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ABCWUA Wins 2010 EPA WaterSense® Excellence Award for Strategic Collaboration

Does a 12,000% increase in results sound unbelievable? [Read](#) how one utility's smart ideas changed the toilet retailer scene.



NMOSE Receives USBR Grant for Water Conservation Planning

Work begins on developing a guide that will capture the unique water characteristics of our region. [Read more....](#)



NMWCA Meetings Featured Four Experts on Water Conservation Measures

If you didn't hear these local gurus speak, you'll wish you had. [Read more....](#)



RiverXchange Expands to 45 Partnerships in 4th Year

What's the best way to change conservation habits? Teach the kids. [Read more](#) about how this innovative water education program keeps making a difference, one child at a time.



NMOSE Promotes EPA's "Fix a Leak Week" during March 2011

Check, twist, and replace: Take these three steps to save water during Fix a Leak Week. [Read more....](#)



NMWCA Member Participates in Jordanian Water Conservation Efforts

If predictions are correct, the Dead Sea will be dry by 2050. [Read](#) about Jordan's water conservation efforts through the eyes of NMWCA member, Lonnie Burke.

ABCWUA Wins 2010 EPA WaterSense® Excellence Award for Strategic Collaboration

U.S. consumers saved more than 36 billion gallons of water and \$267 million on water and sewer bills in 2009 by using WaterSense labeled products. But they didn't do it alone.

More than 2000 utilities, government entities, nonprofits, manufacturers, retailers, distributors, builders, and certified irrigation professionals promoted the WaterSense label to help spread the word about the importance of water efficiency.

To acknowledge the outstanding accomplishments of this growing partnership, WaterSense has expanded its Partner of the Year awards program. In 2010, for the first time, WaterSense included Excellence Awards, which recognize additional organizations and individuals whose support of WaterSense stood out in one or more of the Partner of the Year evaluation categories.

And the winner is....

Albuquerque Bernalillo County Water Utility Authority (ABCWUA) won an Excellence Award for Strategic Collaboration. They won it by visiting every toilet retailer in Albuquerque to promote the Flush Rush toilet rebate program and give them display materials.

The results? Drum roll please.

A 12,000% plus increase in the number of stores carrying WaterSense labeled products! In 2007 there were only two stores carrying these products. In 2009, a whopping 245 stores carried them.

The Water Authority also partnered with larger customers such as Albuquerque Public Schools and the City of Albuquerque to retrofit old, inefficient toilets with WaterSense labeled models.



Congratulations ABCWUA!

For more information about this and other WaterSense awards, go to http://www.epa.gov/watersense/docs/ws_POYfactsheet508.pdf.

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NMOSE Receives USBR Grant for Water Conservation Planning

In September 2010, the New Mexico Office of the State Engineer (NMOSE) received a grant from the United States Bureau of Reclamation (USBR) to develop a water conservation planning guide.

Steps for creating the guide

To begin, NMOSE will review recent successful advances in water conservation activities. They'll also obtain stakeholder input. Then they will integrate this data into a single reference that captures the unique characteristics of the region.

At least two facilitated meetings will be held to get stakeholder input on what they need and the challenges they'll face when creating a water conservation plan. NMOSE will also launch a comprehensive review of published studies on successful water conservation plans and planning guides. The planning guide content they will investigate includes: gathering, organizing and analyzing data; setting water conservation goals; setting budgets, resources and timelines; and conducting ongoing assessment of programs effectiveness.

There are several regulatory agencies (including the NMOSE) in the USBR's Upper Colorado Region that require or recommend water conservation planning. In light of that, a secondary goal for this project is to use local input to create a document that these agencies can reference for their water conservation planning.

The New Mexico Water Conservation Alliance (NMWCA) will partner with NMOSE on this two-year grant project.

For more information, please contact Cheri Vogel at 505-827-4272 or cheri.vogel@state.nm.us.

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NMWCA Meetings Featured Four Experts on Water Conservation Measures

Members of the New Mexico Water Conservation Alliance (NMWCA) heard four local experts talk about water conservation measures they helped implement in their communities.

At the September meeting, Glen Lohman from Baker Utility Supply in Albuquerque, and Henrietta Hughes and Guy Rodgers from the City of Rio Rancho, discussed the pros and cons of AMR/AMI meters and how Rio Rancho uses the meter data and information to promote water conservation.

Lohman has helped utilities upgrade their meter reading systems and consulted on water conservation programs, meter testing, selection, and installation, as well as data profiling and software installation.

