

### Pure News: Issue 4

Welcome to Pure News, a newsletter to keep you informed about the latest happenings with the City of San Diego's Water Purification Demonstration Project.



### A new site to see in San Diego



San Diego Mayor Jerry Sanders, Councilmember David Alvarez, Public Utilities Director Roger Bailey, and Water Purification Demonstration Project Director Marsi Steirer welcomed media to the AWP Facility on June 30.

Since the Advanced Water Purification (AWP) Facility opened for tours in July, City staff has hosted more than 102 tours for approximately 1,200 people. The City is pleased to welcome community members and others who have toured the AWP Facility. People from all over San Diego have visited and many guests bring their family, friends and co-workers. Various groups from graduate school classes to the Audubon Society to senior citizen organizations to a fifth grade science class have toured the facility. It's not just local folks who visit, though. Because many countries around the globe are interested in water purification technology as a potential solution to water supply issues, international visitors have come all the way from Mexico, Vietnam, Australia and Eurasian countries.

and community group representatives were among the visitors. Elected official visitors include San Diego Mayor Sanders, San Diego Councilmembers Alvarez, Faulconer, Gloria, and Lightner, and the mayors of Del Mar and Solana Beach. In addition, staff from the offices of U.S. Senator Boxer, U.S. Representative Issa, State Senator Anderson, and Assemblymember Jones have also toured the facility. Staff from the San Diego Regional Water Quality Control Board, California Department of Health, U.S. Bureau of Reclamation, U.S. Environmental Protection Agency, U.S. Department of the Interior, and the U.S. Office of Management and Budget have also visited.

If you haven't already, we hope you will tour the AWP Facility by registering at [www.purewatersd.org/tours.shtml](http://www.purewatersd.org/tours.shtml). If you can't make it out to the facility, you can watch a video about the purification process online at [www.purewatersd.org](http://www.purewatersd.org). Another option to learn more about the Demonstration Project is to schedule a speaker's bureau presentation for your group or organization by calling (619) 533-6638 or emailing [purewatersd@sandiego.gov](mailto:purewatersd@sandiego.gov). Through these and other methods, the City wants to provide opportunities for San Diegans to learn more about the water purification process.



Students from the Elementary Institute of Science compare beakers filled with tap, recycled and purified water.

**City of San Diego  
Water and Wastewater  
Treatment Facilities**

**Drinking Water Treatment Plant:**

*Alvarado, Miramar, & Otay Water Treatment Plants*

Cleans water from rain, snow, rivers, lakes, and reservoirs to a level safe for drinking. The water from these plants is then sent to faucets around San Diego.

**Wastewater Treatment Plant:**

*Point Loma Wastewater Treatment Plant*

Treats wastewater from homes and businesses and releases the cleaned wastewater into the ocean.

**Water Reclamation Plant:**

*North City Water Reclamation Plant & South Bay Water Reclamation Plant*

Treats wastewater from homes and businesses to a level that is safe enough to be reused for irrigation and industrial purposes.

**Advanced Water Purification Facility:**

*AWP Facility at North City Water Reclamation Plant*

Purifies the recycled water produced at a water reclamation plant using micro/ultrafiltration, reverse osmosis and ultraviolet disinfection/advanced oxidation. Currently this water is sent back to the recycled water system for irrigation and industrial purposes. If it is approved for a full-scale project, the purified water would be added to San Vicente Reservoir.

**San Diego recycles...its water**

Have you ever driven by a San Diego golf course and thought about how much water must be used to keep a golf course green? This question might occur to many people as San Diegans are reminded of the importance of water conservation. While it may seem like a lot of water, there is a good chance that the water you see coming out of golf course sprinklers is recycled water. This type of water is an essential part of San Diego's diverse "water portfolio."



