APPENDICES

Appendix A

Definitions of Selected Terminology

APPENDIX A

DEFINITIONS FOR SELECTED TERMINOLOGY

Selected abbreviations were defined in the Table of Contents. Provided below are definitions of selected acronyms and terms used throughout this document.

acre-foot. The amount of water needed to cover an acre one-foot deep (approximately 325,900 gallons). An acre-foot can support the annual indoor and outdoor needs of between one and two households per year, and, on average, 3 acre-feet are needed to irrigate 1 acre of farmland; enough to cover a football field 1 foot deep.

appropriation. The right to withdraw water from its source.

aquifer. A geologic formation of sand, rock and gravel through which water can pass and which can store, transmit and yield significant quantities of water to wells and springs.

audit (end-use). A systematic accounting of water uses by end users (residential, commercial, industrial, or agricultural), 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. The average per capita water use for the following baseline periods and calculated in accordance with *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, DWR 2011: (1) A 10 to 15-year continuous period used to calculate baseline daily per capita water use per CWC Section 10608.20; (2) A continuous 5-year period used to determine whether the 2020 urban water use target meets the legislation's minimum water use reduction requirement per CWC Section 10608.22.

beneficial use. A use of water resources that benefits people or nature. State law may define beneficial use.

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

best management practices. A measure or activity that is beneficial, empirically proven, cost-effective, and widely accepted in the professional community. The BMPs were historically identical to the Demand Management Practices (DMMs) found in the Water Code, but revisions to both the BMPs and the DMMs have now made them different sets of practices.

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, and distribution of water.

CII. The combination of commercial, institutional, and industrial water use sectors.

CIMIS. A network of automated weather

stations that provide real time weather data to estimate reference evapotranspiration (ETo). The stations are owned and operated cooperatively between the California Department of Water Resources and local agencies.

commodity charge. See variable charge.

compliance daily per capita water use/compliance gpcd. The gross water use during the final year of the reporting period, reported in gallons per capita per day. 2015 and 2020 are both compliance years. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

conservation (water). Any beneficial reduction in water losses, waste, or use.

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

consumptive use. Use that permanently withdraws water from its source.

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.

CUWCC. Council. A membership organization dedicated to urban water conservation throughout California by supporting and integrating innovative technologies and practices; encouraging effective public policies; advancing research, training, and public education; and building on collaborative approaches and partnerships.

customer class. A group of customers (residential, commercial, industrial, wholesale, agricultural, 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 systemwide or customer-class basis.

demand management measures. Measures, practices, or incentives 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.

disadvantaged community. A community with an annual median household income that is less

than 80 percent of the statewide annual median household income.

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. Transmission canals and pipelines not used for delivering water directly to retail customers should not be included as part of the distribution system.

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

efficient water management practices. See also “demand management measures” but required for AWMP. See also “best management practices”.

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

end user. Residential, commercial, industrial, governmental, or institutional water consumer.

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.

exchanges. Water exchanges are typically water deliveries by one water user to another water user, with the receiving water user returning the water at a specified time, or when the conditions of the parties’ agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or can include payment and the return of water. For purposes of UWMP reporting, this is considered a “Wholesale Use,” even if the agency is not considered a wholesale water agency as per the definition in CWC 10608.12 (p) and (r). Agencies will make their own determination as to whether water sent to another agency is a sale, transfer, or exchange.

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

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

gpcd. The unit of measure used for reporting baseline and target per capita water consumption. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

graywater. Reuse, generally without treatment, of domestic type wastewater for toilet flushing, garden irrigation and other nonpotable uses. Excludes water from toilets, kitchen sinks, dishwashers, or water used for washing diapers.

gross water use. The volume of water entering a supplier’s distribution system over a 12-month period. This volume may be adjusted based on changes in system storage, sales to other agencies, recycled water use, agricultural water use, and industrial process water use. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

groundwater. Water that occurs beneath the land surface and fills partially or wholly pore spaces of the alluvium, soil or rock formation in which it is situated. Does not include water produced with oil in the production of oil and gas or in a bona fide mining operation.

groundwater basin. A groundwater reservoir defined by all the overlying land surface and the underlying aquifers that contain water stored in the reservoir. Boundaries of successively deeper aquifers may differ and make it difficult to define the limits of the basin.

groundwater overdraft. The condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which water supply conditions approximate average.

groundwater recharge. The action of increasing groundwater storage by natural conditions or by human activity.

groundwater table. The upper surface of the zone of saturation (all pores of subsoil filled with water), except where the surface if formed by an impermeable body.

hydrologic region. A geographical division of the state based on the local hydrologic basins. The California Department of Water Resources divides California into 10 hydrologic regions that correspond to the state’s major water drainage basins.

imported water. Water that has originated from one hydrologic region and is transferred to another hydrologic region.

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.

interim urban water use target. The 2015 urban water use target that is the midpoint between the supplier's 10 to 15-year baseline GPCD and their 2020 target GPCD. 2015 UWMPs will compare the interim water use target to the actual water use of 2015. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

irrigation scheduling. An automated method for optimizing outdoor water use by matching the watering schedule to plant needs.

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 plant materials that are appropriate to an area's climate and growing conditions (usually native and adaptive plants). See also xeriscape.

lower income. Persons and families whose income does not exceed the qualifying limits for lower income families as established and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937. In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

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.

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).

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.

NOAA. A federal agency focused on the condition of the oceans and atmosphere. NOAA provides weather data that may be useful to urban water suppliers when describing the climate of their service area.

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, industrial, or agricultural 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 and on 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.

Potable Water. Water intended for human consumption, delivered through a Public Water System, and regulated by a State or local health agency.

