GLOSSARY

A

acre feet (af) - A quantity of volume of water that covers one acre to a depth of one foot; equal to 43,560 cubic feet or 325,851 gallons.

active storage capacity - The total usable reservoir capacity available for seasonal or cyclic water storage. It is gross reservoir capacity minus inactive storage capacity.

affected environment - Existing biological, physical, social, and economic conditions of an area subject to change, both directly and indirectly, as a result of a proposed human action.

agricultural drainage - (1) The process of directing excess water away from root zones by natural or artificial means, such as by using a system of pipes and drains placed below ground surface level; also called subsurface drainage. (2) The water drained away form irrigated farmland.

alluvium - A stratified bed of sand, gravel, silt, and clay deposited by flowing water.

alternative - A collection of actions and/or assumptions made to evaluate the response / behavior of the system analyzed, including the most likely future without a project or collection of actions.

anadromous - Pertaining to fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn. In regard to the California water system, this term refers to those stocks of salmon (including steelhead), striped bass, sturgeon and American shad that ascend the Sacramento and San Joaquin rivers and their tributaries and the Sacramento-San Joaquin Delta to reproduce after maturing in San Francisco Bay or the Pacific Ocean.

Anadromous Fish Restoration Program (AFRP) - A program authorized by the Central Valley Project Improvement Act to address fish resource issues in Central Valley streams that are tributary to the Delta. This program is lead by the U.S. Fish and Wildlife Service.

applied water (AW) / applied water demand - The quantity of water delivered to the intake of a city's water system or factory, the farm headgate, or a marsh or other wetland, either directly or by incidental drainage flows (this is primarily water for wildlife areas). For instream use, it is the portion of the stream flow dedicated to instream use or reserved under the federal or State Wild and Scenic Rivers acts.

aquiclude - Relatively impermeable layer that does not allow water to flow through.

aquifer - A geologic formation that stores and transmits water and yields significant quantities of water to wells and springs.

aquatic - Living or growing in or on the water.

arid - Term describing 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.

artificial recharge - Addition of surface water to a groundwater reservoir by human activity, such as putting surface water into spreading basins. See also groundwater recharge and recharge basin.

authorization - Act by the U.S. Congress which authorizes the use of public funds to carry out a prescribed action.

average annual runoff - For a specified area, it is the average value of annual runoff calculated for a selected period of record that represents average hydrologic conditions.

average year water demand - The demand for water under average hydrologic conditions for a defined level of development.

average year supply - The average annual supply of a water development system over a long period. For this report, the State Water Project and Central Valley Project average year supply is the average annual delivery capability of the projects over a 75 year study period (1922-1996) (verify). For a local project without long-term data available, it is the annual average deliveries of the project during the 1984-1986 period (verify). For dedicated natural flow, is the long-term average natural flow for wild and scenic rivers or it is environmental flow as required for an average year under specific agreements, water rights, water decisions, and congressional directives.

B

Bay-Delta Plan Accord (BDPA) - In December 1994, representatives of the State and federal governments and urban, agricultural, and environmental interests agreed to the implementation of a Bay-Delta protection plan through the State Water Resources Control Board to provide ecosystem protection for the Bay-Delta Estuary. The Draft Bay-Delta Water Control Plan, released May 1995, supersedes Decision 1485.

beneficial use - Those uses of water as defined in the State of California Water Code (Chapter 10 of Part 2 of Division 2), including but not limited to agricultural, domestic, municipal, industrial, power generation, fish and wildlife, recreation, and mining.

benthic - Bottom of rivers, lakes, or oceans; organisms that live on the bottom of water bodies.

best management practices (BMP) - An urban water conservation measure that the California Urban Water Conservation Council agrees to implement among member agencies. The term is also used in reference to management practices to comply with targeted water quality standards.

biota - All living organisms of a region, as in a stream or other body of water.

biological opinion - Document issued under the authority of the Endangered Species Act stating the U.S. Fish and Wildlife Service (USFS) and/or the National Marine Fisheries Service (NMFS) finding as to whether a federal action is likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction or adverse modification of critical habitat. This document may include:

critical habitat - Description of the specific areas with physical or biological features essential to the conservation of a listed species and which may require special management considerations or protection. These areas have been legally designed via Federal Register notices.

jeopardy opinion - USFS or NMFS opinion that an action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The finding includes reasonable and prudent alternatives, if any.

no jeopardy opinion - USFS or NMFS finding that an action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat.

