Upper Sacramento, McCloud, and Lower Pit

Integrated Regional Water Management Plan

November 25, 2013

Upper Sacramento, McCloud, and Lower Pit Regional Water Management Group
Appendix B: Glossary of Terms

A
ABORIGINAL: While often thought of as relating directly to those native to the Australian continent, the term is used in this document to mean “first” or “earliest known”. It may be considered interchangeable with “native” and “indigenous”.
ACRE-FOOT: The quantity of water required to cover one acre to a depth of one foot; equal to 43,560 cubic feet, or approximately 325,851 gallons.
ALLUVIAL: Sediment deposited by flowing water, such as in a riverbed.
ANADROMOUS: Pertaining to fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.
APPLIED WATER DEMAND: The quantity of water that would be delivered for urban or agricultural applications if no conservation measures were in place.
AQUIFER: An underground layer of rock, sediment or soil, or a geological formation/unit that is filled or saturated with water in sufficient quantity to supply pumping wells.

B
BEDROCK AQUIFER: A consolidated rock deposit or geological formation of sufficient hardness and lack of interconnected pore spaces, but which may contain a sufficient amount of joints or fractures capable of yielding minimal water to a well.
BENEFICIAL USES: Aquatic ecosystems and underground aquifers provide many different benefits to the people of the state, and those benefits as identified by the State Water Resources Control Board define the resources, services, and qualities of these aquatic systems that are the ultimate goals of protecting and achieving high water quality. Beneficial use designations for any given water body do not rule out the possibility that other beneficial uses exist or have the potential to exist.
BEST MANAGEMENT PRACTICE (BMP): A best practice is a method, process, activity, incentive, or reward which conventional wisdom regards as more effective at delivering a particular outcome than any other technique, method, or process when applied to a particular condition or circumstance.

C
CONFINED AQUIFER: A water-bearing subsurface stratum that is bounded above and below by formations of impermeable, or relatively impermeable, soil or rock.
CONJUNCTIVE USE: The operation of a groundwater basin in coordination with a surface water storage and conveyance system. The purpose is to recharge the basin during years of above average water supply to provide storage that can be withdrawn during drier years when surface water supplies are below normal.
COSMOLOGICAL DISTRICT: A designation by the NRHP for a region that supports exceptionally clear and dark skies.
CUBIC FEET PER SECOND (cfs): A unit of measurement describing the flow of water. A cubic foot is the amount of water needed to fill a cube that is one foot on all sides, about 7.5 gallons.

D
DWR: California Department of Water Resources.

E
ECOLOGICAL INTEGRITY: The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes sustain the function, composition and structure of the system. Such systems, for example, may have complete food webs, a full complement of native species that can maintain their populations, and naturally functioning ecological processes (energy flow, nutrient and water cycles, etc).
ECOTOURISM: a form of tourism involving visiting relatively undisturbed natural areas, intended as a low-impact and often small scale alternative to standard commercial tourism. The purpose may be to educate the traveler, to provide funds for ecological conservation, to directly benefit the economic development and political empowerment of local communities, or to foster respect for different cultures.
EFFICIENT WATER MANAGEMENT PRACTICE (EWMP): An agricultural water conservation measure that water suppliers could implement. EWMPs are organized into three categories: 1) Irrigation Management Services; 2) Physical and Structural Improvements; and 3) Institutional Adjustments.

EFFLUENT: Wastewater or other liquid, partially or completely treated or in its natural state, flowing into another water body.

ENVIRONMENTAL JUSTICE: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental Justice seeks to redress inequitable distribution of environmental burdens (i.e. pollution, industrial facilities) and access to environmental goods (i.e. clean water and air, parks, recreation, nutritious foods, etc.).

EVAPOTRANSPIRATION (ET): The sum of evaporation — the movement of water to the air from sources such as soil, canopy interception, and water bodies — and transpiration — the movement of water within a plant and subsequent loss of water as vapor through its leaves. Quantitatively, it is expressed in terms of depth of water per unit area during a specified period of time.

F

FIRM YIELD: The maximum annual supply of a given water development that is expected to be available on demand, with the understanding that lower yields will occur in accordance with a predetermined schedule or probability.

FOREBAY: A reservoir or pond situated at the intake of a pumping plant or power plant to stabilize water levels. Also, a groundwater basin immediately upstream or upgradient from a larger basin or group of hydrologically connected basins.

G

GREEN INFRASTRUCTURE: Strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values and functions and provide associated benefits to human populations. The foundation of green infrastructure networks are their natural and engineered elements that work together as a whole to sustain ecological values and functions.

