

Fact Sheet

Water Reuse Program

Water Purification Demonstration Project

The City of San Diego • Public Utilities Department

Water Purification | Demonstration Project



Recycled Water

San Diego is the eighth largest city in the United States with a population of approximately 1.3 million. The City receives little rain (the average annual rainfall is less than eleven inches) and has limited local water supplies. Therefore, San Diego depends on importing approximately 85 percent of its water from the Colorado River and Northern California. Prolonged droughts and court-ordered pumping restrictions have reduced the reliability of San Diego's deliveries. These conditions and ongoing population growth have intensified the need for new sources of water.

In 2007, the San Diego City Council commissioned the Water Purification Demonstration Project (Demonstration Project) to determine the feasibility of turning recycled water into purified water that could be sent to a reservoir and later be distributed as drinking water. Sending purified water to a reservoir before additional treatment at a drinking water treatment facility is known as reservoir augmentation. (No purified water is being added to the reservoir).

Demonstration Project components:

- Operated, tested and monitored a demonstration-scale Advanced Water Purification (AWP) Facility that produced one million gallons of purified water per day
- Convened an Independent Advisory Panel to provide expert peer review and feedback
- Conducted a study of San Vicente Reservoir
- Proposed a regulatory framework for a full-scale reservoir augmentation project
- Performed an energy and cost analysis
- Performed a pipeline alignment study
- Conducted an education and outreach program

The City's findings from the yearlong test are detailed in the March 2013 Project Report, which was adopted by City Council in April 2013. The Report includes the results of the AWP Facility testing, technical studies and education and outreach efforts. For the complete findings, visit www.purewatersd.org/projectreports.

Demonstration Project key results:

- The AWP Facility produces water of exceptional quality that meets all federal and state drinking water standards
- San Vicente Reservoir provides an environmental barrier that satisfies all anticipated regulatory requirements
- The California Department of Public Health and San Diego Regional Water Board granted conceptual approval of the reservoir augmentation plan
- The energy needed to produce purified water would be comparable to the energy use for imported water, and the cost for a full-scale, 15 million gallon per day water purification facility would be \$2,000 per acre foot of water
- The education and outreach program increased understanding and approval of water purification, with public support rising from 26% in 2004 to 73% in 2012

Ultimately, the Demonstration Project has proven that purified water can be produced and safely added to the San Vicente Reservoir as part of a full-scale potable reuse project.

Following the adoption of the Project Report, City Council has directed City staff to provide additional information and to continue with the education and outreach program, which includes tours, presentations and events. For more information about presentations and tours, call (619) 533-7572 or email purewatersd@sandiego.gov. To register for a tour, visit purewatersd.org/tours.shtml.

The City of San Diego's water resource strategy includes planning, conservation, recycled water, groundwater, water reuse, and watershed and resource protection to help meet future water needs.



