing small water systems

The large number of small systems in New Mexico creates a unique challenge in providing safe, reliable drinking water to our citizens. The smaller systems lack the financial and engineering resources of many larger systems, yet still are tasked with providing safe drinking water to a large percentage of New Mexico’s population. Regardless of the size, a water system is still responsible for operating and complying with all applicable regulations. To operate effectively, systems must have managerial, financial and technical capacity. Some of the specific challenges facing these systems include:

Financial capacity: It is often difficult for small systems to have rate structures that allow for the collection of sufficient capital to enable them to be prepared for emergency equipment repair or replacement in addition to standard operation and maintenance costs and periodic equipment or infrastructure upgrades. Some systems have difficulty completing auditing requirements for receiving grant or loan funding; and some may not be eligible for grant funding due to their organizational structure. In some instances, these systems may be eligible for funding through loan programs, but may be reluctant to take on the debt. Systems that are expanding to accommodate new population growth have the additional financial stresses of acquisition of new water rights and building new systems.

“Many western rural areas have never had adequate water supplies and have a need for a reliable water supply to attract and maintain rural economic and public health.”

Jim Dunlap, before the Committee on Energy and Natural Resource, U.S. Senate, May 11, 2005

More than 400,000 people, or about 20% of the population, receive their drinking water from a system that serves less than 5,000 people.
infrastructure. Systems that are vulnerable to drought, such as those relying on surface water or shallow groundwater, may have greater financial needs to implement drought contingency measures such as development of alternative water supplies.

There are a variety of different legal and organizational structures that can be used for utilities providing water to customers in New Mexico.

Trained and committed operators and directors: In many cases small water systems rely on volunteer directors and in some cases volunteer operators. Even when operators are paid employees it may be difficult to keep the position filled in some parts of the state. There is a need for operators to receive ongoing training to assure that the systems operate properly and that billing and financial management is sufficient to address auditing requirements.

Legal assistance: Acquisition of water rights in New Mexico can be a complex task that is difficult to undertake without an attorney. Even when systems have established water rights and are not seeking new rights, they must ensure compliance with their existing water rights permits. Additionally, systems with established water rights may be compelled to protest new appropriations or transfer applications that they believe might negatively impact their water supply.

Regulatory Compliance: While there is some variation in requirements under the Safe Drinking Water Act depending on the size of the system, all systems that serve more than 25 connections must be compliant with sampling and reporting requirements. Samples must be collected for both microbiological contaminants and chemical contaminants. The NMED Drinking Water Bureau provides assistance with sampling in some cases. Water systems must also comply with the New Mexico Drinking Water Rules (NMAC 20.7.10) and Mutual Domestic Water Consumers Associations (MDWCAs) must comply with the Sanitary Projects Act (NMSA §§ 3-29-1 to 3-29-21).

During 2008, the EPA Safe Drinking Water Information System showed that 500 systems in New Mexico received at least one significant violation. Of this total, 148 systems received health-based violations. These violations consisted mainly of chemical contaminant level violations, and coliform maximum contaminant level (MCL) violations. The balance received violations for non-water quality and/or non-health-based requirements of the Safe Drinking Water Act, such as monitoring and reporting requirements. In 2008 the primary violation for inorganic chemicals was arsenic exceedance.

Structure of water systems

There are a variety of different legal and organizational structures that can be used for utilities providing water to customers in New Mexico. Having so many small systems organized under different structures creates complexity in how systems are able to operate and obtain funding. Some of the primary structures include:

Mutual Domestic Water Consumer Associations. MDWCAs are public entities formed when members of the community file articles of incorporation through the Public Regulation Commission (PRC), but their rates are not regulated by the PRC. MDWCAs were authorized under the Sanitary Projects Act (NMSA §§ 3-29-1 to 3-29-21). The purpose of the Act is to “improve the public health of rural communities in New Mexico by providing for the establishment and maintenance of a political subdivision of the state that is empowered by the state to receive public funds for acquisition, construction and improvement of water supply, reuse, storm drainage and wastewater facilities in communities, and to operate and maintain such facilities for the public good.” There are approximately 220 MDWCAs in New Mexico. Each MDWCA is overseen by a board of directors, elected by association members.
MDWCAs can issue revenue bonds with New Mexico Environment Department and Department of Finance and Administration approval and, as public entities, can apply for Water Trust Board Funding.