Hughes and Rodgers discussed how Rio Rancho uses data from the AMR meters to let customers know about potential water leaks. Hughes is utilities services division manager for the City of Rio Rancho, and Roger is utilities services supervisor. Rogers is also considered the "water guru" for the city, as he knows where the first meters were installed and the history behind the city's water system.

At the November meeting, Bill Hoffman talked about water conservation potential in the Industrial, Commercial, and Institutional (ICI) realms. He said annual water use for a ten story building in the southwest breaks down to 22% irrigation, 31% indoor, and 47% for cooling.

Hoffman said water conservation specialists who target ICI can get a big bang for their buck. In most communities, ICI makes up less than 5% of the water connections, yet they are large water users. Cooling towers can use on average 30,000 gallons of water per day in the summer, so this is a great area in which to promote water conservation. He also recommended contacting the Alliance for Water Efficiency to learn ICI Best Management Practices.



Hoffman has been instrumental in both the development of water conservation legislation and of a new rating tool for the US Green Building Council's LEED process and the Green Globe's Green Building rating systems. He can be reached at (512) 294-7193 or billhoffmantx@earthlink.net. The Alliance for Water Efficiency website is www.allianceforwaterefficiency.org

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Henrietta Hughes and Guy Rodgers from the City of Rio Rancho, discussed the pros and cons of AMR/AMI meters.

RiverXchange Expands to 45 Partnerships in 4th Year

RiverXchange is growing by leaps and bounds!

This innovative water resources project, which combines a year-long curriculum with social-networking technology and class partnerships, was created by Experiential EE, LLC as a means to engage New Mexico fifth grade teachers and students in the long-term study of water resource issues. And engage it has.

RiverXchange gives water resource professionals an opportunity to gain entrance into area schools to work with highly motivated teachers. This helps water resource agencies meet their own outreach goals and distribute their agency resource materials to interested teachers and their students.

The project expanded this year to include 10 classes in Santa Fe County, 22 in Albuquerque, and 13 in Rio Rancho. With 45 New Mexico classes and 45 partner classes, RiverXchange is reaching about 2000 students over the school year. That's a lot of students learning about the importance of water conservation.



Beyond state borders

Fifth grade classes partnered with classes in other states or countries. This year, partner classes came from 11 states, as well as Alberta, Canada, and two U.S. military bases in Italy. What a great way to teach students about water issues beyond their own back yards.

Most partner teachers are highly motivated and bring significant knowledge of water resource topics to the project. Some are willing to organize their own guest speakers and field trips. Participating classes follow the curriculum at approximately the same time during the school year. Each teacher's job is to update their private class wiki Web site and help their students communicate by computer with their "high tech pen pals." Students have their very own page on the class wiki where they share what they are learning with these pen pals.

The curriculum is divided into three units: Our Watersheds, Water in Our Society, and River Ecosystems. Students explore aspects of the river in their own back yard and take pride in sharing their knowledge of their local river ecosystem. RiverXchange gives students located in vastly different geographical locations the unique opportunity to see and hear each other, ask questions, and share personal experiences. They gain a broader understanding of the importance of a river to human life by learning from their peers about another watershed and comparing it with their own.

Project content is aligned with state educational standards for science, social studies and language arts. This satisfies multiple teaching requirements while showing teachers how easy and fun it is to use water as a theme. All activities address the language arts standards for writing, which is a key skill teachers are asked to integrate into all content areas.

Guest speakers and teacher testimonials

"...with the RiverXchange kids, we are able to go into more depth about water resource issues, because they have already been studying the river, and we're able to refer to concepts they already know."

— Marian Wrage, City of Rio Rancho

"RiverXchange enabled the students to be more involved in learning than other"



Students out on the Bosque



Students studying the Bosque habitat

projects I have implemented and seen. Students had to digest what they learned and re-tell that learning to someone else. This forced them to take ownership of the information and experiences. Also, the variety of the activities appealed to different student learning styles. Students had to research, do hands-on activities and learn to communicate. There was some aspect that appealed to every student."

— Jim Lafley, guest speaker for our partner teachers in Massachusetts

"For years I've tried to explain to children how important water is to humans and how it has driven the course of history. Your program with the hands-on experience helps make it real for kids and greatly enriches the understanding of Idaho's history."

— Rochelle Killelt, partner teacher

The New Mexico Water Conservation Alliance is a fiscal partner. All aspects of the project are free to New Mexico teachers, thanks to generous funding from these additional agencies:

U.S. Bureau of Reclamation
Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
Middle Rio Grande Stormwater Quality Team
Santa Fe County



Students in the classroom

For more information, contact Amy White at amelia87102@yahoo.com or 505-235-8342. Amy is an independent contractor and Project Manager of RiverXchange.

