GLOSSARY

* indicates definition from SGMA definitions.

Abandoned well — A well that has not been used for 1 year, unless the owner demonstrates intention to use the well again in accordance with the provisions of Section 115700 of the California Health and Safety Code.

Acre-foot (af) — Equivalent to the volume of water which will cover 1 acre of land to a depth of 1 foot; an acre-foot of water equals 43,560 cubic feet or 325,851 gallons.

Advanced wastewater treatment — Any physical, chemical or biological treatment process used to accomplish a degree of treatment greater than that achieved by secondary treatment.

Advanced water purification — Results in high-quality drinking water using advanced treatment processes available, including, but not limited to microfiltration, reverse osmosis, and high intensity ultraviolet light/advanced oxidation.

Agency* — Refers to a groundwater sustainability agency as defined in the Sustainable Groundwater Management Act.

Agricultural water management plan* — Refers to a plan adopted pursuant to the Agricultural Water Management Planning Act as described in Part 2.8 of Division 6 of the Water Code, commencing with Section 10800 et seq.

Alternative Plan* — Refers to an alternative to a Plan described in Water Code Section 10733.6.

Alluvium — A general geologic term describing stratified unconsolidated beds of sand, gravel, silt and clay deposited by flowing water.

Annual report — The report that transmits monitoring and progress towards meeting sustainable management criteria on the Plan, required on annual basis by Water Code Section 10728.

Appropriator — A party that diverts or extracts surplus water for use on nonriparian or nonoverlying land or for nonriparian or nonoverlying uses. Most public entities holding water rights are appropriators.

Aquiclude — A relatively impermeable rock formation that typically overlies or underlies an aquifer, confining its water under pressure. It usually has the capacity to absorb water, but is not sufficiently porous to conduct water quickly enough to supply a spring or a well. Generally replaced by the term aquitard.

Aquifer — A body of rock that is sufficiently permeable to conduct groundwater and to yield economically significant quantities of water to wells and springs.

Aquifer storage and recovery (ASR) — Injection of water into a well for storage in the aquifer and subsequent recovery from the same well.

Aquifer storage transfer and recovery (ASTR) - Injection of water into a well for storage In the aquifer and recovery from a different well, generally to provide additional water treatment.

Aquifer test — Commonly misnamed a pump test, it consists of pumping one well and recording both the drawdown in that well and may include measuring the drawdown caused by this pumping in other nearby observation wells. The data can be analyzed to show the hydraulic characteristics of the aquifer.

Aquitard — A confining bed or rock formation that retards the movement of water either to or from adjacent beds. Aquitards do not prevent the flow of water but may serve to store groundwater, although they are not effective as sources for wells or springs.

Area of origin* — In an interbasin transfer, the region exporting water.

GLOSSARY

* indicates definition from SGMA definitions.

Arid — A climate or region in which precipitation is so deficient in quantity or occurs so infrequently that intensive agricultural production is not possible without irrigation. Less than 25 cm of annual rainfall or a higher evaporation rate than precipitation rate.

Artesian — A reference to groundwater that is confined under pressure resulting in a condition in which the static water level stands above the top of the aquifer. The groundwater will rise above the overlying confining beds if provided the opportunity to escape upward via a well.

Artesian aquifer — A rock formation containing groundwater under more than hydrostatic pressure.

Artesian well — A well tapping a confined aquifer in which the static water level stands above the top of the aquifer. A flowing artesian well is one in which the tapped water flows out at the land surface. The term artesian well can be applied to a well in which pumping is required for the confined water to reach the surface.

ASR well — Dual purpose well to inject, store and recover source water in an aquifer for subsequent beneficial use.

Bank filtration — Extraction of groundwater from a well or caisson near or under a river or lake that induces infiltration from the surface water body, thereby improving and making more consistent the quality of water recovered.

Baseline* — Historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin. Also baseline conditions.

Basin* — Groundwater basin or subbasin identified and defined in Bulletin 118 or as modified pursuant to Water Code 10722 et seq.

Basin setting* — The information about the physical setting, characteristics, and current conditions of the basin as described by the Agency in the hydrogeologic conceptual model, the groundwater conditions, and the water budget, pursuant to Subarticle 2 of Article 5.

Beneficial use — The use of water for some domestic, agricultural, industrial, social, recreational or instream use. The SWRCB lists 23 types of beneficial uses with water quality criteria for those uses established by the RWQCBs. Water rights holders must demonstrate that the use if both reasonable and beneficial.

Best available science* — The use of sufficient and credible information and data, specific to the decision being made and the time frame available for making that decision, that is consistent with scientific and engineering professional standards of practice.

Best management practice* — A practice, or combination of practices, that are designed to achieve sustainable groundwater management and have been determined to be technologically and economically effective, practicable, and based on best available science.

Board* — The State Water Resources Control Board.

