

On the Water Front

Shaping Our Community's Water Future



In April 2008, the City of Tucson and Pima County embarked on a comprehensive, multi-year study of water and wastewater resources or WISP (Water & Wastewater Infrastructure Planning Study). The City owns and operates the region's largest potable water and reclaimed water systems and the County owns and operates the primary wastewater system. As part of the WISP, the Tucson Mayor and Council and the Pima County Board of Supervisors appointed a volunteer citizens committee to oversee the first two phases of WISP. The Oversight Committee held 36 public meetings and four open houses, with a website offering on-line comment forms, and easy access to minutes, presentations and reports. The results:

- An unprecedented planning and coordination effort among the Mayor and Council, the Pima County Board of Supervisors, staff members, scientists, environmentalists, the Oversight Committee, and the public over some 21 months.
- A Phase I Report, released in March 2009, that established a common set of facts and a resource inventory about City water and County wastewater systems.
- A Phase II Report, released in December 2009, that focuses on general principals, policies and criteria related to a more sustainable water future for the City and County.

On February 17, 2010, the Mayor and Council adopted Resolution 21478 supporting the goals and recommendations of WISP Phase II. Next steps include an impact analysis and recommendations from City staff about Tucson Water's service area and its boundaries, and its conservation efforts. Plus, a Phase III-V effort was proposed that would expand the WISP process beyond the City and County to the region, including all Pima Association of Government jurisdictions, all regional water and wastewater providers, stakeholders and general public.

Water Future *continued inside*

Your Water CONNECTION

News & Tips for Tucson Water Customers
May 2010 www.tucsonaz.gov/water

Water 101

Reclaimed Water: A Renewable Resource



For more than 20 years, Tucson Water has been filtering and disinfecting secondary effluent and delivering it to parks, golf courses, schools, street medians and homes for outdoor irrigation. Together, the Sweetwater Wetlands Recharge Facility and the adjacent Reclaimed Water Treatment Plant near Roger Road and I-10, treat, recharge and recover billions of gallons of water each year that are delivered via 160 miles of dedicated purple pipe to reclaimed water users.

There are many benefits to using reclaimed water for landscape irrigation; it conserves our precious drinking water and reduces ground water mining. In 2009, reclaimed customers saved 5.5 billion gallons of drinking water – enough for about 59,000 families for a year. In addition, municipal effluent is a renewable water source because it grows as the population grows. Tucson Water has approximately 1.75 billion gallons of reclaimed water stored deep in the aquifer, ready for use during peak demand.

Reclaimed Water *continued inside*

Have a question for Water 101 or a suggestion for a topic?
Call us at 791-4331 or e-mail to TW_Web1@tucsonaz.gov

Pima County –

The Lagoon Wastewater Reclamation Facilities

The Regional Wastewater Reclamation Department (RWRD) has three lagoon wastewater reclamation facilities (WRFs).

- **Arivaca Junction WRF**, located at 28601 S. Nogales Highway, Amado, AZ, was established in 1972. This facility has a capacity of 100,000 gallons per day (GPD). It serves a population of 700. The Arivaca Junction WRF disinfects the effluent it produces for Class C reuse. Class C reuse is used for crop irrigation and silviculture (growing trees).
- **The Pima County Fairgrounds WRF**, located at 11300 S. Houghton Road, Tucson, AZ, was established in 1978 and has a capacity of 20,000 GPD. The Pima County Fairgrounds WRF treats only the wastewater generated at the fairgrounds.
- **The Rillito Vista WRF**, located at 8969 W. Robinson Street, Rillito, AZ, was established in 1978 and has a capacity of 15,000 GPD. This WRF serves a population of 250, located along a small stretch of land northwest of Tucson.



A lagoon facility is different than a typical WRF. A lagoon is a shallow pond, where sunlight, bacteria and air interact to treat wastewater. The larger modern WRFs use more sophisticated means to treat the wastewater.

Lagoon facilities are economical to operate and use a natural process to treat municipal wastewater for populations of less than 20,000. Lagoons are found in remote areas that are not connected to a larger modern wastewater treatment facility.

RWRD's policy is to retire lagoon facilities when growth results in the extension of new sanitary sewers which can convey wastewater flows from lagoon service areas to more modern facilities. The lagoon WRFs are operated seven days a week, 365 days a year.

This is the last article in a series that highlights the eleven wastewater reclamation facilities operated by the Regional Wastewater Reclamation Department.

Your Utilities Services statement includes fees for your water, wastewater, and environmental services.

The Pima County Regional Wastewater Reclamation Department (PCRWRD) - For more information about the regional wastewater system, call (520) 740-6500 or visit www.pima.gov/www.

