



Pure News: Issue 3

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.

Get a Glimpse of the Future at the Advanced Water Purification Facility

The City of San Diego opens the doors this summer to its Advanced Water Purification Facility (AWP Facility). Starting in June, groups and individuals can tour the site of a small-scale, state-of-the-art treatment facility that could contribute to the future of San Diego's water supply. This facility, located at the North City Water Reclamation Plant, represents the focal point of the City of San Diego's Water Purification Demonstration Project (Demonstration Project). It has been under construction since early 2011.

Here visitors will learn about the advanced technologies being demonstrated by the City to purify one million gallons of recycled water per day. The purification process employs three treatment methods: microfiltration/ultrafiltration, reverse osmosis, and advanced oxidation with ultraviolet disinfection and hydrogen peroxide. More simply put, the AWP Facility is demonstrating the purification of water using technology that is able to produce one of the most pristine sources of water available anywhere.

Visitors will learn how such purity is established through this multi-barrier approach of consecutive treatment steps, which work together to remove or destroy all unwanted materials in the water. Each barrier includes frequent, continuous water quality monitoring and safeguards built into the process to ensure that an error at any given treatment step is caught and corrected to protect public health.



Why here, and why now? California's water supply is subject to climate variations, droughts and regulatory restrictions, all of which affect the amount of water delivered to San Diego at the end of the pipelines that carry water imported from hundreds of miles away. The City needs to develop local, reliable sources of water to lessen its dependence on imported supplies. The Demonstration Project is exploring this proven technology that is already used to produce purified water for a full-scale project in Orange County.

With this effort, the City of San Diego joins other cities and water agencies throughout the United States and around the world, standing on the leading edge of water technology. Visitors will end their tour of the AWP Facility with a better understanding of the promise of these technologies to help ensure a drought-proof water supply independent of less reliable and constrained imported water sources.

About the Tours

Guests who participate in the AWP Facility tour will gain a better understanding of the Demonstration Project and what role the facility plays in this testing phase.

Following an introductory presentation, guides will lead a walking tour through the facility. Guests will see the microfiltration/ultrafiltration, reverse osmosis and UV disinfection/advanced oxidation equipment up close. At the end of the tour, guests can view the purified water produced at the facility and will have a chance to compare it to drinking water and recycled water samples.

To register for a tour, visit www.purewatersd.org/tours.shtml. If you would prefer to schedule a presentation for your organization, email purewatersd@sandiego.gov or call (619) 533-6638. We hope you will take advantage of this unique opportunity to visit the AWP Facility.