Water Cooperatives. Under NMSA §§ 53-4-1 to 53-4-45, Water Coops operate as private membership-based organizations, governed by an elected board of directors. Coops providing water or wastewater service to their members are not public utilities subject to PRC regulation because they do not provide service to the public. Members elect a board of directors in accordance with their by-laws. As private entities, water cooperatives are not eligible for Water Trust Board Funding. Under the Sanitary Projects Act, Water Cooperatives may reorganize as Mutual Domestic Water Consumers Associations, and thus be eligible for public funding, if they comply with applicable voting and filing requirements.

Municipal and County Utilities. Municipal and county utilities are overseen by the local governing body or a board appointed by the local governing body. They can issue bonds to finance water system improvements and are also eligible for Water Trust Board funding.

Water and Sanitation Districts. Under §§ 73-21-1 to 73-21-55 Water and Sanitation Districts operate as public utilities. They are overseen by a board of directors that is elected by the taxpayer-electors within the District. Water and Sanitation Districts can issue revenue bonds and are eligible to receive Water Trust Board funding.

Private Utilities (Investor Owned Utilities). Private utilities are regulated by the Public Regulation Commission in New Mexico. While there are some larger private utilities operating in the State, there are also numerous small private water systems serving small or rural developments, mobile home parks, small commercial businesses, and others water users. Private utilities are not eligible for Water Trust Board funding.

In addition to these structures, municipal and county improvement districts, public improvement districts, private non-profit organizations, and other associations may also provide water services in New Mexico.

Review of statutes guiding water systems

In 2005, the Office of the State Engineer contracted with the Utton Transboundary Resources Center, in conjunction with the law school’s Institute of Public Law, to review the statutes under which water and wastewater systems are organized and to summarize the statutory framework. A project management team comprised of representatives of the OSE, the New Mexico Environment Department, and the New Mexico Rural Water Association, guided the effort.

The laws under which the different types of systems are organized and managed, as well as laws relating to system financing, regulatory oversight, and water planning were identified and evaluated. The purpose of this project was to develop information on the existing statutory framework for water and wastewater systems to enable researchers and policymakers to understand that framework and take any next steps needed to improve it.

Some of the key issues and gaps identified in the statutory assessment were:

- **Defining the service area:** Only a few of the statutes give the entity operating the water or wastewater system an exclusive service area or the tools to prevent encroachment, overlap, or duplication of services.

- **Source water protection:** Some statutes do not give the water system the means to...
protect the source of its water supply from pollution. State and local laws may provide some protection but the water system itself may not have the tools it needs. Public water supplies have been impacted and in some instances temporarily placed out of commission due to leaking underground storage tanks or other contaminant sources in communities in the vicinity of Alto, Hobbs, Los Alamos, Milan, Peñasco, Pojoaque, Santa Fe and other locations around the State. For communities that do not have back up supplies, vulnerability to contamination can be a very serious issue.

- **Water conservation measures**: Only a few of the statutes require that systems employ water conservation measures. Considering the overall limited water resources in New Mexico and that integrating water conservation into all levels of water service is a key strategy for the State as reflected in the State Water Plan, this is a serious shortfall.

- **Governing structure**: Only a few of the statutes provide guidance to the board of directors to ensure skilled direction and management over time. The statutes don’t consistently require the retention of board members and professional staff to ensure that the organization has the capacity and expertise to operate the system and manage the business. Small systems with volunteer directors may be unable to respond to the long-term challenges of system operation. There is also little guidance for an entity interested in changing its structure through reorganization, merger or other joint or regional structure for management of a shared resource. Finally, it is not always clear whether an organization is a private or a public entity.