City of Tucson Environmental Services –

Protecting Our Ground Water

Most residents know Environmental Services (ES) provides trash and recycling collection to Tucsonans, but are not aware ES is also working to protect the community's ground water from environmental threats. Here are some of the environmental protection activities provided by ES:

- **Landfill Management** – In addition to managing Los Reales Landfill, ES manages clean-up, monitoring and closure at sixteen landfills within the city limits. Monitoring these old landfills is critical to preventing potential issues ranging from exposed waste, underground fires, methane gas releases, and ground water contamination. Each year, ES monitors 432 ground water wells, 72 soil vapor wells, and 588 methane wells. ES operates four landfill gas extraction systems, and three ground water remediation systems, cleaning approximately 1.5 million gallons of water per day.
- **Brownfields Program** – 'Brownfields' are properties that are perceived as being contaminated as a result of historical use. These include old gas stations, manufacturing plants, and other properties with high industrial use. Through the Environmental Protection Agency's (EPA) Brownfields Program, ES can assess properties to determine if there are contaminants present that could prevent development. ES is currently managing four properties with soil contamination. To date, ES has brought in \$2.5 million dollars in grants from the EPA for the Brownfields Program.
- **Environmental Management Program** – ES developed and chairs the City-wide Environmental Management Program (EMP). In its eighth year of operation, EMP is a group of key staff trained to prevent, and manage environmental incidents like the Kinder-Morgan petroleum leak, hazardous materials spills, and other environmental incidents that are potentially harmful to the environment and public health and safety.

Environmental Services (ES) - Learn about how ES is protecting our ground water and the environment at our website at www.tucsonaz.gov/esd

Reclaimed Water: A Renewable Resource

Continued from front page

Demand for reclaimed water has grown substantially since the system was launched in the mid-1980s and is projected to continue to grow into the future. Currently there are nearly 900 customers using reclaimed water for irrigation: more than 700 single family homes, 18 golf courses, 39 parks, and 52 schools, including Pima Community College and The University of Arizona. It is the policy of the City of Tucson that all new golf courses and turf facilities over 10 acres within the City limits use reclaimed water.

Tucson Water is investing in this important renewable resource by expanding the number of recharge basins at the Sweetwater Recharge Facilities, plus modifying and adding equipment at the Treatment Facility.

To learn more about Tucson Water's reclaimed water program and how to become a reclaimed water customer, go to www.tucsonaz.gov/water and click on the Reclaimed Water tab in the left hand navigation bar.

Arriving in June

2009 Annual Water Quality Report

The United States Environmental Protection Agency requires drinking water suppliers across the nation to provide understandable information about water quality to their customers annually. Tucson Water's 2009 *Annual Water Quality Report* will be mailed to every customer during the month of June. (With shorter contents and less graphics, this year's report was produced at a cost savings.) The 2009 monitoring tests show that our drinking water meets the highest standards of quality and all federal drinking water regulations.

The 2009 *Water Quality Report* will soon be available for download at www.tucsonaz.gov/water or by calling (520) 791-2544. Para obtener una copia de este reporte en Español, llame al (520) 791-4331.

Be Smart & Be Prepared Monsoon Safety Awareness Week

June 7-11

Lightning strikes, high winds, tornadoes, dust storms and flash flooding cause an average of five deaths, 27 injuries, and \$66 million in property damage in Arizona. The goal of Monsoon Safety Awareness Week is to educate Arizonans about weather-related dangers. Click for safety information, insurance tips, weather terminology and more:

www.monsoonsafety.org

On the Water Front (Cont'd.):

Shaping Our Community's Water Future

As Phase II recommendations are implemented and regional planning efforts intensify, public feedback and guidance are critical. Tucson Water needs your participation in shaping a future that means water sustainability for generations to come.

Jeff Biggs, Director, Tucson Water

Click on www.tucsonpimawaterstudy.com/Study.html for WISP Phase I and Phase II reports, City/County resolutions, and more.

Visit the Tucson Water web site at www.tucsonaz.gov/water

Your Water Connection is produced by Tucson Water. To receive a copy, or to receive this information in Spanish, call 791-4331 or mail your request to: Tucson Water, Customer Information, P.O. Box 27210, Tucson, AZ 85726-7210.

City of Tucson TTY number: 791-2639

Si usted desea este documento escrito en español, por favor llame al 791-4331.