GROUNDWATER: Water that occurs beneath the land surface and completely fills all pore spaces of the alluvium or rock formation in which it is located.

GROUNDWATER BASIN: A groundwater reservoir, together with all the overlying land surface and underlying aquifers that contribute water to the reservoir.

GROUNDWATER OVERDRAFT: The condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that replenishes the basin over a period of years.

GROUNDWATER RECHARGE: Increases in groundwater quantities or levels 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 is formed by an impermeable body.

H

HYDROMODIFICATION: Any activity that increases the velocity and volume (flow rate), and often the timing, of runoff (from the State Water Resources Control Board website, accessed 11/2013: http://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/5.0_hydromod.shtml).

I

I & I: “I & I” is an abbreviation for “inflow and infiltration”. Inflow is rainwater that enters the sanitary sewer through holes in manhole covers, catch basins or improper plumbing connections. Infiltration is groundwater that seeps into the sewer through cracks or joints in sewer pipes.

INDIAN: The term “indian” has been used to identify people directly descending from the aboriginal people of North America – specifically the United States. Currently, it is interpreted to exclusively apply to those aboriginal people whose governmental bodies (see “nation”) have been recognized by the US government and represented by the Bureau of Indian Affairs. This is not an inclusive term, and is generally acceptable only in reference to proper nouns (such as the Shasta Indian Nation) or in use by people belonging to the affected ethnic group(s).
INDIGENOUS PEOPLE: This is a more specific reference than Native Americans, these groups being indigenous to what is now the United States before the first contact by Europeans. This term is inclusive of all groups, or tribes — federally recognized or not. It is also the reference used in the United Nations Declaration on the Rights of Indigenous Peoples (DRIP — available here: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf), which is inclusive of all groups in all parts of the world who are indigenous to the places in which they continue to reside.

INSTREAM USE: Use of water that does not require diversion from its natural watercourse. For example, the use of water for navigation, recreation, fish and wildlife, esthetics, and scenic enjoyment.

IRRIGATION EFFICIENCY: The efficiency of water application. Computed by dividing evapotranspiration of applied water by applied water and converting the result to a percentage. Efficiency can be computed at three levels: farm, district, or basin.

IRRIGATION RETURN FLOW: Applied water that is not transpired, evaporated, or deep percolated into a groundwater basin, but that returns to a surface water supply.

M

M&I: Municipal and Industrial (water use); generally urban uses for human activities.

MILLIGRAMS PER LITER (MG/L): The mass (milligrams) of any substance dissolved in a standard volume (liter) of water. One liter of pure water has a mass of 1000 grams. For dilute solutions where water is the solvent medium, the numerical value of mg/l is very close to the mass ratio expressed in parts per million (ppm).

N

NATION: The term “nation”, as used in the USR IRWMP, respects the authority of a group of indigenous people as a sovereign entity — similar to that of a country. It is a preferable reference in place of “tribe”.

NATURALLY OCCURRING CONTAMINANTS (IN GROUNDWATER): A deleterious substance present in groundwater which is of natural origin, i.e. not caused by human activity.

NET WATER CONSERVATION: The difference between the amount of applied water conserved and the amount by which this conservation reduces usable return flows.

NET WATER DEMAND: The applied water demand less water saved through conservation efforts (= net applied water = actual water used).

NONPOINT SOURCE: Nonpoint source (NPS) pollution refers to both water and air pollution from diffuse sources. Nonpoint source water pollution affects a water body from sources such as polluted runoff from agricultural areas draining into a river, or wind-borne debris blowing out to sea. Also see Point Source.

P

PARTS PER MILLION (PPM): A ratio of two substances, usually by mass, expressing the number of units of the designated substance present in one million parts of the mixture. For water solutions, parts per million is almost identical to the milligrams per liter.

PER-CAPITA WATER USE: The amount of water used by or introduced into the system of an urban water supplier divided by the total residential population; normally expressed in gallons per-capita-per-day (gpcd).

PERCOLATION: The downward movement of water through the soil or alluvium to the groundwater table.

PERENNIAL YIELD: The rate at which water can be withdrawn perennially under specified operating conditions without producing an undesired result. An undesired result is an adverse situation such as: (1) a reduction of the yield of a water source; (2) development of uneconomic pumping lifts; (3) degradation of water quality; (4) interference with prior water rights; or (5) subsidence. Perennial yield is an estimate of the long-term average annual amount of water that can be withdrawn without inducing a long-term progressive drop in water level. The term “safe yield” is sometimes used in place of perennial yield, although the concepts behind the terms are not identical: the older concept of “safe yield” generally implies a fixed quantity equivalent to a basin’s average annual natural recharge, while the “perennial yield” of a basin or system can vary over time with different operational factors and management goals.