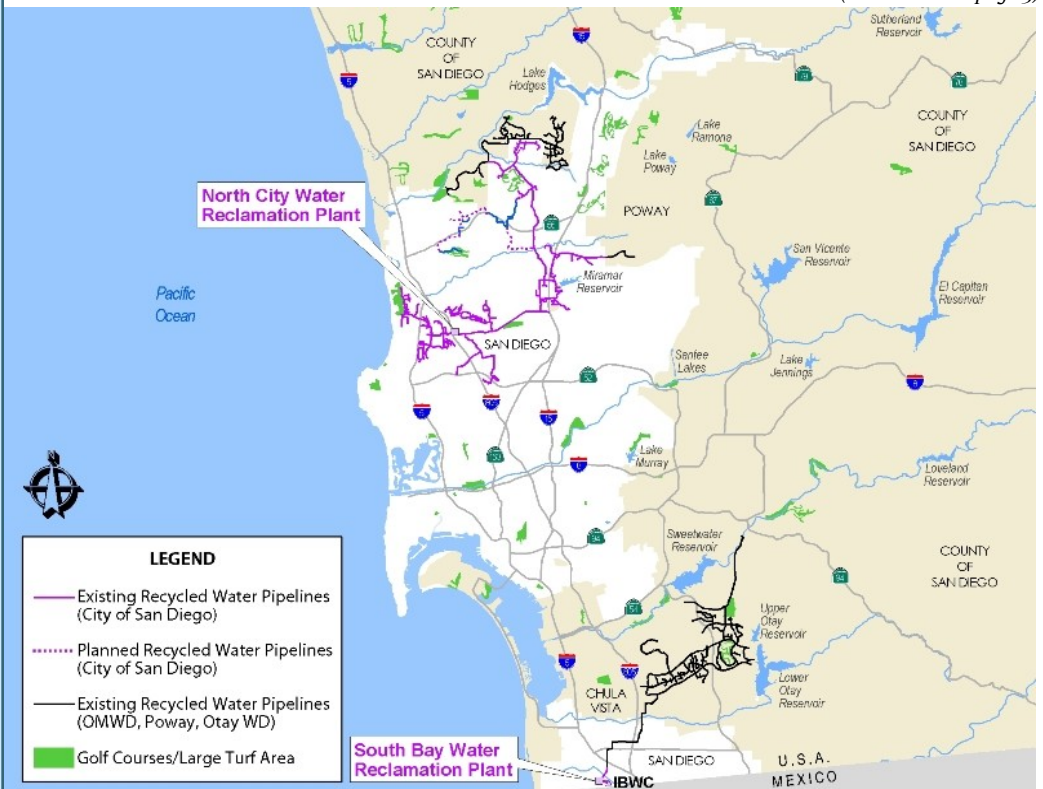
Recycled water is wastewater that has been treated to meet standards for use in a range of non-drinking applications. Landscape irrigation is the single largest use for recycled water within the City of San Diego. Recycled water is also

used for industrial processes, cooling towers, soil compaction, dust suppression, and toilet flushing. It is reliable, drought-proof, good for the environment and has the added bonus of being a locally controlled water resource that is dependable year-round.

Two plants are responsible for producing recycled water for the northern and southern regions of the City: the North City Water Reclamation Plant built in 1997 and the South Bay Water Reclamation Plant built in 2002. Together, they have the capacity to treat up to 45 million gallons of wastewater per day. The City is not alone in recycling its wastewater—other water agencies in San Diego County also produce recycled water for irrigation and industrial purposes.

This year, recycled water has come to serve another function as the source water for San Diego's Water Purification Demonstration Project. That's right! The water that is

*(Continued on page 3)*





## San Diego recycles... its water [continued from page 2]

being purified to a level similar to distilled water quality is already treated before it undergoes a three-step purification process at the Advanced Water Purification Facility.

And since the Demonstration Project is just that—a demonstration—the purified water is currently being put back into the recycled water system. So while you won't be able to drink it, those thirsty blades of grass on the 14<sup>th</sup> hole will.

For more information about the City's Recycled Water Program visit [sandiego.gov/water/recycled](http://sandiego.gov/water/recycled).

### Limnology study: A look at the San Vicente Reservoir

#### Why send the purified water to a reservoir?

Reservoir augmentation allows the water to be diluted with the existing water supply as part of the [multi-barrier treatment process](#). The detention time in a reservoir is one of the many safeguards built into the process to insure that a failure or error at any given treatment step would not compromise public health. The reservoir also provides further, natural treatment by exposing the water to sunlight and allowing it to blend with minerals existing in the reservoir.

