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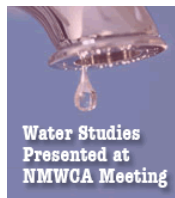
#### Did You Know the NMWCA has a Database of Water Conservation Professionals?

We didn't think so.

In 2000, NMWCA posted on its Website a database of professionals in the water conservation field. We would like to bring it up to date, but we need your help. It hasn't been very active, yet it's a great way for all of us to stay connected and communicate the latest in water conservation information. If you are not registered, please do.

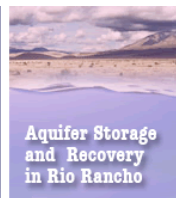
If you are already registered, please take a minute to check your entry and bring it up to date. You can find the database at [wri.nmsu.edu/wrdis/nmwca/database.html](http://wri.nmsu.edu/wrdis/nmwca/database.html).

Thank you!



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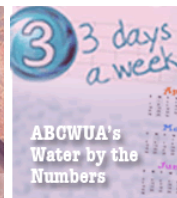
**Aquifer Storage  
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## May 8 NMWCA Meeting Offers Presentation about Two Water Studies Conducted by Aquacraft, Inc.

At the May New Mexico Water Conservation Alliance meeting, Peter Mayer, P.E., gave a presentation on two studies currently being conducted by Aquacraft, Inc. out of Boulder, Colorado. One study is a three-year project funded by a grant from the EPA and in conjunction with nine water agencies.

Aquacraft began work on the project in 2006, which is scheduled for completion in July 2009. The study is comparing residential water use from a representative sample of 1000 homes built before 2001 with the residential water use from 1,000 homes built after 2001. All homes are located in the nine participating communities. About 20 homes from each study site will be built to high-efficiency standards to determine how water efficient new construction can be. Mayer said the potential for greater water efficiency in new homes is still significant. For example, new home indoor water use can be reduced by about 30 percent with the use of high efficient toilets and clothes washers.

Walk-throughs and surveys are being conducted in the new homes to gather information on water use. The resulting information will be compared to data obtained from the older homes.

So far, of the nine communities, Phoenix and Las Vegas show less water use in new homes compared to older ones. In Denver and Aurora, water use is the same. In Tampa, Salt Lake City, Eugene, Jacksonville and Roseville, water use has been greater in new homes.

Although there are several variables that affect water use in new homes (such as increased lot size), the main culprit is thought to be automatic irrigation systems. Mayer said sometimes these systems are installed in climates that do not normally require irrigation, and on top of that, they can use twice as much water as manual landscape watering.

#### Water Budgets and Rate Structures

Mayer talked about another study Aquacraft is conducting with funds from the American Water Works Association Research Foundation. In this project, engineers are studying the effects of water rates based upon water budgets that are linked with an increasing block rate structure.

Water budget rates use individualized rates based upon factors such as lot size, evapotranspiration, and the estimated number of persons per household. Low rates are set for indoor use, and outdoor use generates higher rates. Water budget rates provide more specific water use information to the customer while improving revenue stability for the water utility.

About 30 communities across the country have adopted some form of water budget based rates. A typical structure sets a rate up to 100 percent of what is considered normal water use, and that rate increases significantly for use over that set amount. Such rates have been shown to reduce water use by 20 to 35 percent.

Water budget evaluations can be helpful to water utilities even without implementing water budget rates, because they can identify water use patterns that help a utility target its water conservation efforts. They also help utilities target enforcement efforts more accurately, especially during droughts.

The Aquacraft EPA study results have been published in a new AWWA manual, and an article about the study can be accessed in the May AWWA Journal at [www.awwa.org/Publications/AWWAJournalIssue.cfm?ItemNumber=3514](http://www.awwa.org/Publications/AWWAJournalIssue.cfm?ItemNumber=3514).



Peter Mayer, P.E., is Vice President and Project Engineer with Aquacraft, Inc., ([www.aquacraft.com](http://www.aquacraft.com)).