Brackish water — Water containing dissolved minerals in amounts that exceed normally acceptable standards for municipal, domestic and irrigation uses. Considerably less saline than sea water.

California Department of Fish and Game (DFG) — DFG administers and enforces the California Fish and Game Code, and the regulations promulgated by the Fish and Game Commission.

California Department of Toxic Substances Control (DTSC) — The primary regulatory authority under both state and federal law for hazardous waste disposal within California.

GLOSSARY

* indicates definition from SGMA definitions.

California Department of Water Resources (DWR) — oversees the State Water Project (SWP) and has the ability to implement, promote and encourage statewide water conservation. The DWR also has the responsibility for investigating groundwater conditions, SGMA implementation, and recommending protective actions and the safety of non-federal dams. Updates the State Water Plan every 5 years.

Capillary fringe — The zone immediately above and continuous with the water table in which all or some of the soil or rock interstices are filled with water under less than atmospheric pressure.

CASGEM* — The California Statewide Groundwater Elevation Monitoring Program developed by the Department pursuant to Water Code Section 10920 et seq., or as amended.

Chloride — A compound of chlorine and a positive radical of one or more elements. Useful in recognition of seawater in groundwater, chloride is the dominant anion of ocean water and normally occurs in only small amounts in groundwater.

Closed basin — A basin whose topography prevents surface outflow of water. It is considered to be hydrologically closed if neither surface nor underground outflow of water can occur under average hydrologic conditions.

Community water system — A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25-year-long residents.

Cone of depression — The conical-shaped area around a well, produced in a water table or potentiometric surface by pumping.

Confined aquifer — A water-bearing subsurface stratum that is bounded above and below by formations of impermeable, or relatively impermeable, soil or rock.

Confined groundwater — Groundwater that is under pressure greater than that of the atmosphere so that, if provided an upward escape route, it will rise above the interface between the top of the aquifer and the impermeable bed which confines it.

Confining bed — A body of impermeable or distinctly less permeable material stratigraphically above one or more aquifers.

Conjunctive use — Also conjunctive operation, the operation of a groundwater basin in combination with a surface water storage and conveyance system to maximize water supply. Water is stored in the groundwater basin for later use by intentionally recharging a basin when a water supply is available.

Connate water — Water entrapped in the interstices of sedimentary rock at the time it was deposited. It may have been derived from ocean or fresh water sources and, typically, is highly mineralized.

Consumptive use — Use of water in a manner that makes it unavailable for use by others, generally because of absorption, evaporation, transpiration or incorporation in a manufactured product.

Contamination — The impairment of water quality as a result of the introduction of pathogens, chemical or industrial wastes, sewage or other pollutants in such concentrations that the water may eventually become unfit for its intended use or constitutes a public health hazard.

Contour line — An imaginary line that connects points of equal value (for example, land surface elevations) above or below a reference value or datum (for example, sea level). Contour lines may also demonstrate variations in other quantifiable properties such as sediment characteristics, porosity or the texture of deposits.

GLOSSARY

* indicates definition from SGMA definitions.

Cumulative departure plot — A graph of the departure from mean for a set of values, typically hydrologic data such as annual rainfall or annual streamflow. The difference between the annual value and the mean value for the full period of the data set is calculated for each data point, and each difference is added cumulatively from the beginning of the period to the end of the period. When portions of the graph have a positive slope, hydrologic values are greater than average (such as in a wet cycle); a negative slope occurs when hydrologic values are less than average (such as in a drought cycle).

Cycle testing — The systematic process in determining the operational recharge and backwashing routine for an ASR well.

Data gap* — A lack of information that significantly affects the understanding of the basin setting or evaluation of the efficacy of Plan implementation, and could limit the ability to assess whether a basin is being sustainably managed.

Deep percolation — Precipitation that moves downward below the root zone towards storage in subsurface strata.

De minimis well — A domestic well that extracts less than 2 acre-feet of groundwater annually. De minimis users cannot be required to report annual pumpage, but can be required to pay a fee if the GSA regulates them.

Depletion — The continued withdrawal of water from a reservoir or groundwater supply faster than its rate of replenishment.

Desalination — A process that converts sea water or brackish water to fresh water or an otherwise more usable condition through removal of dissolved solids. Also called desalting.

Destroyed well — A well that is no longer useful and that has been completely filled in accordance with the procedures described in Section ?B of the California Well Standards, DWR Bulletin 74-81 and Bulletin 74-90 (supplement to Bulletin 74-81).

Developed water — Water either imported into a groundwater basin or salvaged, reclaimed, or process for augmenting local surface water supplies that would not occur under natural conditions.

Domestic well — A water well used to supply water for the domestic needs of an individual residence or systems of four or fewer serviced connections.

