

WATER PLAN: 2000-2050

GLOSSARY

Acre-foot: A unit of water volume measurement. One acre-foot of water will cover an area of one acre to a depth of one foot and equals 43,560 cubic feet, 1,233 cubic meters, or 325,851 gallons. An acre-foot is enough water to meet the needs of three average Tucson families for one year.

Active Management Area (AMA): A geographical region in Arizona subject to regulation under the Groundwater Management Act. Five active management areas currently exist in the State.

Areal: Pertaining to an area, as an *areal map*. Not to be confused with *aerial*.

Aquifer: A body of rock or sediments that is sufficiently permeable to conduct ground water and to yield economically significant quantities of water to wells and springs.

Arizona Department of Environmental Quality (ADEQ): A department of state government responsible for ground-water quality protection, water quality standards, and wastewater reclamation and reuse permits.

Arizona Department of Water Resources (ADWR): A department of state government responsible for water management and administration of water-related programs within the State.

Arizona Water Banking Authority (Water Bank): A department of state government established in 1996 by the Legislature to help secure the State's full entitlement of Colorado River water through the Central Arizona Project. The Water Bank recharges and stores Colorado River water to develop long-term storage credits for times of shortage on the Colorado River, meet the management plan objectives of the Arizona Groundwater Code, assist in the settlement of Native American water rights claims, and exchange water to assist Colorado River communities.

Assured Water Supply (AWS) Program: An ADWR requirement that all new developments in Active Management Areas must demonstrate a 100-year water supply that is of adequate quality, continuously available, consistent with the management plan and management goal of the AMA, and that there is financial capability to construct the water facilities available for the proposed use. For more information, see Appendix E.

At the Tap: A 1997 Tucson Water program that involved extensive research and taste tests in preparation for the use of Colorado River water.

Beat the Peak: A Tucson Water public information and awareness program that was originally developed in 1977 to reduce the Utility's peak hour water demands during the peak

use months of June, July, and August. Ratepayers supported the program so strongly that *Beat the Peak* came to include a summer water conservation education program.

Block Rates: A form of water rate design in which the price per unit of water increases in a stair-step fashion according to the level of usage.

Booster Station: A facility within a water distribution system that pumps water to a higher elevation.

Brine: Water that has a high dissolved mineral content.

Ccf: A water billing unit that equals 100 cubic feet or 748 gallons.

Central Arizona Groundwater Replenishment District (CAGRD): Created by the State Legislature in 1993 to replenish ground water in Pima, Pinal, and Maricopa counties. CAGRD's purpose is to provide a mechanism for water providers and landowners to demonstrate an Assured Water Supply. The Central Arizona Water Conservation District operates the CAGRD. (See also *Central Arizona Water Conservation District, CAWCD.*)

Central Arizona Project: A federal water project designed to bring water from the Colorado River to central and southern Arizona. The Central Arizona Project includes 336 miles of canal and pipeline and 14 pump stations.

Central Arizona Water Conservation District (CAWCD): The State's contracting agent with the U.S. Department of the Interior for Central Arizona Project water supply. Responsibilities include operation and maintenance of the Central Arizona Project system and repayment of capital costs.

Citizens' Water Advisory Committee (CWAC): An advisory group appointed by the City of Tucson Mayor and Council and City Manager to make policy recommendations to Tucson Water on water issues.

Class "A" Reclaimed Water: Treated wastewater that meets the "A" designation established by the Arizona Department of Environmental Quality. Class A water is suitable for outdoor watering and certain industrial uses.

Colorado River Water: For purposes of *Water Plan: 2000-2050*, the term "Colorado River water" is used for all water that is currently delivered to Tucson Water via the Central Arizona Project.

Conservation: Techniques for saving water that reduce demand.

Conservation Effluent Pool: A quantity of effluent set aside each year pursuant to an intergovernmental agreement between the City of Tucson and Pima County in 2000 for use in riparian restoration projects. The initial 5,000 acre-feet of effluent set aside by the

agreement expands over time to a total of 10,000 acre-feet. Use of the conservation effluent pool is subject to specific terms that are under negotiation by the City and the County.

Direct Treatment: Process through which Colorado River water is diverted from the Central Arizona Project and is then directly treated and served to customers for potable supply. This process is in contrast to indirect treatment where Colorado River water is diverted from the Central Arizona Project, recharged at underground storage facilities, and then recovered before being delivered to customers for potable use.

Disinfection: The treatment of water to inactivate, destroy, and/or remove disease-producing bacteria, viruses, and other microorganisms to make it safe for human consumption.

Effluent: Treated municipal wastewater.

Enhanced Treatment: Additional treatment measures to further improve water quality above the capabilities of conventional water treatment plants.

Emerging Contaminants: Constituents of potential concern from a water-quality perspective that are not currently regulated.

EMPACT: *Environmental Monitoring for Public Access and Community Tracking* program is intended to provide public access to clearly communicated, time-relevant, useful, and accurate environmental monitoring data to assist the public in day-to-day decision-making about their health and the environment.

Environmental Protection Agency (EPA): A federal agency formed by Congress in 1970 in response to growing public demand for cleaner water, air, and soil.