The Urban Water Cycle

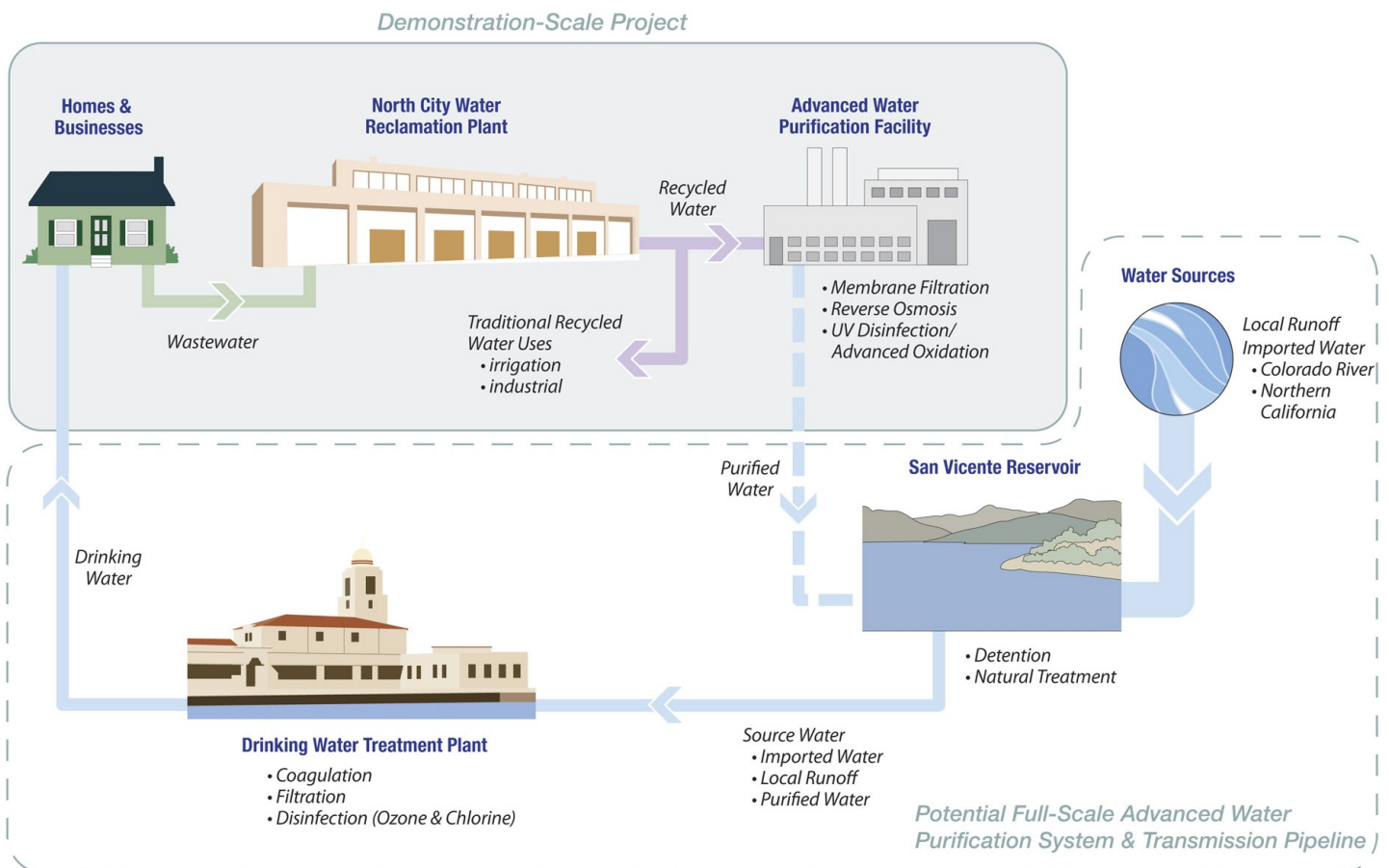
When we think back to our fourth grade science lessons about the natural cycle of water, it becomes clear that all water is as old as the Earth itself. This means that all water is naturally recycled - including the water we drink. The urban water cycle is a similar, man-made system that works to create the continuous movement of water to import and export our local supply of one of the Earth's most precious resources: water.

Modern technology has enhanced the urban water cycle with the ability to clean up and recycle the water we use. Recycled water can be treated to various levels for use in irrigation and manufacturing, and the most advanced water treatment can purify recycled water for drinking. This technology can be especially beneficial in a city like San Diego that has limited local water sources and relies on importing approximately 85 percent of its water supply.

San Diego's urban water cycle features multiple water treatment facilities that make up an extensive treatment system that water travels through before reaching your faucet. Water treatment plants, such as the Alvarado Water Treatment Plant, provide drinking water treatment. The treated water is then distributed to residents and businesses all over the City.

The Point Loma Wastewater Treatment Plant handles wastewater treatment and disposal for the City of San Diego. In addition to this wastewater treatment plant, the City has two wastewater reclamation plants: the North City and South Bay water reclamation plants. Instead of simply disposing treated wastewater, these plants treat the wastewater even further to produce recycled water. Recycled water is distributed through designated "purple pipes" and is used for irrigation and industrial purposes.

The newest member of San Diego's urban water cycle is the state-of-the-art Advanced Water Purification Facility (AWP Facility) that purifies the recycled water produced at the North City Water Reclamation Plant. The AWP Facility is demonstrating the latest in water purification technology as part of the Water Purification Demonstration Project. The outcome of the Demonstration Project will determine whether or not the City will close the loop on its urban water cycle to provide a source of purified water to supplement drinking water supplies. In a world where water reuse is inevitable and water purification technology is available, enhancing the urban water cycle is the key to a sustainable future.



Permanent Water-Waste Restrictions Still in Place
New Watering Times Started June 1

When the San Diego City Council approved Mayor Sanders' proposal in May to end mandatory water-use restrictions, the move did not affect several water-waste restrictions that remain permanent year-round. Water-waste restrictions refer to City restrictions on wasteful water use. Starting on June 1, one of the permanent restrictions--the timing for when landscape watering is allowed -- shifts to after 6 p.m. and before 10 a.m.

"San Diegans have done a tremendous job by saving water when we were faced with mandatory cutbacks," said Mayor Jerry Sanders, who has demonstrated both at home and at work that water conservation is a priority. "While the drought may be officially over, waste is never an option. Using water wisely throughout the year needs to remain a permanent way of life," added Mayor Sanders.

The City's permanent water-waste restrictions also address issues such as excessive irrigation, washing

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Treating water right: Part II

Terms to Know

Drinking Water:

Water that has been treated to federal and state drinking water standards. This is the water delivered to consumers' taps. Also called potable water.

