

## APPENDIX A: GLOSSARY

Note: Most water conservation measures and programs are described in Appendix B.

**appropriation.** The right to withdraw water from its source.

**audit (end-use).** A systematic accounting of water uses by end users (residential, commercial, or industrial), often used to identify potential areas for water reduction, conservation, or efficiency improvement.

**audit (system).** A systematic accounting of water throughout the production, transmission, and distribution facilities of the system.

**available supply.** The maximum amount of reliable water supply, including surface water, groundwater, and purchases under secure contracts.

**average-day demand.** A water system's average daily use based on total annual water production (total annual gallons or cubic feet divided by 365); multiple years can be used to account for yearly variations.

**avoided cost.** The savings associated with undertaking a given activity (such as demand management) instead of an alternative means of achieving the same results (such as adding supply); can be used to establish the least-cost means of achieving a specified goal. Can be measured in terms of **incremental cost**.

**baseline.** An established value or trend used for comparison when conditions are altered, as in the introduction of water conservation measures.

**beneficial use.** A use of water resources that benefits people or nature. State law defines beneficial use.

**benefit-cost analysis.** A comparison of total benefits to total costs, usually expressed in monetary terms; used to measure economic efficiency and evaluate alternatives. See **cost-effectiveness** and **avoided cost**.

**best management practice.** A measure or activity that is beneficial, empirically proven, cost-effective, and widely accepted in the professional community.

**block.** A quantity of water for which a price per unit of water (or billing rate) is established.

**budget (water-use).** An accounting of total water use or projected water use for a given location or activity.

**capital facilities.** Physical facilities used in the production, transmission, treatment, and distribution of water or the collection, treatment, and disposal of wastewater.

**CII customers.** Commercial, institutional, and industrial water users.

**commodity charge.** See **variable charge**.

**community water system.** According to the federal Safe Drinking Water Act, a drinking water conveyance system serving at least 15 service connections used by year-round residents of the area served by the system or regularly serving at least 25 year-round residents.

**conservation (water).** Any activity that increases the productivity of water supply and use in order to satisfy water needs without compromising desired water services. Includes **water use efficiency, wise water use, system efficiency, and supply substitution**.

**conservation pricing.** Water rate structures that help achieve beneficial reductions in water usage. See **nonpromotional rates**.

**consumptive use.** Use that results in water being unavailable for recapture within a local or regional water system; e.g., **evapotranspiration** of irrigation water into the air.

**cost effectiveness.** A comparison of costs required for achieving the same benefit by different means. Costs are usually expressed in dollars, but benefits can be expressed in another unit (such as a quantity of water). See **net benefits**.

**covered entity.** As defined by the Water Conservation Act, any "municipality, agency, utility, including any privately owned utility, or other publicly owned entity with a legal obligation to supply, distribute, or otherwise provide water at retail to domestic, commercial, industrial, or public facility customers, and that has a total demand for such customers of two thousand acre-feet or more."

**curtailment.** Actions that forego or reduce desired water uses; e.g., prohibitions on lawn watering or car washing during a drought water emergency. In this document, curtailment is not considered **water conservation**. See **rationing**.

**customer class.** A group of customers (residential, commercial, industrial, wholesale, and so on) defined by similar costs of service or patterns of water usage.

**decreasing-block (or declining-block) rate.** A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) decreases with the amount water usage.

**demand forecast.** A projection of future demand that can be made on a system-wide or customer-class basis.

**demand management** or **demand-side management**. Measures, practices, or programs deployed by water utilities to permanently reduce the level or change the pattern of demand for a utility service.

**demographic**. Having to do with population or socioeconomic conditions.

**discount rate**. A percentage that is used to adjust a forecast of expenditures to account for the time value of money or opportunity costs; it can be based on the utility's cost of capital.

**distribution facilities**. Pipes, treatment, storage and other facilities used to distribute drinking water to end users.

**drought**. A sustained period of inadequate or subnormal precipitation that can lead to water supply shortages, as well as increased water usage.

**efficiency**. Reduced use or losses of a resource while providing a desired service, or increased level of productivity per unit of a resource. See **water use efficiency** and **system efficiency**.

**end use**. Fixtures, appliances, and activities that use water.

**end user**. Residential, commercial, industrial, governmental, institutional or other water user that applies water to **beneficial use**.

**escalation rate**. A percentage that is used to adjust a forecast of expenditures to account for the increasing value of a good or service over time (apart from the discount rate and inflationary effects).