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## Rio Rancho Moves Ahead with Aquifer Storage and Recovery Project

The City of Rio Rancho relies entirely on groundwater as their drinking water source and competes with surrounding communities for this limited water supply. To supplement this source, the city has built two state-of-the-art wastewater treatment facilities. Each uses an advanced treatment called "membrane bioreactor technology" to clean the wastewater. Bob Marley of Daniel B. Stephens and Associates gave a presentation on this Aquifer Storage and Recovery (ASR) project at the March 13 NMWCA meeting.

This reclaimed water will not only serve to supplement this supply, but also to reduce declining water levels through both artificial recharge and in-lieu recharge. "Artificial recharge" is when reclaimed water is introduced to the aquifer through infiltration galleries or direct injection. "In-lieu recharge" (or withdrawal avoidance) is where reclaimed water is used in place of new groundwater for irrigating golf courses and large parks, and for construction or dirt road applications.

The benefits of water reuse are to:

- reduce the rate of groundwater decline through localized artificial recharge,
- meet non-potable irrigation water demand for open spaces, and
- supply water for industrial needs – all without increasing groundwater withdrawal.

Water reuse also increases city control of available water resources.

Rio Rancho has two infiltration galleries. One is currently in use in Cabezon subdivision near Southern Blvd. and Golf Course Road. The other is the Mariposa gallery, which is in the northwest portion of the city near Highway 550. It will be accessed as the Mariposa subdivision builds out. The recharge will take several years to decades before it reaches city wells.

In the fall, the city will begin drilling its aquifer injection well near Rio Rancho High School. Once drilling is finished, the city will use the potable water source with baseline monitoring, followed by several weeks of injection with continuous monitoring. The hope is that this project will resolve injection well operational issues, determine aquifer parameters and groundwater flow directions, and characterize baseline water quality.

Phase 2 of the project will involve injecting a tracer compound into highly treated reclaimed water for a limited time, followed by extensive monitoring. With positive results, water later injected for storage will be within the city's existing cone of depression, developed through long-term pumping of the aquifer. The city will recover the recharged water through pumping existing municipal wells, and estimates it will take at least a decade to recover this water, which will be mixed with ambient groundwater.

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## Certified Landscape Irrigation Auditor Class Offered to 12 Area Students

The New Mexico Water Conservation Alliance hosted a Certified Landscape Irrigation Auditor class conducted by Irrigation Association (IA). Twelve students from the Albuquerque/Rio Rancho area attended the two-day class that taught step-by-step procedures for performing landscape irrigation audits and developing irrigation scheduling programs. These procedures can help improve water management by generating irrigation schedules and tracking actual site water use.

The best irrigation efficiency is achieved when the water applied to landscapes by irrigation systems is used by the plants being irrigated. Improved irrigation efficiencies may result in reduced water use, improved landscape appearance, reduced runoff, and reduced water loss below the root zone.

To be fully certified, these students will need to take and pass an exam administered by IA, as well as perform two audits. The exam will take place on September 26 from 8:00 a.m. to noon in Rio Rancho. For more information, please contact Cheri Vogel at (505) 827- 4272 or [cheri.vogel@state.nm.us](mailto:cheri.vogel@state.nm.us)



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## ABCWUA Offers Consumers New Ideas for Conserving Water

The Albuquerque Bernalillo County Water Utility Authority (ABCWUA) has launched a new program to help customers save water during this irrigation season. It is called "Water by the Numbers." This voluntary program encourages a bell-shaped watering curve: Water only once a week in March, twice a week in April and May, and three times a week in June, July and August. Beginning in September, customers should reverse the pattern by watering twice a week in September and October and once a week in November.

Customers can find more information, such as how long to water different plants and landscapes, on their website at [www.abcwua.org](http://www.abcwua.org).

ABCWUA is advertising this program through TV and radio ads, billboards, bill inserts, magnets and messages included in water bills.



The authority is also continuing to offer the "Water Smart" classes, which proved to be very popular last summer. This one-hour class includes a one-time \$20 rebate to customers who attend. Participants learn how much to water their landscapes and lawns and how to most efficiently deliver that water. Emphasis is placed on following the "Water by the Numbers" program. A separate one-hour class that explains how to install drip irrigation is also available to city residents. A list of class times and locations can be found at [www.abcwua.org](http://www.abcwua.org).

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A Newsletter Published by the New Mexico Water Conservation Alliance