#### Why San Vicente Reservoir?

Following the completion of the San Vicente Dam Raise in 2014, the San Vicente Reservoir will be the largest reservoir in the San Diego region at 247,000 acre-feet. Blending the purified water in a large reservoir allows it to be diluted with San Diego's imported water supply before being treated again for use as drinking water.

While the Advanced Water Purification Facility has been the center of attention since it opened in July, there is additional and equally important behind-the-scenes work being done on the Water Purification Demonstration Project. If approved to be a full-scale project, the City of San Diego would add purified water to San Vicente Reservoir, a process known as reservoir augmentation. Therefore, a scientific undertaking, called a limnology study, is now being conducted to examine the key functions of the reservoir as it pertains to its physical, geological, and biological attributes. Although no purified water is being added to the reservoir during the study, a computer model of San Vicente is being used to determine the behavior of the reservoir and what will happen if purified water is added.

The reservoir aspect of the Demonstration Project is unique to San Diego's approach. Water purification technology has been established in areas around the world and is being used in California, specifically at the 70-million-gallon-per-day Groundwater Replenishment (GWR) System in Orange County. One way that a full-scale project in San Diego would differ from the GWR System is that Orange County injects its purified water into existing groundwater

basins as part of the multi-barrier treatment process before the water becomes part of their drinking water supply. San Diego does not have large groundwater basins, so the City is working with the San Diego Regional Water Quality Board and the California Department of Public Health to consider blending the purified water with surface water and develop the necessary regulations to do so. The project and regulators want to validate that the purified water has no negative effect on the reservoir as a source of water supply to the City or on the ecological balance of the reservoir and its surrounding environment.

The limnology study uses a state-of-the-art computerized model of the San Vicente Reservoir to predict the behavior of the reservoir throughout the year. The model is calibrated and validated using existing data from testing and monitoring the actual reservoir.

---

...a computer model of San Vicente is being used to determine the behavior of the reservoir and what will happen if purified water is added.

---



San Vicente Reservoir

## A reason to celebrate



Demonstration Project Direct Marsi Steirer accepts the WaterReuse Association Public Outreach and Education award in September.

One of the goals of the Water Purification Demonstration Project is to inform the public about the science behind the water purification process. In September, the WaterReuse Association recognized the City of San Diego's outreach efforts in achieving this goal by honoring the Demonstration Project with the **2011 WaterReuse Association Public Outreach and Education award**. The City appreciates the WaterReuse Association's recognition of the Demonstration Project team's efforts to keep the public informed and involved in this important project for San Diego's future.

The Demonstration Project team earned this award by providing information to thousands of San Diegans over the last year through nearly 100 speakers bureau presentations, more than 100 tours of the City's treatment facilities, informational booths at nearly two dozen community events, approximately 100 meetings with leaders of various organizations and communities throughout San Diego, and information

shared through print and electronic materials.

Sharing information about San Diego's need for more local water supply sources cannot be done alone. We are grateful to those of you who have taken the time to listen to our messages, tour our facilities, invite staff to present at your organizations' meetings, read our informational materials, provide us with valuable feedback, and share this information. with friends and family. Our work is far from over, but with your help, we hope to reach all San Diegans.



To schedule a presentation for your organization, email [purewatersd@sandiego.gov](mailto:purewatersd@sandiego.gov) or call (619) 533-6638. Visit [www.purewatersd.org/tours.shtml](http://www.purewatersd.org/tours.shtml) to sign up for a tour of the AWP Facility.

 @PureWaterSD



### Get the latest online

For our smartphone-savvy readers, we have included quick response (QR) barcodes in this newsletter, so you can quickly and easily follow us on Twitter or Facebook. Just use your barcode-scanning app of choice, and scan the barcodes to the left and right. You'll be an official Demonstration Project fan in no time!

Not receiving email updates from the Demonstration Project? Sign up at [www.purewatersd.org](http://www.purewatersd.org) or email [purewatersd@sandiego.gov](mailto:purewatersd@sandiego.gov).

 SanDiegoWPDP



THE CITY OF SAN DIEGO

# PureWaterSD.org



City of San Diego Public Utilities Department • Long-Range Planning & Water Resources Division  
600 B Street, Suite 600, San Diego, CA 92101 • (619)533-7572 • [www.purewatersd.org](http://www.purewatersd.org)