Pure Water San Diego Miramar Reservoir FAQ

The City of SAN DIEGO



Completing our Water Cycle, Securing our Future

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.

Why does the purified water need to be stored in a surface water reservoir?

For protection of public health, regulatory agencies require the purified water has detention time in an environmental buffer, either a groundwater basin or a surface water reservoir, prior to being blended into the drinking water system. San Diego does not have viable groundwater basins, which is why it will be sent to a surface water reservoir.

Why is Miramar Reservoir the preferred reservoir to store the purified water?

Miramar Reservoir is the most cost-effective and environmentally preferred option. By sending the purified water to Miramar Reservoir, Phase 1 would be completed and operational by 2021, two years sooner than initially planned.

The length of the pipeline from the North City Pure Water Facility to Miramar Reservoir would be eight miles instead of 28 miles if the water was sent to San Vicente Reservoir. The route of the pipeline to Miramar Reservoir also has fewer environmental impacts to the surrounding communities during construction. Additionally, the water pumped to Miramar Reservoir would be powered with renewable energy, which provides significant environmental benefits and reduces energy costs and usage.

How would purified water affect the quality of water in the Miramar Reservoir?

The addition of the purified water to the Miramar Reservoir would meet all regulatory requirements for dilution in the reservoir. It is anticipated to improve the reservoir's water quality.

What is being done to evaluate potential environmental impacts?

The City has analyzed potential environmental impacts on the region, the fishery, and the wildlife at Miramar Reservoir in the Pure Water San Diego Program, North City Environmental Impact Report (EIR). The draft EIR is available for public review and comment through November 21, 2017 and can be found on the City's website at www.purewatersd.org/reports.

The City continues to work closely with stakeholders representing various community interests to obtain their input.

Would there be minerals added to the purified water before putting it in the reservoir?

Yes. The purified water would be re-mineralized by adding calcium and carbonate, and the pH would be adjusted, before being conveyed through a pipeline to Miramar Reservoir.

What would be the effects on nutrient levels in the reservoir?

The purified water will have low levels of phosphorus, which is the key nutrient for algae. However, there are other sources of phosphorus in the reservoir, including the sediment, deposition from the atmosphere, and the rooted plants growing in shallow water. Nitrogen will be present in purified water at levels similar to the imported water that has historically filled the reservoir.

The City has studied how the expected changes in nutrients would affect the ecosystem in Miramar Reservoir by comparing the existing condition of Miramar Reservoir to a future condition with purified water. The studies conclude that loading of nutrients and growth of algae is not significantly different in either. This means a healthy ecosystem would continue to exist in the reservoir, and there would not be any significant impacts to aquatic habitats or fish.

How much purified water would be coming in and would the outflow remain balanced and consistent?

Thirty million gallons of purified water per day would be piped to Miramar Reservoir. The inflow rate of purified water would vary about 10% on an annual cycle – less in the summer and more in the winter. The outflow from the reservoir to the water treatment plant would remain in balance with the inflows such that the reservoir level will not vary appreciably.

How would the purified water affect the turnover rate of water at the reservoir?

Like nearly all reservoirs in Southern California, Miramar Reservoir experiences "stratification," with warm water near the surface and colder water deep. In mid-winter the reservoir mixes to be uniform temperature top-to-bottom – an event called "turnover." The introduction of purified water in Miramar Reservoir would not change this pattern of stratification and turnover.

When would the purified water start being sent to Miramar Reservoir and become part of the drinking water supply?

The North City Pure Water Facility is scheduled to come online and begin producing water that would be sent to Miramar Reservoir in 2021. From Miramar Reservoir, the purified water would be blended with imported and local water supplies and cleaned again at the nearby drinking water plant before being sent to taps.

What construction would take place at Miramar Reservoir?

A one-mile-long underwater pipeline that would be located along the bottom of the reservoir would be constructed on site. The pipeline will release the purified water into the reservoir via various ports.

How would recreational activities at Miramar Reservoir be impacted during construction?

Most recreational access would be maintained during construction. A nine-month restriction of on-water activities and a temporary closure of a portion of the parking lot would occur during construction of the subaqueous pipeline for safety reasons. The public will be given advance notice of temporary construction impacts at the reservoir.

What is the current status of implementation of the Pure Water Program? Has City Council approved the Program?

The Phase 1 projects are currently in design and construction is expected to start in late 2018. In 2016, City Council approved the Pure Water Program and funding for the design of the Phase 1 projects. Additional approvals are needed from City Council prior to construction of the Phase 1 projects.

How much is the Program going to cost?

Phase 1 has an estimated cost of $1.2 billion. The estimated cost of converting the Point Loma Wastewater Treatment Plant (Point Loma) if the City does not reduce ocean discharges through the Pure Water Program is $1.8 billion, and would provide no new water. 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 construction to Point Loma and create more local water for San Diego.

With the current cost of imported water ($1,200 to $1,400) expected to double in the next ten years, investing in the Pure Water Program is ultimately a more cost-effective option.

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

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Pure Water San Diego