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 financing costs.

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.

primary treatment. Removing solids and floating matter from wastewater using screening, skimming and sedimentation (settling by gravity).

public water systems. A system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. Public water systems are regulated by the State Water Resources Control Board, Drinking Water Program.

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

raw water. Water that is untreated and used in its natural state. This may also be called “Source Water.” Some urban water agencies supply raw water to customers for non-potable uses.

real dollars. Forecast dollars that are adjusted for inflation.

recycled water. Municipal wastewater that has been treated to a specified quality, enabling it to be reused for a beneficial purpose.

retail water use/demand. The sale of water directly to customers for end use. These include, single family, multi-family, landscape, or CII. The following sectors may be reported as either a wholesale or retail demand, the determination is made by the supplier: Groundwater recharge, saline intrusion barrier, agricultural, wetlands or wildlife habitat.

rGPCD. Residential Gallons per Capita per Day. This is used in drought reporting to SWRCB for purposes of complying with the Governor's drought declarations and executive orders in 2014 and 2015 and is solely the estimated residential water use in a service area divided by population. This differs from the GPCD used in UWMPs, which is the total water use within a service area divided by the population.

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. See also recycled water.

Safe Drinking Water Act. Federal drinking water quality legislation administered by the USEPA through state primacy agencies.

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.

SB X7-7. The Water Conservation Act of 2009 that provides for a 20% statewide reduction of urban per capita water use by the year 2020. The Act includes requirements for determining baselines and targets, among other things.

SB X7-7 Verification Form. A set of tables that present the calculations used by a retail supplier or Regional Alliance for developing baselines and targets. These tables are required for retail suppliers and Regional Alliances.

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.

secondary treatment. The biological portion of wastewater treatment which uses the activated sludge process to further clean wastewater after primary treatment. Generally, a level of treatment that produces 85 percent removal efficiencies for biological oxygen demand and suspended solids. Usually carried out through the use of trickling filters or by the activated sludge process.

sectors. Classifications of water use that are clearly distinct from other water uses.

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

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

SGMA. Sustainable Groundwater Management Act of 2014. Three California legislative bills that provide a framework for long-term sustainable groundwater management. Local and regional authorities will form Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan. More information can be found at http://water.ca.gov/groundwater/sgm/index.cfm

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.

supply management. Measures 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.

surface water augmentation. The planned placement of recycled water into a surface water reservoir that is used as a source of domestic drinking water supply.

SWRCB. A state agency whose mission is to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations. Some key programs that are managed by SWRCB that pertain to UWMPs include: Emergency Drought Regulations, Drinking Water Program, Wastewater, and Water Recycling.

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

tables. DWR has specified the use of standardized tables for reporting UWMP data. Use of these tables is required in the 2015 UWMP, to the extent that the information is available. However, water agencies may include the standardized tables in an appendix and present adapted versions of the standardized tables in the body of the Plan, if that is better adapted to the agency's records and/or better reflects the information available to the agency.

target. The target per capita water use calculated for 2020 and 2015 as per *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*, DWR 2011. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

target method. The water supplier selects one of four different target methods when determining their 2020 Urban Water Use Target. See the *Methodologies* document (DWR 2011) and Appendix E, SB X7-7 Verification Form for details. This term is used in the context of SB X7-7, The Water Conservation Act of 2009.

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.

tertiary treatment. The treatment of waste water beyond the secondary or biological stage. Normally implies the removal of nutrients, such as phosphorous and nitrogen, and a high percentage of suspended solids.

transfers. The CWC defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights. A water transfer can be a temporary or permanent sale of water or a water right by the water right holder, a lease of the right to use water from the water right holder, or a sale or lease of a contractual right to water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability. For purposes of UWMP reporting, this is considered a "Wholesale Use," even if the agency is not considered a wholesale water agency as per the definition in CWC 10608.12 (p) and (r). Agencies will make their own determination as to whether water sent to another agency is a sale, transfer, or exchange.

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

treated water. Water treated to meet drinking water standards.

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.

urban retail water supplier. A water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes. The terms “Water Supplier” and “Water Agency” are used interchangeably in this document.

urban wholesale water supplier. A water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes. Water Agency – This term can refer to either an urban retail water supplier or an urban wholesale water supplier. The terms “Water Agency” and “Water Supplier” are used interchangeably in this document.

user class. See customer class.

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 demand/use. Water conveyed through a distribution system that is used by a water agency and its customers for any purpose, including non-potable water uses, water losses, and other non-revenue water. The terms “Water Demand” and “Water Use” will be used interchangeably in this document.

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

water supplier. This term can refer to either an urban retail water supplier or an urban wholesale water supplier. The terms “Water Agency” and “Water Supplier” are used interchangeably in this document.

water use sector. Classifications of water use that are clearly distinct from other water uses.

wastewater. Water that has been previously used by a municipality, industry, or agriculture and has suffered a loss of quality as a result.

wastewater treatment plant. A municipal or public service district which provides treatment of collected wastewater.

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

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

wholesale water wse/demand. Generally large quantities of water not for municipal end uses. Wholesale uses include: sales, transfers, or exchanges to other agencies. The following sectors may be reported as either a wholesale or retail demand, the determination is made by the supplier: Groundwater recharge, saline intrusion barrier, agricultural, wetlands or wildlife habitat.

worksheets. DWR has specified the use of standardized worksheets for reporting AWMP data.

WSCP. Water Shortage Contingency Plan. A strategic plan developed by and for a water supplier to prepare and respond to water shortages. The CWC provides specific requirements for a WSCP.

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.