Drawdown — The distance by which the potentiometric surface of a groundwater body is lowered by the withdrawal of water through pumping. Drawdown can be described as (1) the lowering of the potentiometric surface or water table as a result of groundwater withdrawal; (2) the difference between the height of a water table before pumping and the height of the water in a well during pumping; (3) diminished pressure in an aquifer as a result of groundwater withdrawal.

Drilling rig — The derrick, mast or standing equipment used to drill a well, together with the motive power, cable and tools used in drilling.

Drought — A prolonged period of dry weather characterized by an absence or a deficiency in rainfall. There is no measure for determining a drought, but qualitatively it usually causes a partial crop failure, a hydrologic imbalance or an interference with the ability to meet established water demands.

Dry well — A well that is constructed in the unsaturated zone of an aquifer and designed to optimize infiltration of water.

GLOSSARY

* indicates definition from SGMA definitions.

Effective porosity — The volume of interconnected openings available for transmission of fluids, frequently expressed as a percentage representing the ratio between volume of available openings and total volume of openings.

Electric well logging — The geophysical process of recording the formations traversed by a drill hole, based upon the measurements of two basic observable parameters: spontaneous potential and the resistivity of the formations to the flow of electric currents. Also geophysical well logging.

Emerging contaminant — A variety of synthetic chemicals, as well as some natural constituents, typically newly discovered in the environment due to improved analytical technological and heightened awareness, and not expected to be present in aquatic systems. For the most part, emerging contaminants are not new chemicals, and not new to the environment, but may suddenly become an issue due to new analytical technology and ability to quantify the constituent, change in regulatory standard, widespread or focused occurrence, heightened public awareness, new toxicological evidence, new chemical or increase in use, or a new legal issue.

Environmental water — Water serving environmental purposes, including instream fishery flow needs, wild and scenic river flows, water needs of freshwater wetlands, and Bay-Delta requirements.

Evaporation — The vaporization of a liquid from a free surface at a temperature below the boiling point; a process that occurs whenever water in a liquid state comes into contact with the unsaturated atmosphere.

Evapotranspiration — That portion of the precipitation returned to the air through direct evaporation or by transpiration of vegetation, no attempt being made to distinguish between the two, or consumptive use by vegetation.

Extraction — The process of withdrawing groundwater from storage by pumping or other controlled means.

Fault — A break or fracture zone in the Earth's crust along which movement of the rock mass adjacent to the fracture has occurred, on at least one side of the break. As a result, the strata of a previously continuous formation are separated relative to one another, with the displacement ranging from inches to thou-sands of feet or hundreds of miles. A fault frequently acts as a barrier to the movement of groundwater.

Field capacity — The amount of water held in a soil by capillary action after gravitational water has percolated downward and drained away; expressed as the ratio of the weight of water retained to the weight of dry soil.

Flowing well — A well yielding water at the land surface without pumping or the aid of any lifting device, but through artesian pressure.

Gravel pack — Artificially placed gravel filter or envelope surrounding a well screen. A gravel pack in a properly developed well serves to stabilize the aquifer, prevents sand from entering the well, permits the use of a large screen slot with a maximum open area, and provides an or annular zone of high permeability, which increases the effective radius and yield of the well.

Groundwater — Subsurface water occurring in the zone of saturation.

Groundwater basin — A groundwater reservoir, defined on the basis of geological and hydrological conditions and possibly consideration of political boundary lines. Often described as a basin or trough-shaped structure that is filled with porous or permeable material that stores and transmits water.

GLOSSARY

* indicates definition from SGMA definitions.

Groundwater budget — A numerical accounting of the recharge, discharge and changes in storage of a geographically defined groundwater system.

Groundwater capture — Increase in the productivity of an aquifer by increasing the recharge rate or by reducing the rate of unused discharge.

Groundwater dependent ecosystem* - Ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.

Groundwater flow* — The volume and direction of groundwater movement into, out of, or throughout a basin.

Groundwater management — The planned and coordinated management of a geographically defined groundwater system with the overall goal of long-term sustainability of the resource.

Groundwater management plan — A comprehensive written document developed for the purpose of groundwater management and adopted by an agency having appropriate legal or statutory authority.

Groundwater storage coefficient — The volume of water released from storage or taken into aquifer storage per unit of surface area of the aquifer per unit of change in the pressure or the head.

Groundwater table — The surface between the zone of saturation and the zone of aeration or the level at which the hydraulic pressure of a body of unconfined groundwater is equal to atmospheric pressure. No water table exists if the upper surface of the zone of saturation is in contact with an overlying confining layer.

Hardness — The content of metallic ions which react with sodium soaps to produce solid soaps or scummy residue and which react with negative ions. Hardness is normally expressed as the total concentration of Ca^{+2} and Mg^{+2} as milligrams per liter equivalent to $CaCO_3$.

Head or static head — Water-level elevation in a well or elevation to which the water of a flowing artesian well will rise in a pipe extended high enough to stop the flow.