**evapotranspiration**. Water losses from the surface of soils and plants.

**fixed charge**. The portion of a water bill that does not vary with water usage.

**fixed costs**. Costs associated with water service that do not vary with the amount of water produced or sold.

**graywater**. Water captured after initial use and reused for nonpotable purposes, such as irrigation, usually with minimal treatment.

**increasing-block (or inclining-block) rate**. A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) increases with the amount water usage.

**incremental cost**. The additional cost associated with adding an increment of capacity.

**instream flow.** River and stream waters that maintain stream quality, aquatic life, and recreational opportunities.

**integrated resource planning.** An open and participatory planning process emphasizing least-cost principles and a balanced consideration of supply and demand management options for meeting water needs.

**investor-owned utility.** A private utility owned by investors and regulated by the Colorado Public Utility Commission.

**irrigation scheduling.** A method for optimizing outdoor water use by matching the watering schedule to plant needs; can refer to manual or automated scheduling.

**large-volume user.** A water customer, usually industrial or wholesale, whose usage is substantial relative to other users; large-volume users may present unique peaking or other demand characteristics.

**leak detection.** Methods for identifying water leakage in pipes and fittings.

**life span.** The expected useful life of a supply-side or demand-side project, measure, or practice. (The life span may not be identical to useful life for tax purposes.)

**load management.** Methods for managing levels and patterns of usage in order to optimize system resources and facilities.

**losses (water).** Metered source water less revenue-producing water and authorized unmetered water uses.

**low water-use landscaping.** Use of landscape designs and plant materials that are appropriate to an area's climate and growing conditions (usually native and adaptive plants). See **Xeriscape™**.

**market penetration.** The extent to which an activity or measure is actually implemented compared to all potential uses or markets.

**marginal-cost pricing.** A method of rate design where prices reflect the costs associated with producing the next increment of supply.

**master metering.** A large meter at a point of distribution to multiple uses or users that could be further submetered. Includes metered wholesale sales.

**maximum-day demand.** Total production for the water system on its highest day of production during a year.

**measure (conservation).** A technology or practice that directly reduces water use.

**meter.** An instrument for measuring and recording water volume.

**mixed-use meter.** A meter measuring water use for more than one type of end use (such as indoor and outdoor use).

**model plan.** The template for water conservation plan structure and content provided in this document; includes the “scope of work” (recommended headings and content) and worksheets for each planning step.

**needle peaks.** Persistent levels of **peak demand** that drive the capacity needs of a water system despite reductions in **average demand**.

**net benefits.** The numerical difference between total benefits and total costs, both of which must be expressed in the same unit (usually dollars). See **cost-effectiveness**.

**net present value.** The present value of benefits less the present value of costs.

**nominal dollars.** Forecast dollars that are not adjusted for inflation.

**nonaccount water.** Metered source water less metered water sales.

**nonconsumptive use.** Water withdrawn and returned to the source.

**nonpromotional rates.** Rates that do not encourage additional consumption by water users.

**nonresidential customer.** A commercial or industrial utility customer.

**normalization.** Adjustment of a variable to a “normal” level based on averaging over an accepted period of time; used in forecasting.

**opportunity cost.** The value of a foregone opportunity that cannot be pursued because resources are taken up by a chosen activity.

**peak demand.** The highest point of total water usage experienced by a system, measured on an hourly or a daily basis.

**per-capita use.** Total use divided by the total population served.

**per-capita residential use.** Residential use divided by the total population served.

**phreatophyte.** A plant that obtains water from the water table or the unsaturated zone just above it. Often found along water supply canals, phreatophytes can consume significant quantities of water through evapotranspiration, reducing the availability of water to a water system and its users.

**precipitation rate (sprinkling).** The surface application rate for landscape watering, usually expressed in inches per hour.

**present value.** Future expenditures expressed in current dollars by adjusting for a discount rate that accounts for the time value of money.

**pressure regulator.** A post-meter device used to limit water pressure.

**price elasticity of demand.** A measure of the responsiveness of water usage to changes in price; measured by the percentage change in usage divided by the percentage change in price.

**program (conservation).** An action or policy that encourages, requires, or otherwise leads to implementation of water-saving **measures**.

**rationing.** Mandatory water-use restrictions sometimes used under drought or other emergency conditions. See **curtailment**.