Firming: The act of securing Colorado River water supplies by recharging and storing available excess supply in order to meet anticipated future declared shortages on the Colorado River.

Groundwater Management Act of 1980 (GMA): Landmark legislation that established the Arizona Department of Water Resources as well as rules and policies that govern water usage within the state with special emphasis in Active Management Areas.

Ground Water: That portion of water beneath the surface of the earth that can be recovered with wells or that flows naturally to the earth's surface via seeps or springs.

Ground-Water Overdraft: The condition that occurs as a result of withdrawing more ground water than is replenished through natural, incidental, or artificial recharge.

Ground-Water Savings Facility (GSF): A facility, commonly a farm, where a renewable water supply is used in lieu of pumping ground water.

Incidental Recharge: Water that infiltrates the aquifer from routine losses from a water distribution system.

Indirect Potable Reuse: Use of treated effluent that has been recharged, recovered, and treated to potable water-quality standards.

Intergovernmental Agreement (IGA): An agreement authorized by state statute between two or more government entities that provides for joint action or joint exercise of governmental powers.

Lost and Unaccounted for Water: A comparison of a water user's annual production to its annual water deliveries. The difference is considered lost and unaccounted for water. Sources of lost and unaccounted for water may include meter error, leaks, and theft.

Management Plan: A document produced by Arizona Department of Water Resources in accordance with the requirements of the 1980 Groundwater Management Act. It addresses water supply augmentation, water quality, and water conservation plans for all agricultural, municipal, and industrial users in an Active Management Area.

Milligrams per Liter (mg/L): A unit of measure that equates to parts per million.

Mined Ground Water: Ground water that is pumped from the aquifer and is not replenished.

Non-Potable Reuse: Treated municipal effluent that receives additional filtration and disinfection to meet state water-quality standards for irrigation and certain industrial applications. This use conserves higher quality sources of supply for potable use. See also *Reclaimed Water*.

Potable Water: Water that meets the U.S. Environmental Protection Agency and/or the State's drinking water (water-quality) standards.

Present worth: An engineering economic analysis that converts all cost calculations to a common point in time. Present worth costs are calculated in *Water Plan: 2000-2050* to provide a basis for comparison that accounts for the variability in the timing of implementing projects.

Recharge: Water that replenishes an aquifer by surface infiltration or by other natural or induced means.

Reclaimed Water: Treated effluent that is used for turf irrigation and certain industrial uses.

Renewable Ground Water: The amount of ground water naturally replenished that could be annually withdrawn without causing significant water-level declines.

Renewable Supply: A water source that is continuously replenished. Renewable supplies currently available for use in the Tucson Active Management Area are Colorado River water and effluent.

Resource Development Fee: See *Water-Resource Development Fee*.

Riparian: Pertaining to or situated on the bank of a body of water, especially a river.

Safe Yield: A management goal of the 1980 Groundwater Management Act intended to balance ground-water withdrawals with natural and artificial recharge in selected Active Management Areas.

Soil-Aquifer Treatment: Use of the physical, chemical, and/or microbiological properties of the soil and the aquifer to provide treatment of water introduced into the ground-water system.

Southern Arizona Water Rights Settlement Act (SAWRSA): 1982 federal legislation enacted to settle water-rights claims of the Tohono O’odham Nation against the City of Tucson and several other parties.

Spatial-Distribution: Within this document, spatial-distribution refers to how population and/or water demand is distributed over a specific geographic area.

Specific Yield: An estimate of the amount of recoverable ground water in an aquifer.

Surface Water: Water that is on the Earth’s surface, such as in a stream, river, lake, or reservoir.

System Equity Fee: A fee that is charged to new ratepayers to recoup prior expenditures used to expand Tucson Water’s potable system in anticipation of increasing demand. A fee of this type is considered a “backward-looking” fee.

Total Demand: The volume of water a water provider is required to produce to meet the needs of all potable and nonpotable customers.

Total Dissolved Solids (TDS): A term that expresses the quantity of dissolved material in a sample of water measured in milligrams per liter (mg/L).

Total Gallons per Capita per Day: A measure of average water usage calculated by dividing the total water deliveries by a provider’s service area population.

Tucson Active Management Area (Tucson AMA): One of the original areas in Arizona that were designated for regulation by Arizona Department of Water Resources.

Water Bank: See *Arizona Water Banking Authority*.

Water Harvesting: The process of intercepting stormwater from a surface such as a roof, parking area, or land surface, and putting it to beneficial use.

Wheeled Water or Water Wheeling: Water transferred between two agencies whereby one agency uses its system infrastructure to treat and/or convey water that is owned by the receiving agency.

Water-Resource Development Fee: A fee implemented to pay for future Tucson Water system improvements and/or acquisition of additional sources of supply. This type of fee is known as a “forward-looking” fee.

Zanjero: The zanjero, or “water master” as he was known in pioneer times, was a powerful person who controlled the allotment of water to fields. Tucson Water’s *Zanjero Program* offers free residential water audits to ratepayers to help them eliminate waste and to reduce water bills.