Hydraulic conductivity (permeability coefficient) — The degree of permeability of a porous or water-bearing stratum, expressed as the rate of flow of water in gallons/day through a cross section of I square foot at a unit hydraulic gradient at either the prevailing temperature in the field or at a temperature adjusted to 60 degrees Fahrenheit or 15.6 degrees Centigrade. The conductivity can also be expressed in ft/day, cm/s or m/day.

Hydraulic gradient — The slope or gradient of the water table or piezometric or potentiometric surface in the direction of greatest change. A gradient may be expressed as a ratio (vertical to horizontal), a fraction (feet per mile, meters/kilometer), percentage (vertical distance as a percentage of horizontal distance) or as an angle (degrees).

Hydraulic head gradient — In an aquifer or surface watercourse, the change in total head per unit distance of flow in a given direction from a given point, usually in the direction of greatest rate of change.

Hydrogeology — The science that deals with subsurface waters, subsurface water quality and related geologic aspects of surface waters.

Hydrograph — A time record of groundwater level or stream discharge at a given cross section or stream surface elevation, and at a given point. Stream hydrographs generally indicate rate of flow and represent stage, flow, velocity or other characteristics, while groundwater hydrographs represent water level or head.

GLOSSARY

* indicates definition from SGMA definitions.

Hydrologic budget; balance — An accounting of the inflow, outflow, storage and evaporation of water from a hydrologic unit, such as a drainage basin, aquifer, soil zone, lake or reservoir, and expressed by the hydrologic equation as the relationship between inflow and outflow including evaporation, precipitation, runoff and water storage within a hydrologic unit over a specified period of time.

Hydrologic cycle — The process involving the continuous circulation of water from the oceans and the land surface of the Earth to the atmosphere through transpiration and evaporation, and its eventual return to the Earth's surface through various forms of precipitation.

Hydrologic equation — Inflow minus Outflow = +/- Change in Storage. Also called the Law of Mass Conservation, water budget, water balance, hydrologic equation.

Hydrologic region — A study area, consisting of one more planning subareas.

Hydrology — The study of the origin, distribution and circulation of water of the Earth including precipitation, streamflow, infiltration, groundwater storage and evaporation.

Hyporheic zone — Located in the beds and banks of a stream where water and solutes can exchange through the pores spaces and surface water and groundwater mix, linking aquatic and terrestrial systems. The hyporheic zone can be several feet to hundreds of feet deep and wide, depending upon geology and stream channel morphology.

Impermeable — A textural condition of rock, sediment or soil that makes it incapable of transmitting fluid under pressure. The cause is generally low porosity or the presence of small individual pores that lack connectivity.

Imported water — Water transported into a watershed from a different watershed. Native water is water that occurs naturally within a watershed.

Infiltration — (1) The flow of a fluid, such as water, into a solid substance through pores or small interstices, and particularly referring to the movement of water into soil or porous rock; (2) the absorption by soil of water either from precipitation or streamflow; (3) the amount of groundwater that enters pipes through breaks, joints or porous walls.

Infiltration galleries — Buried trenches (often containing slotted pipes or other structural components for water storage space) in permeable soils that allow infiltration through the unsaturated zone to an unconfined aquifer.

Infiltration rate — Rate at which a soil under specified conditions can absorb falling rain or melting snow; in recharge, the rate at which water drains into the ground when a recharge basin is flooded, expressed as quantity of water per unit time.

Injection well — A well through which water is injected to recharge an aquifer, either by pumping or by gravity flow.

In lieu recharge — Groundwater recharge by substituting surface water for groundwater, and accounting for the groundwater saved/stored for future beneficial use.

Interested parties* — Persons and entities on the list of interested persons established by the Agency pursuant to Water Code Section 10723.4.

Interim milestone* — A target value representing measurable groundwater conditions, in increments of five years, set by an Agency as part of a Plan.

Irrigation — Distribution of water to land through artificial means to enhance crop production, either where natural water sources are so deficient as to make crop production impossible or

where it is advantageous to supplement the natural water supply at certain critical stages in the development of crops.

Irrigation return flow — Applied water that is not transpired, evaporated or deep percolated into a groundwater basin, but returns to a surface water.

Joint powers agreement (JPA) — An agreement entered into by two or more public agencies that allows them to jointly utilize any power common to the two contracting parties. The JPA is defined in Chapter 5, Division 7 of Title I of the California Government Code, commencing with Section 6500.

Land retirement — Taking land out of agricultural production by leaving it fallow or letting it return to a natural state.

Land subsidence — The lowering of a natural land surface in response to: Earth movements; lowering of fluid pressure (or lowering of groundwater level); removal of underlying supporting materials by mining or solution of solids, either artificially or from natural causes; compaction caused by wetting (hydrocompaction); oxidation of organic matter in soils; added load on the land surface; by tectonic activity; or by lithification.