The project Web site is www.waterfestnm.com.

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NMOSE Promotes EPA's "Fix a Leak Week" during March 2011

As part of the U.S. Environmental Protection Agency's (EPA) ongoing We're for Water campaign, this year's Fix a Leak Week encourages Americans to help put a stop to the more than 1 trillion gallons of water wasted from household leaks each year.

Sponsored by EPA's WaterSense® program, Fix a Leak Week is March 14-20, 2011. In support of We're for Water, the NM Office of the State Engineer (NMOSE) is promoting finding and fixing residential leaks in New Mexico.

"Leaks can account for more than 10,000 gallons of water in an average home every year—enough water to wash nearly 10 months' worth of laundry," said Cheri Vogel, Water Conservation Coordinator for NMOSE. "As a WaterSense partner, we are encouraging consumers to find and fix leaks to save water in our community."

To accomplish this goal, NMOSE is asking consumers to check, twist, and replace:

- **Check for leaks.** Look for dripping faucets, showerheads, and fixture connections. Also check for toilets with silent leaks by putting a few drops of food coloring in the tank and see if it appears in the bowl before you flush. Don't forget to check irrigation systems and spigots too.
- **Twist and tighten pipe connections.** To save more water without a noticeable difference in flow, twist on a WaterSense labeled faucet aerator.



- **Replace the fixture if necessary.** Look for WaterSense labeled models, which are independently tested and certified to use 20 percent less water and perform as well as, or better than, standard models.

In many cases, fixture replacement parts pay for themselves quickly and can be installed by handy do-it-yourselfers. Or contact your favorite plumbing professional, if you need help. WaterSense also partners with certified landscape professionals who can check irrigation systems for leaks. Visit www.epa.gov/watersense to find WaterSense labeled products or an irrigation partner in your area.

The NMOSE will be partnering on events in Albuquerque, Santa Fe, Rio Rancho and Gallup the week of March 14, 2011. For more information, please check the NMOSE Web site at http://www.ose.state.nm.us/conservation_index.html. Events will be posted in January 2011.

For more information on Fix a Leak Week, visit www.epa.gov/watersense/fixaleak.

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NMWCA Member Participates in Jordanian Water Conservation Efforts (Part 2)

The Jordan River is predicted to run dry next year as a consequence of over exploitation. It is important to note that both Israel and Jordan draw water from the Jordan River with Israel diverting the largest amount. The Dead Sea which the Jordan River feeds into is dropping a meter a year because there is not enough water flowing into it to make up for the water loss due to evaporation. The Dead Sea is predicted to go dry by 2050. Due to this fact Jordan has started a project to pipe water from the Red Sea to the Dead Sea.

The lack of water is having an extreme effect on the country of Jordan. In fact, to obtain additional sources of water, the ancient city of Petra has spent thousands of man hours to bring water into the city by a water canal carved into the side of the rock cliff. In addition, to bringing water in from other areas, Jordan is trying to conserve the minimal amount of water that they have remaining. The first step that they have taken is to identify ways to conserve. They have done this by bringing our team in to complete site surveys of various facilities in which we assessed all water using features. The three categories that were audited during this trip were, Government Offices, Schools and Universities, and four and five star hotels. These categories make up the largest part of the total water use in Jordan.

WMI worked closely with site contacts to create a set of assumptions specific to domestic water use in hotel, office buildings, universities and schools. The following sections include some of the assumptions made in creating a water use chart (water balance) for all three categories. A water balance shows a facility's total water usage broken down by end use. In developing the assumptions for each facility type, we drew information from a number of resources and took into account demographic, occupancy, and operating hours.



Figure 1: The Ancient City of Petra



Figure 2: Water Canal Carved Into Rock Formation

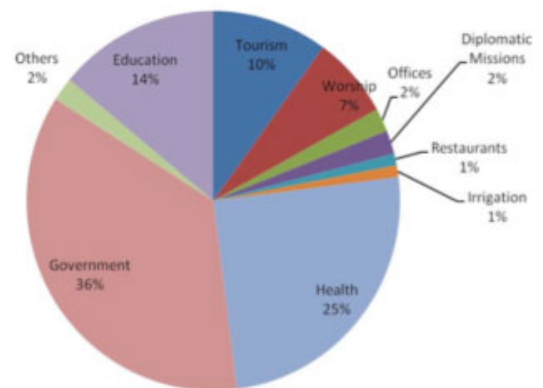


Figure 3: Water Use Distribution by Facility Type in Jordan

Four and Five Star Hotels

- A staff member/worker will use the public or staff restroom once every 3.75 hours (4 times in an 8 hour shift).
- A hotel guest will use the restroom in their room once every 4 hours (3 times in 12 hours a day).