- **Financial management**: Water systems run into trouble when they do not plan sufficiently for replacement and repair, or for emergencies, yet few of the statutes require that systems engage in this type of financial planning or the maintenance of reserve funds. Sometimes rates and charges are required only while bonds are outstanding, and little attention is paid to the use of rates to maintain long term viability or conserve the water supply. When small systems do not have adequate emergency capital for replacement parts, they are vulnerable to temporary or longer-term disruptions in service. For example, some small systems do not have either backup wells or funds for replacement parts in the event of a pump or other equipment breakdown; this issue has resulted in disruption of service in some communities.

- **System and area-wide planning**: There are very few statutory requirements that an entity owning or operating a system engage in long term planning or participate in regional water planning. Little in the statutory toolbox equips systems, especially the smaller systems, to deal with long term capacity planning or drought management. The lack of planning and financial capacity to deal with emergencies can sometimes lead to severe consequences such as diminished or no service during times of drought. New Mexico communities including Hagerman, Cloudcroft, Los Brazos, Cañon, Otis, Carlsbad, Regina, Eunice, and others have been faced with acquiring emergency supplies following drought periods. Even when there are no drought emergencies, long-term planning can help communities prepare for other problems they may encounter, such as lowered water tables due to regional groundwater extraction.

- **Regulatory oversight**: Environmental, utility, financial, and public oversight varies greatly from system to system. Some systems appear to receive little oversight under the law. Even when regulators are aware of an issue, such as repeated water quality violations in some small systems,
they are not easily able to enforce a correction. In some cases a solution might be that a small problematic system could be integrated into a nearby well-managed system, but there is no incentive for the nearby system to take on the responsibility for correcting the problems.

A number of different laws, passed at different times, offer different and sometimes inconsistent guidance to counties interested in owning and operating their own water supply and wastewater collection systems. For small systems that don’t have paid directors or attorneys, understanding the regulatory obligations for their particular organizational structure can be a challenge.

A number of water and wastewater systems are operated by homeowner and property owner associations in subdivisions and developments, and yet there is not a single statute that clearly guides the organization of these systems.

Some statutory structures make the formation of a water supply or wastewater collection system very complex while others seem to make it too easy; and none of the existing structures offer a clear and comprehensive set of provisions to meet today’s challenges.

This 2005 review of the statutes indicated a clear need for improving the organization, management, and oversight of water systems in New Mexico.

**Assistance for rural water systems**

The non-profit New Mexico Rural Water Association (NMRWA) provides technical assistance and training to member water and wastewater utility operations throughout New Mexico. The NMRWA has over 500 system members collectively serving water to over 460,000 persons throughout New Mexico. The general membership is made up of mutual domestic water associations, municipal government water utilities, community water cooperatives, public water and wastewater sanitation districts, and non-profit water utility organizations.

Membership in the NMRWA is open to New Mexico water and wastewater utilities serving less than 50,000 people, and firms and individuals that adhere to the purposes of the Association. The Association is governed by a twenty-four person board of directors, elected from systems throughout New Mexico.

For small systems that don’t have paid directors or attorneys, understanding the regulatory obligations for their particular organizational structure can be a challenge.

The primary focus of NMRWA programs is to develop the capacity of small public water and wastewater systems so that they may provide quality, consistent services to rural families.

NMRWA provides on-site assistance, training, and troubleshooting support to the operators, board members and managers in charge of water and wastewater systems in rural communities throughout the State.

NMRWA services include: assistance with leak detection, operator accreditation, emergency technical assistance, wellhead and source water protection planning, establishing rate structures, operating disinfection systems, wastewater technical assistance, Tribal system assistance, training for board members, contamination prevention, regulatory assistance, learning sustainable development practices, and learning how to form a Mutual Domestic Water Consumers Association. These services are provided free-of-charge to all members. The Association is funded by membership fees and funding partners, such as the USDA Rural Development program, NMED, Drinking Water Bureau, and the U.S. Environmental Protection Agency.