Leaching — The flushing of salts from the soil by the downward percolation of surface water.

Leaching requirement — The theoretical amount of irrigation water that must pass (leach) through the soil beyond the root zone to keep soil salinity in the root zone within acceptable levels for sustained productive crop growth.

Level of development — In a planning study, the practice of holding constant the population, irrigated acreage, industry and wildlife so that hydrologic variability can be studied to determine adequacy of supplies.

Lithology — The description of rocks, especially in hand specimen and outcrop, on the basis of such characteristics as mineralogy, grain size and color.

Managed aquifer recharge (MAR) — Addition of surface water to a groundwater reservoir by human activity, such as putting surface water into spreading basins or injecting water through wells. Also artificial recharge (older term).

Management area — An area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.

Maximum contaminant level (MCL) — The highest concentration of a constituent in drinking water permitted under federal and state Safe Drinking Water Act regulations.

Measurable objectives* — Specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions that have been included in an adopted Plan to achieve the sustainability goal for the basin.

Milligrams per liter (mg/L) — The weight in milligrams of any substance dissolved in one liter of liquid; nearly the same as parts per million.

Mineralization — The process whereby concentrations of minerals, such as salts, increase in water, a natural process resulting from water dissolving minerals found in rocks and soils through which it flows.

Minimum threshold* — A numeric value for each sustainability indicator used to define undesirable results.

GLOSSARY

* indicates definition from SGMA definitions.

Mining — Withdrawal of water from a groundwater resource at a rate that exceeds the rate of replenishment so that the supply is threatened or its economic usefulness is endangered. Refer to overdraft.

MOU — Memorandum of Understanding.

NAD83* — North American Datum of 1983 computed by the National Geodetic Survey, or as modified.

NAVD88* — North American Vertical Datum of 1988 computed by the National Geodetic Survey, or as modified.

National Pollutant Discharge Elimination System (NPDES) — A provision of Section 402 of the federal Clean Water Act of 1972 that established a permitting system for discharges of waste materials to water courses. The program is administered in California by the Regional Water Quality Control Boards.

Nitrate — A salt of nitric acid, a compound containing the radical (NO_3). Dissolved nitrogen in the form of nitrate is the most common contaminant identified in groundwater. Used colloquially to denote all forms of nitrogen.

Nonpoint source — wastewater or contaminant discharge other than from point sources. Also, refer to point source. An example is the regional contamination of groundwater by the overapplication of fertilizers in an agricultural region.

Outflow — The water that is discharged from a drainage basin or from a stream, lake, reservoir or aquifer system.

Overdraft — The intentional or inadvertent withdrawal of water from an aquifer in excess of the amount of water that recharges the basin over a period of years, during which if continued over time could eventually cause the underground supply to be exhausted, cause seawater intrusion, cause subsidence, cause the water table to drop below economically feasible pumping lifts, or cause a detrimental change in water quality. Synonym: groundwater mining.

Overdraft, critical conditions of — A groundwater basin in which the continuation of present practices would probably result in significant adverse overdraft-related environmental, social or economic impacts. There are 21 SGMA priority basins that DWR has defined as critically overdrafted.

Overlying land — Property, a portion of which overlies the water-bearing portion of a groundwater basin. If a portion of the property overlies the water bearing formation, the entire parcel located within the drainage area of the basin is overlying.

Parts per million (ppm) — A measure, by weight and not by volume, of the concentration of a foreign substance in a solution.

Pathogens — Any viruses, bacteria, protozoa or fungi that cause disease.

Perched groundwater — Unconfined groundwater separated from an underlying main body of groundwater by an unsaturated zone.

Percolation — The movement of water through small openings within a porous material.

Permeability — The capability of soil or other geologic formation to transmit water.

Permeable — Porous or fissured so that water easily soaks in or passes through.

Pesticide — Any organic or inorganic substance used to kill or inhibit plant or animal life, including any insecticide, herbicide, rodenticide, algicide, miticide, nematicide or fungicide.

GLOSSARY

* indicates definition from SGMA definitions.

Phreatic zone — The zone beneath the water table in which the pore space is filled with water. Also referred to as the saturated zone.

Piezometer — The basic field device for the measurement of hydraulic head. A pipe sealed along its length, open to water flow at the bottom and open to the atmosphere at the top.

Piezometric surface (potentiometric surface) — An imaginary surface representing the level to which groundwater will rise in a well as a result of the pressure under which it is confined in an aquifer.

Plain language* — Language that the intended audience can readily understand and use because that language is concise, well-organized, uses simple vocabulary, avoids excessive acronyms and technical language, and follows other best practices of plain language writing.

Plan* — A groundwater sustainability plan (GSP) as defined in SGMA.