PERMEABILITY: The capability of soil or other geologic formation to transmit water.

POINT SOURCE: Any discernable, confined and discrete conveyance site from which waste or polluted water is discharged into a water body, the source of which can be identified. See also Nonpoint Source.
POLLUTION (OF WATER): The alteration of the physical, chemical, or biological properties of water by the introduction of any substance into water that adversely affects any beneficial use of water.

POTABLE WATER: Water suitable for human consumption without undesirable health consequences.

Drinkable: meets Department of Health Services drinking water requirements.

R

RECHARGE BASIN: A surface facility, often a large pond, used to increase the infiltration of water into a groundwater basin.

RECYCLED WATER: Reclaimed water, sometimes called recycled water, is former wastewater (sewage) that has been treated to remove solids and certain impurities, and then used in sustainable landscaping irrigation or to recharge groundwater aquifers.

REVERSE OSMOSIS: Method of removing salts from water by forcing water through a membrane.

RETURN FLOW: The portion of withdrawn water that is not consumed by evapotranspiration and returns instead to its source or to another body of water.

REUSE: The additional use of once-used water.

RIPARIAN: Of, or on the banks of, a stream or other body of water.

RIPARIAN VEGETATION: Vegetation growing on the banks of a stream or other body of water.

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

RWQCB: Regional Water Quality Control Board.

S

SAFE YIELD (GROUNDWATER): The maximum quantity of water that can be withdrawn from a groundwater basin over a long period of time without developing a condition of overdraft. Sometimes referred to as sustained yield.

SALINITY: Generally, the concentration of mineral salts dissolved in water. Salinity may be measured by weight (total dissolved solids), electrical conductivity, or osmotic pressure. See also TDS.

SECONDARY TREATMENT: In sewage treatment, the biological process of reducing suspended, colloidal, and dissolved organic matter in effluent from primary treatment systems. Secondary treatment is usually carried out through the use of trickling filters or by an activated sludge process.

SUSTAINABLE/SUSTAINABILITY: Managing or using a resource in a way that meets the needs of the present, and does not compromise future needs. Sustainability implies proactive decision-making and innovation that considers a balance between social equity, environmental protection, and economic growth.

SWP: State Water Project.

SWRCB: California State Water Resources Control Board.

T

TERTIARY TREATMENT: In sewage, the additional treatment of effluent beyond that of secondary treatment to obtain a very high quality of effluent.

TOTAL DISSOLVED SOLIDS (TDS): a quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution. Usually expressed in milligrams per liter (mg/l) or in parts per million (ppm). See also Salinity.

TRADITIONAL ENVIRONMENTAL KNOWLEDGE (TEK) – A cumulative body of knowledge, practice and belief about the relationship of living beings (including humans) with one another and with their environment, evolving by adaptive processes and handed down through generations by cultural transmission. Refers specifically to types of knowledge about the environment derived from the experience and traditions of a particular group of people.

TRIBE: Similar to “indian”, the term “tribe” is becoming obsolete except in proper noun references. A preferred term is that of “nation”.

TURBIDITY: A measure of cloudiness and suspended sediments in water. Water high in turbidity appears murky and contains sediments in suspension. Turbid water may also result in higher concentrations of contaminants and pathogens, that bond to the particles in the water.

W

WATER QUALITY: A term used to describe the chemical, physical, and biologic characteristics of water with respect to its suitability for a particular use.
WATER RECLAMATION: The treatment of water of impaired quality, including brackish water and seawater, to produce a water of suitable quality for the intended use.

WATER RIGHT: A water right is a legal entitlement authorizing water to be diverted from a specified source and put to beneficial, non-wasteful use. Water rights are property rights, but their holders do not own the water itself. They possess the right to use it. The exercise of some water rights requires a permit or license from the State Water Resources Control Board (State Water Board), whose objective is to ensure that the State’s waters are put to the best possible use, and that the public interest is served. (Definition from the State Water Board website: http://www.waterboards.ca.gov/waterrights/board_info/water_rights_process.shtml)

WATERSHED: An area or ridge of land that separates waters flowing to different rivers, basins, or seas; the area or region drained by a river, stream, or reservoir; drainage basin.

WATER TABLE: The surface of underground, gravity-controlled water.

WORKING FOREST: A forest that sustains the timber resources, water, wildlife, and a well-balanced climate, while providing public and/or private income from forestry, farming, and/or other activities.
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