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

C

CALFED - Joint federal and state program to address water-related issues in the Sacramento-San Joaquin rivers system and Delta.

Candidate species - Plant or animal species no yet officially listed as threatened or endangered, but which is undergoing status review by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

carriage water - Additional flows released during export periods to ensure maintenance of water quality standards and assist with maintaining natural outflow patterns in Delta channels.

carryover storage - Water remaining in storage at the end of the water year that can be used during the following water year.

catchment - An area that drains ultimately to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain. Also called drainage basin, river basin, and watershed.

Central Valley Habitat Joint Venture (CVHJV) - Association of federal and State agencies and private parties established for the purpose of developing and implementing the North America Waterfowl Management Plan as it pertains to the Central Valley of California.

Central Valley Project (CVP) - Federally operated water management and conveyance system that provides water to agricultural, urban, and industrial users in California.

Central Valley Project Improvement Act (CVPIA) - Federal legislation signed into law October 30, 1992 that mandates major changes in management of the federal Central Valley Project. The CVPIA establishes that fish and wildlife have equal footing with agricultural, urban, industrial, and hydropower users.

Central Valley Project service area - Area of the Central Valley and San Francisco Bay Area where water service has been expressly authorized pursuant to the various feasibility studies and consequent congressional authorizations for the Central Valley Project.

Central Valley Project water - All water that is developed, diverted, stored, or delivered by the Secretary in accordance with the statures authorizing the Central Valley Project in accordance with the terms and conditions of water rights acquired pursuant to California law.

Central Valley Project water service contractor - Water users that have contracted with the U.S. Bureau of Reclamation for water.

channel - Natural or artificial watercourse, with a definite bed and banks to confine and conduct continuously or periodically flowing water.

closed basin - A basin whose topography prevents surface outflow of water. It is considered to be closed hydrologically if neither surface nor underground outflow of water can occur.

common Delta pool - This concept suggests that the Delta provides a common resource, including fresh water supply for all Delta water users, and all those whose actions have an impact on the Delta environment share in the obligation to restore, maintain and protect Delta resources, including water supplies, water quality, and natural habitat.

component - Specific items that compose the actions / assumptions that make up an alternative. For example, one component of an alternative is the presence of a Delta throughway canal.

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

confluence - The flowing together or two or more streams or channels; the place of meeting of two streams or channels.

conjunctive use - The operation of a groundwater basin in combination with a surface water storage and conveyance system.

conserved water - Water that is available for transfer due to improved water use efficiency.

conveyance capacity - Rate at which water can be transported by a aqueduct, canal, channel, ditch, or stream.

conveyance losses - Evaporation, evapotranspiration, and seepage losses in aqueducts, canals, channels, ditches, and streams.

core items - Items that are included in the baseline assumptions and/or conceptualization of the Capitalization Project.

cost-of-service water rates - Water rate charged to recover all operating costs, capital costs, and individual contractor operating deficits associated with providing water service. This item differs from full cost in that no charge is included for interest on capital.

crop shifting - Replacement of a water intensive crop with one that consumes less water resulting in water that can be transferred.

Cubic feet per second (cfs)- Measure of the volume rate of water movement. 1 cfs equals 7.48 gallons per minute.

D

decision 1485 (D-1485) - California Water Right Decision 1485, specifying water quality standards in the Sacramento-San Joaquin Delta and Suisun Marsh, adopted by the State Water Resources Control Board in 1978.

decision 1681 (D-1681) - California Water Right Decision 1681 specifying required Mono Lake levels, adopted by the State Water Resources Control Board in 1994.

dedicated water - Refers to the 800,000 acre feet of CVP yield identified in Section 3406(B)(2) of the CVPIA that the Secretary must dedicate and manage for the primary purpose of implementing the fish and wildlife purposes and measures of the act, to help California protect the Bay-Delta estuary, and to help meet legal obligations imposed on the CVP under State and federal law, including the federal Endangered Species Act (ESA).

dedicated natural flow - River flows dedicated to environmental use.

deficiencies - Reductions in deliveries of contracted firm water. The amount of these reductions is expressed as the percent of full annual supply delivered.

deep percolation - Percolation of water through the ground and beyond the lower limit of the root zone of plants into a groundwater aquifer.

delta - Low, nearly flat alluvial tract of land formed by deposits at or near the mouth of a river. In the case of California, refers to the delta formed by the Sacramento and San Joaquin rivers.