Plan implementation* — An Agency's exercise of the powers and authorities described in the Act, which commences after an Agency adopts and submits a Plan or Alternative to the Department and begins exercising such powers and authorities.

Plan manager* — An employee or authorized representative of an Agency, or Agencies, appointed through a coordination agreement or other agreement, who has been delegated management authority for submitting the Plan and serving as the point of contact between the Agency and the Department.

Point source — A specific site from which waste or polluted water is discharged into a water body, the source of which can be identified and measured.

Pollution — Contamination or other change in the physical, chemical or biological properties of a substance, especially water (including change in temperature, taste, color or odor) that may eventually impair its quality for use by ecosystem organisms or create a nuisance or make the substance detrimental to public health, safety or welfare. Refer to contamination.

Porosity — Voids or open spaces in alluvium and rocks that can be filled with water, frequently expressed ratio of the volume of open space to the total rock volume, expressed as a percentage.

Potentiometric surface — Refer to piezometric surface.

Precipitation — The discharge of water, in either liquid or solid form, from the atmosphere to the surface of the Earth, including rain, drizzle, sleet, snow, snow pellets, snow grains, ice crystals, ice pellets, hail, dew and frost, usually measured in inches, hundredths of inches or millimeters of equivalent depth in water.

Prescriptive rights — The rights acquired over a period of years by parties who use water adverse to the rights of the lawful owner of a property.

Principal aquifers* — Aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems.

Public water system — A system for the provision of water for human consumption though pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 6o days a year.

Public Utilities Commission (PUC) — The successor to the California Railroad Commission. The PUC regulates the affairs of private investor owned utilities. It does not possess regulatory authority over public entities.

Pumping lift — The distance water must be lifted in a well from the well pumping level to ground surface. pumping level — the position of the groundwater surface in a well during pumping.

GLOSSARY

* indicates definition from SGMA definitions.

Pump tax — Also groundwater charge, extraction fee, production assessment, replenishment assessment, replenishment fee, or basin assessment fee. Assessments levied by public agencies on the amount of groundwater pumped for use in conducting groundwater management activities such as purchasing imported water to replenish groundwater extracted in excess of the perennial yield, building recharge facilities.

Radius of influence — The distance from the center of a well to the limit of the cone of depression.

Rainwater harvesting — Roof runoff is diverted into a tank, well, sump, or caisson where it is allowed to percolate to the water table where it is collected by pumping from a well, or stored for later use.

Reasonable use — Required by the California Constitution, Article X, Section 2, but a term which is not subject to a standard definition; one of the requirements that must be satisfied by any party asserting a water right in California. Primarily thought to refer to the method, manner, or means of use.

Receiving water — Groundwater that will receive the source water recharged.

Recharge — Flow to groundwater storage from precipitation, infiltration from streams, irrigation, spreading basins, injection well and other sources of water.

Recharge area or zone — Surface area or zone in which water infiltrates into the ground, reaches the zone of saturation, recharging the underlying aquifer.

Recharge basin — A surface facility, often a large pond or other similar artificial basin used to increase the percolation of surface water into a groundwater basin thereby replenishing a groundwater supply. Also infiltration basin.

Recharge well — Well that is used to recharge water directly to an aquifer.

Recovery efficiency — Calculated as the cumulative volume of water recovered from storage in an ASR well divided by the cumulative volume previously stored during the same operating cycle, usually expressed as a percentage.

Recycled water — Previously used domestic or municipal water (wastewater) that has been treated for reuse for potable or non-potable beneficial uses, and can serve as source water for recharge. Used synonymously with reclaimed water.

Reference point* — A permanent, stationary and readily identifiable mark or point on a well, such as the top of casing, from which groundwater level measurements are taken, or other monitoring site.

Regional Water Quality Control Boards (RWQCBs) — The primary state agencies that regulate water quality and which are operated pursuant to policies adopted or approved by the State Water Resources Control Board. The RWQCBs have authority to compel cleanup and abatement of groundwater pollution under the Porter-Cologne Water Quality Control Act.

Representative monitoring* — A monitoring site within a broader network of sites that typifies one or more conditions within the basin or an area of the basin.

Residence time — Average amount of time a fluid spends during transport through a volume of subsurface or a laboratory vessel.

Return flow — The portion of withdrawn water not consumed by evapotranspiration or system losses which returns to its source or to another body of water.

Reuse — The additional use of previously used water.

GLOSSARY

* indicates definition from SGMA definitions.

Reverse osmosis — Treatment method for removing salts from water by forcing water through a membrane.

Riparian land — Land that adjoins or abuts a natural watercourse.

Runoff — The surface flow of water from an area; the total volume of surface flow from an area during a specified time.

Safe yield — Refer to sustainable yield.

Saline — Consisting of or containing salts the most common of which are potassium, sodium or magnesium in combination with chloride, nitrate or carbonate.