Raw Water:

Water from rain, snow, rivers, lakes, and reservoirs that has not been treated at a drinking water plant. San Diego's raw water is primarily imported from sources such as the Colorado River or collected in the City's reservoirs from rainfall.

Recycled Water:

Wastewater that has undergone a high level of treatment at a reclamation facility so that it can be reused for irrigation and industrial purposes.

Storm Water:

Urban runoff water from rainfall and irrigation. In most of San Diego, this water is not treated and flows into creeks, bays, lagoons, and ultimately the ocean.

Wastewater:

Water collected in the sewer system from the drains of residences and business. Wastewater is more than 99% water along with impurities.

In the Spring 2011 edition of Pure News, we explained the process for treating wastewater. In this edition, we will focus on drinking water treatment.

Since nearly 90 percent of the City of San Diego's drinking water is imported from unreliable and increasingly expensive sources, San Diego is considering purification of recycled water to develop a new, local source of drinking water. Through the Water Purification Demonstration Project (Demonstration Project), the City is demonstrating water purification technology that purifies recycled water even further. This technology includes microfiltration/ultrafiltration, reverse osmosis, and disinfection through the use of ultraviolet light and hydrogen peroxide. The resulting purified water is of higher quality than our imported water and local runoff. During this demonstration phase, the water produced at the AWP Facility will not be added to any drinking water supplies, but will instead be added to the recycled water system. If the concept proves feasible and is approved by the City Council, the City would then build a full-scale water purification project to blend purified water with raw water in San Vicente Reservoir.

All of San Diego's drinking water, which includes water from San Vicente Reservoir, undergoes drinking water treatment. This is the final step of treatment before arriving at the tap. At the water treatment plant, any particles are removed and contaminants are eliminated through the combined processes of flocculation, sedimentation, filtration, chlorination and ozonation. Before the water is sent to homes and businesses around San Diego, it is tested to make sure it meets all health and safety requirements set forth by the U.S. Environmental Protection Agency and the California Department of Public Health. Thanks to these behind-the-scenes treatment processes, San Diegans can dependably turn on their faucet for reliable, clean water.



Alvarado Water Treatment Plant

Learn more about water sources, treatment and distribution at "Source to Tap" (www.sandiego.gov/water/quality).

Permanent Water-Waste Restrictions Still in Place (Continued from Page 3)

down sidewalks and patios, overfilling swimming pools and using re-circulating pumps on decorative fountains. Additional restrictions pertain to car washing, cooling systems and hospitality industry water use. To help customers eliminate water waste, the City's Public Utilities Department offers a number of programs and services, providing the tools needed to save water and money. Some examples include the following:

- **Free residential and commercial water surveys** through the Public Utilities Department can pinpoint water-saving options at your home or business, including identifying possible leaks. Call (619) 570-1999, email water@sandiego.gov or visit the City's website.
- Citizens can play an important role in preserving our water and maintaining our water system by **reporting any water leaks**. Water loss is often caused by leaks from service lines, main breaks and fire hydrants knocked over by a vehicle. The City counts on residents to help proactively identify and report all types of leaks or other problems on the City water system. To report leaks, call the City's **24-hour emergency hotline at 619-515-3525**.
- Customers are also **encouraged to report water waste**. Just send the City the location, date and time the waste was observed. Customers can provide their contact information for follow-up questions or remain anonymous. Either send an email to waterwaste@sandiego.gov or call **(619) 515-3500 (press 5)** or **(619) 533-7485**.

For more information on the City's permanent water-waste restrictions and a comprehensive listing of available conservation resources and tips, visit WasteNoWater.org or call the Public Utilities Department at (619) 515-3500.

SAN DIEGANS
**WASTE
NO WATER**

ALL DAY.
EVERY DAY.



Upcoming Event

Learn more about the Demonstration Project at the following community event. Project team members will be present to answer questions about the project and to share the latest project news.

Fiesta del Sol

Cesar Chavez Park on San Diego Bay

Saturday, August 13

11 a.m. - 7 p.m.

www.fiestadelsolsandiego.org/

To schedule a presentation for your organization, email purewatersd@sandiego.gov or call (619) 533-6638.

Visit www.purewatersd.org/tours.shtml to sign up for a tour of the AWP Facility.

Not receiving email updates from the Demonstration Project? Sign up at www.purewatersd.org or email purewatersd@sandiego.gov.



THE CITY OF SAN DIEGO

PureWaterSD.org

Visit our project website to sign up for project updates.

