



## What is Pure Water San Diego?

Pure Water San Diego is the City's phased, multi-year program that will provide one-third of San Diego's water supply locally by 2035. The Pure Water Program uses proven technology to clean recycled water to produce safe, high-quality drinking water.

## What are the steps to purify recycled water?

The water purification process includes five steps: ozonation, biological activated carbon filters, membrane filtration, reverse osmosis, and ultraviolet disinfection with advanced oxidation.

## How was it determined that purifying recycled water is safe?

The City conducted a demonstration project (2009-2013) that confirmed the purified water meets all federal and state drinking water standards.

During a one-year testing period, more than 9,000 laboratory tests were conducted at the City's 1-million-gallon-per-day test facility on 342 chemical and microbial constituents and water quality parameters. To date, more than 28,000 tests have been conducted, and the Division of Drinking Water and the San Diego Water Board support the City's plan to blend the purified water with imported water supplies in a local reservoir.

## Are pharmaceuticals and personal care products removed in the water purification process?

Yes. The presence of pharmaceuticals and personal care products are monitored at every step.

Results show the reverse osmosis and advanced oxidation processes are particularly effective at removing pharmaceuticals and personal care products. All test results showed the levels were well below EPA Health Reference levels or at non-detection levels.

## When will water purification facilities be built? When will the water be part of the drinking water supply?

An initial 30-million-gallon-per-day water purification facility is scheduled to come online in 2021. This facility will be located across the street from the North City Water Reclamation Plant, and the purified water produced will be piped to the Miramar Reservoir to blend with San Diego's imported water sources. From there, the blended water will be cleaned again at a drinking water plant before being sent to our taps.

By 2035, the City will produce 83 million gallons of purified water every day, which is equal to one-third of San Diego's future water supply needs. At full build out, the purified water will be distributed to all communities in the City of San Diego.

## Why has the City moved forward with the Pure Water Program instead of other options like desalination?

From 2004 to 2006, the City conducted a Water Reuse Study that included a public participation process. The study determined that water purification with reservoir augmentation was the preferred option for the City of San Diego. The City also conducted a Recycled Water Study and a Water Purification Demonstration Project to determine that the project was feasible and cost effective for San Diego. The reports for each of these studies can be found at [purewatersd.org/reports](http://purewatersd.org/reports).

## What is the cost of purified water?

The cost is estimated to be \$1,700 to \$1,900 per acre-foot. This equates to less than one penny per gallon. With the current cost of imported water (\$1,200 to \$1,400) expected to double in the next ten years, water purification will ultimately be a more cost-effective option.

### How will purified water affect the quality of water in the Miramar Reservoir?

The addition of the purified water to the Miramar Reservoir will meet all regulatory requirements for dilution in the reservoir. It will not negatively affect the reservoir's water quality.

### Is the Pure Water Program "toilet to tap"?

"Toilet to tap" does not accurately describe the water purification process. Water goes through numerous treatment steps and is subject to strict testing requirements before it would ever return to drinking water taps. In California, all forms of water are highly regulated and monitored to ensure safety. Since there is no new water on Earth, all water goes through a natural cycle and is essentially recycled water before it is treated and tested and then returned to homes and businesses as drinking water.

### How does water purification compare with desalination?

Desalination is an important part of San Diego's water portfolio. The San Diego County Water Authority (SDCWA) operates a 50-million-gallon-per-day desalination plant in Carlsbad that accounts for seven percent of the region's water supply.

In comparison to the Pure Water Program, it takes almost 50 percent more energy to desalinate ocean water due to its high salt content. Similarly, desalination produces 46 percent more greenhouse gas emissions than the Pure Water Program. According to SDCWA's website, the cost for desalinated water is \$2,131 to \$2,367 per acre-foot.

### How much water do San Diegans use per day?

San Diegans use approximately 180 million gallons of water per day. Individually, San Diegans use an average of 65 gallons per day (most of which is for outdoor/irrigation purposes).

### What other places have implemented water purification projects?

The multi-barrier water purification process has already been proven to protect public health. The Orange County Groundwater Replenishment System has successfully used a similar water purification process to San Diego since 2008. Other places in various stages of implementing projects include Singapore, Australia, Virginia, Texas and numerous other California cities.

### How does the Point Loma Wastewater Treatment Plant fit in with the Pure Water Program?

Point Loma is capable of treating 240 million gallons of wastewater per day. The Federal Clean Water Act requires wastewater treatment plants treat to secondary treatment level; however, San Diego has a permit that allows the City to treat to advanced primary level. Upgrading the plant to secondary standards would cost \$1.8 billion. Investing in the Pure Water Program and seeking federal legislation to allow San Diego to meet modified secondary standards would eliminate the necessity for costly upgrades to Point Loma and would decrease the amount of water that is discharged to the ocean.

Local **residents**, community **groups**, environmental **organizations** and local **businesses** support the **Pure Water Program**.

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### Want to Know More?

Visit [www.purewatersd.org](http://www.purewatersd.org) to sign up for a free tour of the Pure Water Facility or request a presentation for your organization.