- A visitor to a hotel will use the guest room toilet once every 2 hours. The assumed length of visit for each visitor is 2 hours. Therefore, on average, every visitor will use the restroom once during their visit.
- It is assumed that the public or staff toilets are evacuated in some manner 90% of the time it is used by staff. 10% of users will void and leave without flushing. This flush rate improves to 95% for guest toilets.
- 100% of all guests will use the lavatory faucet in the guest room for 6 minutes daily. This figure attempts to include use for brushing teeth, hand-washing, ablution, cosmetic application, shaving, etc. For staff and visitors, this use is calculated at 6 seconds per toilet use.
- Bathroom cleaning water for guest rooms is assumed at 2 tank toilet flushes per occupied room daily. This figure represents all water used to clean bathroom fixtures and counter/floor surfaces. All non-bathroom related cleaning water is assumed at 0.125 liters per non-carpeted square meter twice weekly. Non-carpeted meters are estimated by WMI based on total building square meters.
- Commercial kitchen usage per meal is estimated at 20 liters per meal served.
- Laundry usage is estimated at 18 liters per kilogram. This estimate is very conservative, as several studies place average laundry use per kilogram at 22L/kg.
- Irrigation water is calculated at a rate of 3.23 liters per irrigated square meter per day for turf and 1.21 liters per irrigated square meter of xeric per day.
- Ice machines produce 5.4 liters of ice per guest per day.

Government Office Buildings

- A staff member/worker will use the restroom once every 2 hours (4 times in an 8 hour shift).
- A visitor to the building will use the restroom once every 2 hours. The assumed length of visit for each visitor is 1 hour. Therefore, on average, every other visitor will use the restroom once during their visit to the building.
- It is assumed that the toilet is evacuated in some manner 90% of the time it is used by either staff or visitors. 10% of users will void and leave without flushing.
- It is assumed that 40% of staff and visitors using the toilet will use the bidet or an 95% of all users will use the lavatory faucet after a toilet use for hand washing at a rate of 10 seconds per use. Normally, this use is calculated at 6 seconds per toilet use; however, in this instance WMI is calculating that a small percentage of staff will use the lavatory faucets for ablution before prayer. This is averaged out and combined into the normal hand washing lavatory use.
- Cleaning water is calculated at a rate of 0.125 liters per square meter daily or weekly (as indicated per audit site) for non-bathroom areas. Bathroom cleaning water equals 2/4 toilet flushes per fixture daily. This figure represents all water used to clean bathroom fixtures and surfaces. The number of flushes is 4 where "Turkish" toilets with no tank are found. In office settings with a predominance of tank and bowl fixtures or "Turkish" toilets with tanks, 2 flushes are used.

Universities and Schools

- Staff and students are assumed to use the bathroom once every 2 hours.
- It is assumed that 40% of staff, students, and visitors using the toilet will use the bidet or an accompanying hose for 12 seconds per use.
- 95% of all staff will use the lavatory faucet for hand washing after each bathroom use at a rate of 8 seconds per use. 95% of students will use the lavatory faucet for hand washing after each bathroom use at a rate of 8 seconds per use. Visitor lavatory behavior is assumed to be the same as students and visitors.

Audit Findings

At all the facilities audited the findings were not that different than what you would find in the United States for savings. At most facilities the changing of the toilets is where the largest indoor saving could be achieved. At the eight hotels audited 4,429,920 gallons of water could be saved annually by changing out toilets with dual flush toilets. The schools and universities could save 1,920,864 gallons and government offices would save 392,422 gallons. In the hotels showers were the second largest indoor water saving action that could save 3,941,256 gallons annually.

Overall the facilities in Jordan uses less water than comparable facilities in the United States. Hotel used an average of 131 gallons a day per guest, and in the US the average is 175 gallons for a four and five star hotel. Only two of the eight hotels audited used more than 175 gallons a day per guest. Schools and universities use only 12 gpd per student, while US schools use 25gpd. Offices used 5gpd per employee while the US uses 25gpd.

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A Newsletter Published by the New Mexico Water Conservation Alliance

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