In addition to the NMRWA, the NMED Drinking Water Bureau provides training and assistance to small water systems.
NMED periodically provides Operator Certification Training as well as training on specific regulations or topics relevant to system operation at locations around the state. The Drinking Water Bureau also assists with training and assistance to water system board members and operators regarding technical, managerial and financial capacity matters.

Financing for small water systems

One of the challenges facing small rural water systems is acquiring financing for system operation and maintenance, periodic upgrades, and in some instances expansion. In addition to financing for routine system operation, which is normally covered through the rate structure, water systems need to have financing available to deal with emergency equipment repair or replacement. Some of the primary sources of funding available to small systems include:

The Rural Infrastructure Act. The Rural Infrastructure Revolving Loan Program (NMSA §§ 75-1-1 to 75-1-6) was created in 1998 to provide financial assistance to local authorities for the construction or modification of water supply facilities. The Act was subsequently amended to include wastewater and solid waste. The maximum loan per entity and project is $2 million. Eligible entities include any incorporated city, town, village, mutual domestic association or water and sanitation district whose facilities serve a population less than 20,000 or a county that serves a population less than 200,000. Eligible projects include infrastructure improvements, treatment plant improvements, projects to improve water quality, water rights acquisition, and costs for legal fees, easements, or engineering studies.

Drinking Water Revolving Loan Fund (DWRLF). This fund is administered both by the NMED Drinking Water Bureau and the New Mexico Finance Authority (NMFA); it is not just for small or rural systems, but it can be used by them. All community systems (profit and non-profit) as well as non-community non-profit water systems are eligible. Non-community non-profit systems include any non-profit school, business, or other enterprise that provides water service to people other than full time residents.

New Mexico Water Trust Board. The New Mexico Water Trust Board provides grant and loan funding to public entities in New Mexico for five categories of projects: 1) storage, conveyance and delivery of water; 2) implementation of the Endangered Species Act collaborative programs; 3) restoration and management of watersheds; 4) flood prevention; and 5) conservation, recycling, treatment or reuse. Further details of Water Trust Board Funding are provided in a separate article within this publication.

Special Appropriations Program. Special Appropriations are state grants for infrastructure projects that are issued annually when authorized by the New Mexico Legislature. Communities must apply for these funds through their legislative representative. If money is appropriated and approved by the Governor, the funds are then distributed to the communities through specific assigned state agencies, who then oversee the expenditure of the funds. Water projects are overseen by the NMED Construction Program Bureau. During the 2009 legislative session, no new projects were approved.

The U.S. Department of Agriculture (USDA) Rural Development program provides loans and technical assistance to rural utilities. This federal program is overseen by a local office in each state; in New Mexico the office is in Albuquerque.

In 2008, New Mexico implemented a Uniform Funding Application to provide for a consistent application process for all types of State funding.

Needed improvements for small water systems

In recent years there has been interest in determining where improvements to small water system operations can be achieved
Programs to improve efficiencies through regional support will be important to the future of drinking water systems in New Mexico. citizens include: continued funding for development of system capacity, improvements to the statutes governing water systems to provide for better consistency between systems and greater accountability, better resources for technical and managerial assistance for small systems, better resources for enforcement of water system violations, and improved linkage between funding sources and requirements for systems to have adequate financial, technical, and managerial capacity. Additionally, education efforts to help the public understand the need for water rates sufficient to support adequate system operations are important. While there are some resources available to help small systems develop the financial, managerial, and technical capability needed to provide safe drinking water, there are gaps in the legal framework and inadequate manpower to ensure that the 1,400 water systems in New Mexico are all running smoothly and are compliant with all regulations.

By Joanne Hilton and Susan Kelly (November, 2009)
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§§ 3-53-1 – 3-53-5. Waters; Regulation of Use.

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