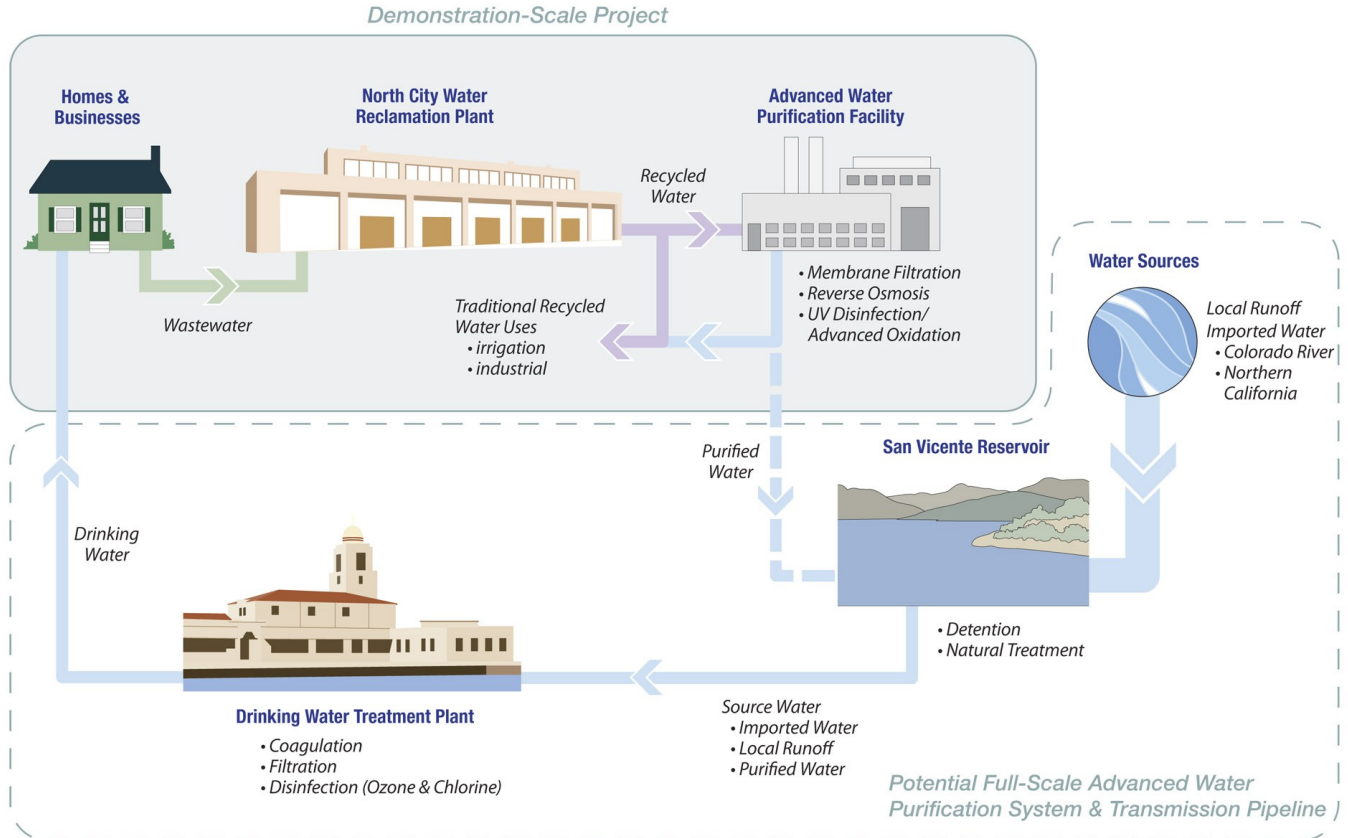
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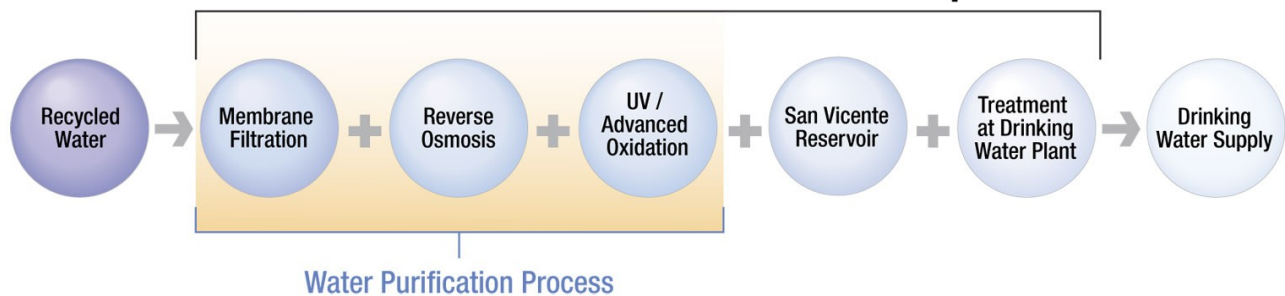
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City of San Diego's Water Purification Demonstration Project

Purification Process



Multi-Barrier Water Purification Steps



San Diego's multi-barrier water purification process is a proven means to protect public health. Since 2008, Orange County's Groundwater Replenishment System has used membrane filtration, reverse osmosis and UV/advanced oxidation to produce purified water for Orange County.

Throughout the purification process, water undergoes frequent and continuous monitoring. Safeguards are built into the process to ensure that public health would never be compromised.