Salinity — Generally, the concentration of mineral salts dissolved in water. Salinity may be measured by weight (total dissolved solids), electrical conductivity or osmotic pressure. Where sea water is known to be the major sources of salt, salinity is often used to refer to the concentration of chlorides in the water. Refer to total dissolved solids.

Salinity intrusion — The movement of salt water into a body of fresh water. It can occur in either surface water or groundwater bodies. There are six types of salinity intrusion, one of which is sea water intrusion.

Saltwater barrier — A physical facility or method of operating which is designed to prevent the intrusion of salt water into a body of fresh water.

Saltwater intrusion — The phenomenon occurring when a body of salt water, because of its greater density, invades a body of fresh water. It can occur either in surface or groundwater bodies. When groundwater is pumped from aquifers that are in hydraulic connection with the sea, the gradients that are set up may induce a flow of salt water from the sea toward the well.

Saturated zone — The area below the water table in which the soil is completely saturated with groundwater. Also zone of saturation.

Seasonal high* — The highest annual static groundwater elevation that is typically measured in the Spring and associated with stable aquifer conditions following a period of lowest annual groundwater demand.

Seasonal low* — The lowest annual static groundwater elevation that is typically measured in the Summer or Fall, and associated with a period of stable aquifer conditions following a period of highest annual groundwater demand.

Seawater intrusion* — The advancement of seawater into a groundwater supply that results in degradation of water quality in the basin, and includes seawater from any source.

Sediment — Soil or mineral material transported by water and deposited in streams and channels. Sediments constitute the major aquifers in California.

Seepage — The gradual movement of a fluid into, through or from a porous medium.

Sewage — The liquid waste from domestic, commercial and industrial establishments.

Soluble minerals — Naturally occurring substances capable of being dissolved.

Source water — Referred to as the water that will be recharged in a managed aquifer recharge project.

Specific capacity — The volume of water pumped from a well in gallons per minute per foot of drawdown.

Specific retention — As applied to a rock or soil it is the ratio of : 1) the volume of water which, after being saturated, it will retain against the pull of gravity to; 2) its own volume. It is stated as a percentage.

GLOSSARY

* indicates definition from SGMA definitions.

Specific yield — The ratio of the volume of water that a given mass of saturated rock or soil will yield by gravity to the volume of that mass.

Spreading water — Discharging native or imported water to a permeable area for the purpose of allowing it to percolate to the zone of saturation.

Spring — A place where groundwater naturally flows from rock or soil onto the land surface or into a water body. The occurrence of a spring is dependent upon the location of permeable and impermeable rock layers, the level of the water table and on the local topography.

State Water Resources Control Board (SWRCB) — Administrative agency with the primary responsibility for regulating and determining rights to surface water and subterranean stream flow. In addition, the SWRCB has primary responsibility for enforcing the constitutional reasonable use requirement.

Static groundwater level — The water level in a well that is not flowing or being pumped; generally the level immediately before pumping is started after being stopped for a period of time.

Statutory deadline* — The date by which an Agency must be managing a basin pursuant to an adopted Plan, as described in Water Code Sections 10720.7 or 10722.4.

Storativity — The volume of water released from storage in an aquifer in a vertical column of 1 ft^2 when the water table of potentiometric surface declines 1 foot. In an unconfined aquifer it is approximately equal to specific yield.

Supply augmentation alternatives — Water management programs (such as conjunctive use, water banking or water project facility expansion) that increase supply.

Surface spreading — Recharging water at the surface through recharge basins, ponds, pits, trenches, constructed wetlands, or other systems.

Surface supply — Water in reservoirs, lakes or streams; expressed either in terms of rate of flow or volume.

Sustainability indicator* — Any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results, as described in Water Code Section 10721(x).

Sustainable yield* — The maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

Tertiary treatment — The treatment of wastewater beyond the secondary or biological stage. The term normally implies the removal of nutrients, such as phosphorus and nitrogen, and of a high percentage of suspended solids.

Total dissolved solids (TDS) — The quantity of minerals (salts) in solution in water, usually expressed in milligrams per liter or parts per million.

Transmissivity — The capacity of rock to transmit groundwater under pressure, expressed as a quantity of water, at the prevailing temperature, transmitted horizontally in a given period of time through a vertical strip of a given width of the fully saturated thickness of the aquifer, under a hydraulic gradient of one.

Uncertainty* — A lack of understanding of the basin setting that significantly affects an Agency's ability to develop sustainable management criteria and appropriate projects and management actions in a Plan, or to evaluate the efficacy of Plan implementation, and therefore may limit the ability to assess whether a basin is being sustainably managed.

GLOSSARY

* indicates definition from SGMA definitions.

Unconfined groundwater — Groundwater that has a free water table at atmospheric pressure. It is not confined under pressure beneath relatively impermeable rocks or soil.

