



Our Water Resources: Colorado River water

Tucson Water is in the process of developing a Long Range Water Resource Plan that will help determine where our water will come from in the future, how much it might cost, and what its quality will be.

Tucson has three water sources – groundwater, Colorado River water, and effluent (treated wastewater).

Colorado River Water

Colorado River water is one of our most abundant renewable water resources. Beginning high in the Rocky Mountains of Colorado and Wyoming, the Colorado River provides water for seven states, including Arizona, before it enters the Sea of Cortez in Mexico.

Tucson's portion of Colorado River water, about 44 billion gallons each year, comes to us through the Central Arizona Project canal, a 335-mile long channel that begins near Lake Havasu, passes through the Phoenix area and rural Pinal County, and ends about 15 miles south of Tucson. Construction began in 1973 and took more than 20 years to complete.



We currently use about 20 billion gallons of Colorado River water a year. Most of this supply is put into specially constructed basins in Avra Valley at the Clearwater Renewable Resource Facility. Here the water sinks into the earth (recharges) and blends with the native groundwater beneath. This blend is then recovered by a number of wells and pumped through an 11 1/2-mile long pipeline to the Hayden-Udall Treatment Plant. From there it's piped to the Tucson Water distribution system. The use of this blended water has let us reduce our reliance on groundwater. Tucson Water has put a number of wells in central Tucson on stand-by, allowing our water table to begin recovering from decades of over pumping.

With Clearwater essentially complete, more than half of all the water delivered annually by Tucson Water is now coming from this facility. More projects like Clearwater will be needed in the future to provide ways to fully use the remainder of our Colorado River water allocation.



Colorado River Water Quality

In the late 1990's, Tucson Water worked closely with customers to determine an acceptable quality for the water produced at Clearwater. Through a series of community discussions and taste testing workshops, we determined that the level of mineral content in the water was a key factor in how acceptable our customers rated their drinking water. Most customers found water with a mineral level at or below 450 milligrams per liter (mg/l)* met their expectations for quality. Therefore, Tucson Water made a commitment to customers to keep the mineral content of the Clearwater supply at or below that level well into the future. The natural blending process that takes place at Clearwater produces water in this range of mineral content. Tucson Water also has other options for blending that can help keep this level low.

However, in the future, as we increase the amount of Colorado River water we use, the difficulty and the cost of maintaining the 450 mg/l level will increase. One of the most important decisions we need to make as a community as part of the Long Range Water Resource Planning process is whether we want to commit money and effort to maintaining this mineral content level, and if so, how much of both are we willing to provide.

* One milligram per liter is the same as one part per million. To give you an idea of how small an amount this is, it's the same as 1 teaspoon in 1,320 gallons.

Drought on the Colorado

Although we call our Colorado River water a renewable resource, the River is under great stress and the future could bring changes in the amount of water it can provide to us. Six other western states all vie with Arizona for water from the Colorado. The water allocations of these states account for just about all the water flowing in the Colorado. In addition, years of drought in Colorado have many scientists and water professionals concerned about the long term water levels in the river. It's safe to say that competition among states and cities for Colorado River water will continue to be intense and, under those circumstances, it is becoming more difficult for Tucson to increase its allotment of this water.

For more information about Tucson Water's Long Range Water Resource Planning, call us at 791-2666 or visit our web site at www.cityoftucson.org/water.