Delta inflow - The combined water flow entering the Delta at a given time from the Sacramento River, San Joaquin River, and other tributaries.

Delta outflow - The net amount of water (not including tidal flows) at a given time flowing out of the Delta toward the San Francisco Bay. The Delta outflow equals Delta inflow minus the water used within the Delta and the exports from the Delta.

demand management - Programs that seek to reduce demand for water through conservation, rate incentives, drought rationing, and other activities.

dependable yield - The annual average quantity of water that can be delivered during a drought period of a given water development. See also *firm yield* and *project yield*.

dependable supply - The annual average quantity of water that can be delivered during a drought period.

depletion - The water consumed within a service area and no longer available as a source of supply. For agriculture and wetlands, it is the evapotranspiration plus irrecoverable losses. For urban water use, it evapotranspiration from landscaping and home gardens, sewage effluent that flows to a salt sink, and incidental evaporation losses. For instream use, it is the amount of dedicated flow that proceeds to a salt sink and is not available for reuse.

Depletion Study Area (DSA) - Analysis unit defined by the California Department of Water Resources for water resources planning investigation. Defined as the division of large drainage areas into smaller drainage and service areas from which water supplies and demands can be easily evaluated.

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* or *desalinization.*

desalinization - 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* or *desalination*

desalting - 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 *desalination* or *desalinization.*

detailed analysis unit (DAU) - The smallest study area used by the Department of Water Resources for analyses of water demand and supply. Generally defined by hydrologic

features or boundaries of organized water service agencies. In the major agricultural areas, a DAU typically includes 100,000 to 300,000 acres.

discount rate - The interest rate used in evaluating water (and other) projects to calculate the present value of future benefits and future costs or to convert benefits and costs to a common time basis.

diversions - The action of taking water out of a river system or changing the flow of water in a system for use in another location.

double cropping - The practice of producing two or more crops consecutively on the same parcel of land during a 12-month period. Also called multi-cropping.

drainage basin - An area that drains ultimately to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain. Also called catchment, river basin, and watershed.

drought conditions - A time when rainfall and runoff are much less than average. One method to categorize annual rainfall is as follows, with the last two categories being drought conditions: wet, above normal, below normal, and dry critical.

drought year supply - The average annual supply of a water development system during a defined drought period. For this report, the drought period is the average years 1990 and 1991 (verify). For dedicated natural flow, it is the average of water years 1990 and 1991 for wild and scenic rivers, or it is environmental flows as required under specific agreements, water rights, court decisions, and congressional directives.

dry-farmed - Crop production without the use of applied water.

E

ecology - The study of the interrelationships of living organisms to one another and to their surroundings.

economic demand - The consumer's willingness and ability to purchase some quantity of a commodity based on the price of that commodity.

ecosystem - A recognizable, relatively homogeneous unit that includes organisms, their environment, and all the interactions among them.

efficient water management practice (EWMP) - An agricultural water conservation measure that water suppliers can implement. EWMPs are organized into three categories: (i) Irrigation Management Services, (ii) Physical and Structural Improvements, and (iii) Institutional Adjustments.

effluent - Wastewater or other liquid, partially or completely treated or in its natural state flowing from a treatment plant.

endangered species - Any species or subspecies of bird, mammal, fish, amphibian, reptile, or plant which is in serious danger or becoming extinct throughout all, or a significant portion of its range.

Endangered Species Act (ESA) - Federal and State legislation that provides protection for species that are in danger of extinction. Federally endangered species are officially designated by the U.S. Fish and Wildlife Service or National Marine Fisheries Service and published in the Federal Register.

endemic / endemism - Native or limited to a certain region.

enhancement - Measures which develop or improve the quality or quantity of existing conditions or resources beyond a condition or level that would have occurred without an action - i.e., beyond compensation.

entrainment - The process of drawing fish into diversions along with water, resulting in the loss of such fish.

entrapment zone - The portion of the Sacramento-San Joaquin Bay/Delta estuary where seaward-flowing fresh water overlays more dense, saline, ocean water resulting in a two layer mixing zone characterized by flocculation, aggregation, and accumulation of suspended materials from upstream.

environment - The sum of all external influences and conditions affecting the life and development of an organism or ecological community: the total social and cultural conditions.

environmental consequences - Impacts to the affected environment that are expected from implementation of a given alternative.