Underground injection control (UIC) — the UIC Program under the Safe Drinking Water Act, found in Title 40 of the US Federal Code of Regulations, which provides minimum requirements for injection of fluids through wells into the subsurface, including ASR wells.

Unsaturated zone — A subsurface soil zone, also called the vadose zone or the zone of aeration that lies above the zone of saturation (the water table). The interstitial water tends to move under gravity despite being held by molecular capillary forces. This zone of aeration is divided into the belt of soil water, the intermediate belt and the capillary fringe which is just above the zone of saturation.

Urban water management plan* — A plan adopted pursuant to the Urban Water Management Planning Act as described in Part 2.6 of Division 6 of the Water Code, commencing with Section 10610 et seq.

Usable storage capacity — The quantity of groundwater of acceptable quality that can be economically withdrawn from storage.

U.S. Endangered Species Act (ESA) — Federal legislation which provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, and which provides a program for the conservation of such threatened and endangered species.

U.S. Environmental Protection Agency (EPA) — The agency was created to permit coordinated and effective governmental action on behalf of the environment. The EPA endeavors to abate and control pollution systematically, by proper integration of a variety of research, monitoring, standard setting and enforcement activities.

Vadose water — Water below the surface of the earth and above the water table, either held by the soil or percolating downward toward the water table through the vadose zone (unsaturated zone).

Waste — Loss of a resource such as water without substantial benefit or beneficial use.

Water banking — A water conservation and use optimization system whereby water is allocated for current use or stored in surface water reservoirs or in aquifers for later use. Water banking is a means of handling surplus water resources during wet years.

Water conservation — Reduction in applied water due to more efficient water use such as implementation of Urban Best Management Practices or Agricultural Efficient Water Management Practices. The extent to which these actions actually create savings in a water supply depends on how they affect total water use and depletion.

Water marketing — The selling or leasing of water rights in an open market.

Water quality — Used to describe the chemical, physical and biological characteristics of water, usually in regard to its suitability for a particular purpose or use.

Water reclamation — As used in this report. Includes water recycling, sea water desalting, groundwater reclamation and desalting agricultural brackish water.

Water recycling — The treatment of urban wastewater to a level rendering it suitable for a specific, direct, beneficial use.

Water source type* — Represents the source from which water is derived to meet the applied beneficial uses, including groundwater, recycled water, reused water, and surface water sources

identified as Central Valley Project, the State Water Project, the Colorado River Project, local supplies, and local imported supplies.

Water table — Refer to groundwater table.

Water transfer — Conveyance of groundwater or surface water from one area to another that involves crossing a political or hydrologic boundary. A voluntary change in a point of diversion, place of use, or purpose of use that may involve a change in water rights. A long-term transfer shall be for any period in excess of one year (California Water Code Section 1735.)

Water use sector* — Categories of water demand based on the general land uses to which the water is applied, including urban, industrial, agricultural, managed wetlands, managed recharge, and native vegetation.

Water year — A continuous 12-month period for which hydrologic records are compiled and summarized. In California, it begins on October 1 and ends September 30 of the following year. Water year 2003 ended Sept 30, 2003.

Water year type* — The classification assess the amount of annual precipitation in a basin.

Well, water well, "Water supply wells" or "supply wells" — Any artificial excavation constructed by any method for the purpose of extracting water from, or injecting water into, the underground. For purposes of this GSP, water supply wells includes all types of wells that provide water for beneficial uses, inclusive of private domestic wells, irrigation wells, industrial wells, commercial wells, and public supply wells. This does not include: (a) oil and gas wells, or geothermal wells constructed under the jurisdiction of the Department of Conservation, except those wells converted to use as water wells; or (b) wells used for the purpose of (1) dewatering during construction, or (2) stabilizing hillsides or earth embankments (Water Code Division 7, Chapter 10, Article 2, Section 13710).

Well casing — Serves as a lining to maintain an open hole from ground surface to the aquifer. It seals out surface water and any undesirable groundwater and also provides structural support against caving materials outside the well. Materials commonly employed for well casing are iron, steel and PVC.

Well completion report — California Water Code Section 13751 requires that anyone who constructs, alters, or destroys a water well, cathodic protection well, groundwater monitoring well, or geothermal heat exchange well must file with the Department of Water Resources a report of completion within 60 days of the completion of the work. Drillers submit their well completion reports with the Online System of Well Completion Reports (OSWCR, say ,Oscar,). OSWCR users create an account based on their C-57 license that DWR will validate. Upon approval users will be able to submit Well Completion Reports.

Well construction — The procedures necessary, using the proper materials and equipment to build a well for a specific purpose.

Well destruction — The procedures necessary using the proper materials and equipment, to ensure the boring is no longer a conduit for contamination of groundwater.

Well log — A graphic record of a well, generally a lithologic and/or stratigraphic record of the units traversed by a borehole.