Effective June 1, 2010

Two New Water-Saving Ordinances

Save Water • Be Green • Harvest

For businesses
new rainwater harvesting standards

For new-build homes & duplexes
must be gray water system capable

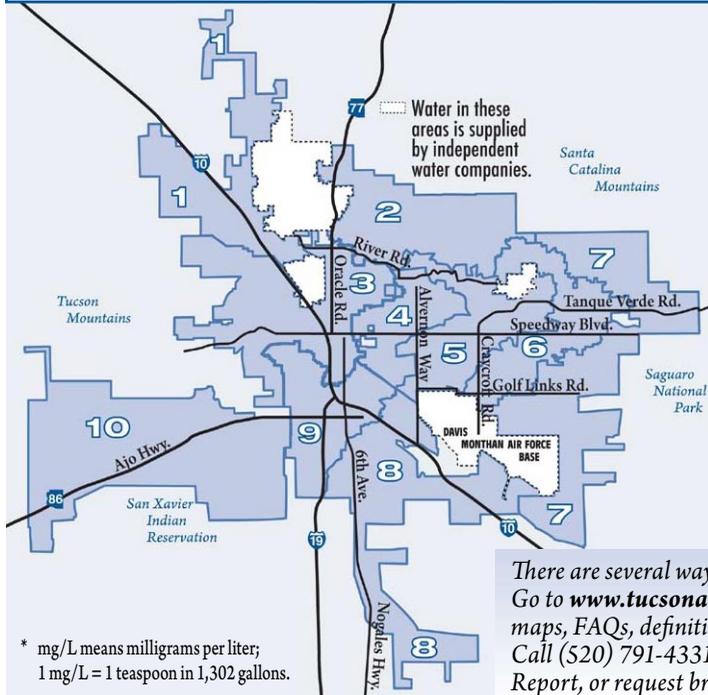
For More Info (520) 837-6960
www.tucsonaz.gov/rainwaterharvesting

Water Quality Report - March 2010

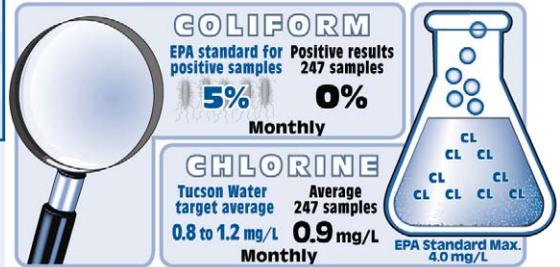
Ensuring drinking water is clean and safe from the aquifer to your tap is the top priority of Tucson Water. More than 20,000 individual tests are performed annually, focusing on the water quality from these two main sources: **ground water** and **the blend** of recharged Central Arizona Project (CAP) water and ground water from the Clearwater Recharge and Recovery Facility (CRRF).

Ground Water Source Report – Ground water comes from about 200 wells in the Tucson metropolitan area. This reporting area is divided into 10 zones:

Elements Sampled	ZONE AVERAGE										System Average
	1	2	3	4	5	6	7	8	9	10	
Sodium (mg/L) ^{86SP}	52	60	59	61	61	61	52	54	63	58	58
Mineral Content (mg/L) ^{246SP}	421	467	460	456	455	456	389	464	484	456	452
Hardness (mg/L) ^{86SP}	178	207	214	207	210	209	178	227	221	244	209
pH (S.U.) ^{246SP}	7.9	8.1	8.0	8.0	8.0	8.0	8.0	7.8	7.9	7.8	8.0
Temperature (deg F) ^{246SP}	69	71	70	72	71	70	69	70	71	69	70



None of the water quality tests to the left have U.S. Environmental Protection Agency (USEPA) primary standards set for them. However, the USEPA has primary standards for levels of coliform bacteria and the disinfectant chlorine for ground water sources:



Clearwater Report – More than 50% of our total water supply is a blend of recharged CAP water and native ground water from the CRRF. Using this recovered blended water means that we reduce ground water pumping:

Sodium	57 mg/L	(Mar. 5)
Mineral Content	483.2 mg/L	(Mar. 10-Apr. 7 avg.)
Hardness	191 mg/L	(Mar. 5)
pH	7.93 S.U.	(Mar. 10-Apr. 7 avg.)
Coliform Bacteria	Negative	(Mar. 2)
Chlorine Level	1.04 mg/L	(Mar. 10-Apr. 7 avg.)
Temperature	78.9 F	(Mar. 10-Apr. 7 avg.)

There are several ways to obtain information about water quality. Go to www.tucsonaz.gov/water and click on the Water Quality Tab for maps, FAQs, definitions, reports, online monitoring station results, and more. Call (520) 791-4331 to schedule speakers, ask for an Annual Water Quality Report, or request brochures on water quality.

* mg/L means milligrams per liter;
1 mg/L = 1 teaspoon in 1,302 gallons.