**raw water.** Untreated water.

**reclamation.** Treatment of used water to make it available for beneficial reuse.

**real dollars.** Forecast dollars that are adjusted for inflation.

**retrofit.** Replacement of parts in an existing plumbing fixture or water-using appliance in order to improve its operational efficiency.

**revenue-producing water.** Water metered and sold.

**reuse (water).** Beneficial use of treated wastewater.

**Safe Drinking Water Act (SDWA).** Federal drinking water quality legislation administered by the U.S. Environmental Protection Agency (EPA) through state primacy agencies; amended in 1996.

**safe yield.** The maximum reliable amount that can be withdrawn from a source without compromising quality or quantity, as defined by hydrological studies; can be based on acceptable withdrawals during a critical supply period or drought with a specific probability of occurrence.

**seasonal rate.** A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) varies by season of use; higher rates usually are charged in the season of **peak demand**.

**sensitivity analysis.** An analysis of alternative results based on variations in assumptions; a "what if" analysis.

**service area** or **service territory.** The geographic area served by a water utility.

**source-of-supply.** Facilities used to extract and/or store raw water prior to transmission and distribution.

**source meter.** A meter used to record water withdrawn from a surface water or groundwater source, or purchased from a wholesale supplier.

**State Revolving Fund (SRF).** State loan funds for water utilities established under the Safe Drinking Water Act.

**supply management or supply-side management.** Measures and programs deployed by the utility that improve the efficiency of production, transmission, and distribution facilities.

**submetering.** Metering for units comprising a larger service connection, such as apartments in a multifamily building.

**surcharge.** A special charge on a water bill used to send customers a specific pricing signal and recover costs associated with a particular activity.

**system (water).** A series of interconnected conveyance and treatment facilities owned and operated by a water supplier; some utilities operate multiple water systems.

**system efficiency.** Water conserving improvements to a water supply and distribution system, such as operational changes that stretch supplies or distribution system leak repairs that reduce water losses.

**supply substitution.** Use of alternative supply sources to increase the productivity of water supplies; for instance, dry year leases from agricultural water rights holders, use of reclaimed wastewater, etc.

**take-or-pay.** A contract provision obligating a purchaser to pay for a commodity whether or not delivery is taken.

**tariff.** The schedule of a utility's rates and charges.

**toilet tank displacement device.** A plastic bag or dam installed in a toilet tank to reduce flush volume. Considered effective only for fixtures using more than 3.5 gallons per flush.

**toilet flapper.** Valve in the toilet tank that controls flushing.

**transfers (water).** Exchange of water among willing buyers and sellers.

**transmission facilities.** Pipes and canals used to transport raw or treated water to distribution facilities.

**treated water.** Water treated to meet drinking water standards.

**ultra-low-flush toilet.** A toilet that uses not more than 1.6 gallons per flush.

**unaccounted-for water.** The amount of **nonaccount** water less known or estimated losses and leaks.

**uniform rate.** A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) does not vary with the amount of water usage.

**universal metering.** Metering of all water-service connections.

**unmetered water.** Water delivered but not measured for accounting and billing purposes.

**user class.** See customer class.

**utility.** An organization that provides a commodity or service, such as water supply, to end users.

**variable charge.** The portion of a water bill that varies with water usage; also known as a commodity charge.

**variable cost.** Costs associated with water service that vary with the amount of water produced or sold.

**Water Conservation Act.** The “Water Conservation Act of 2004,” which amended Section 37-60-126 of the Colorado Revised Statutes concerning water conservation planning by **covered entities** and the role of the state with regards to plan review and approval.

**water right.** A property right or legal claim to withdraw a specified amount of water in a specified time frame for a beneficial use.

**watershed.** A regional land area, defined by topography, soil, and drainage characteristics, within which raw waters collect and replenish supplies.

**water use efficiency.** Technologies and practices that provide the same or better level of end-use service, e.g., toilet-flushing or showering, with less water.

**wise water use.** Includes “water-conserving behaviors” such as not letting the water run while shaving or brushing one’s teeth, and “water-wise choices” such as installing low-water-use plants or xeric landscaping instead of conventional turf.

**weather-adjusted.** Water demand, revenues, or other variables adjusted to a “normal” weather year; also known as weather **normalization**.

**wholesale water.** Water purchased or sold for resale purposes.



**Xeriscape.™** Landscaping that involves seven principles: proper planning and design; soil analysis and improvement; practical turf areas; appropriate plant selection; efficient irrigation; mulching; and appropriate maintenance.