Environmental Impact Statement (EIS) - An analysis required by the National Environmental Policy Act (NEPA) for all major federal actions which evaluates the environmental risks of alternative actions.

environmental water - Water for wetlands, for instream flow in a major river, or for a designed wild and scenic river (based on unimpaired flow).

escapement - Number of salmon that actually return to a stream to spawn.

estuary - Lower course of a river entering the sea where the tides meet river current.

evaporation (E) - Phase change of liquid water to water vapor from plant tissues and surrounding soil surfaces.

evapotranspiration (ET) - The quantity of water transpired (given off), retained in plant tissues, and evaporated from plant tissues and surrounding soil surfaces. Quantitatively, it usually expressed in terms of depth of water per unit area during a specified period of time. (look up other definitions)

evapotranspiration of applied water (ETAW) - The portion of the total evapotranspiration that is attributed to applied irrigation water.

export - Water diversions conveyance systems that route water from its area of origin, such as water diversion from the Delta that is used for purposes outside the Delta.

externalities - Direct and indirect economic, social or environmental effects of a water transfer to a party other than the seller or buyer. Also called third-party impacts.

extirpated species - Species which has become extinct in a given area.

F

fallow / fallowed land - Cultivated land that lies idle during a growing season

firm yield - A 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. See also *dependable yield* and *project yield*.

firm water supplies - Non-interruptible water supplies guaranteed by the supplier to be available at all times except for reasons of uncontrollable forces or continuity of service provisions.

flood control storage capacity - Reservoir capacity reserved for the purpose of regulating flood inflows to reduce flood damage downstream.

flow - Volume of water passing a given point per unit of time.

fry - A recently hatched fish.

full cost - As defined by the *Reclamation Reform Act* of 1982, an annual rate as determined by the Secretary that shall amortize the expenditures for construction properly allocable to irrigation facilities in service, including all operation and maintenance deficits funded, less payments, over such periods as may be required under federal reclamation law or applicable contract provisions, with interest on both accruing from the date of enactment of the Act on costs outstanding at that date, or from the date incurred in the case of costs arising subsequent to the date of enactment of this Act - provided that operation, maintenance and replacement charges required under federal reclamation law, including this title, shall be collected in addition to the full cost charge.

full cost water rates - Adds an interest component to the cost-of-service water rates to recover costs of financing the construction of facilities placed in service. For the Central Valley Project, the interest component is calculated in accordance with the *Reclamation Reform Act* of 1982 (verify).

G

gray water - A portion of wastewater from a household or commercial establishment. Gray water does not include water from such items as toilets, kitchen sink, dishwashers, and washing machines.

gross reservoir capacity - The total storage capacity available in a reservoir for all purposes, from the streambed to the normal maximum operating level. Includes dead (or inactive) storage but excludes surcharge (water temporarily stored above the elevation of the top of the spillway).

groundwater - Water that occurs beneath the land surface and completely fills all pore spaces of the alluvium, soil or rock formation in which it is situated.

groundwater banking - Storing water in the ground for use to meet demand during dry years. In-lieu groundwater banking replaces groundwater used by irrigators with surface water to build up and save underground water supply for use during drought conditions. See also *artificial recharge*.

groundwater basin - A groundwater reservoir, defined by an overlying land surface and the underlying aquifers that contain water stored in the reservoir.

groundwater level - Refers to the water level in a well, and is defined as a measure of the hydraulic head in the aquifer system.

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 approximate average conditions. Also called overdraft.

groundwater prime supply - The long-term average annual percolation into the major groundwater basins from precipitation and from flows in rivers and streams.

groundwater pumping - Quantity of water extracted from groundwater storage.

groundwater recharge - An increase in groundwater storage by natural conditions or by human activity.

groundwater surface elevation (GWSE) - Refers to the water level in a groundwater basin at a certain location or averaged across the entire groundwater subbasin for use in modeling.

groundwater storage capacity - The space or voids contained in a given volume of soils and rock deposits that can be filled with water.

groundwater subbasin - Subdivision or consolidation of a groundwater basin(s) for purposes of modeling.

groundwater substitution - Transfer of a surface water right to another party and substitution of the transferred supply with groundwater.

groundwater table - The upper surface of the zone of saturation (groundwater zone), except where the surface is formed by an impermeable body. Also called *water table*.

groundwater zone- Zone within an aquifer where the spaces and voids are completely filled with water. Also called *saturation zone*.

H

habitat - Area where a plant or animal lives.

hardpan - A layer of nearly impermeable soil beneath a more permeable soil, formed by natural chemical cementing of the soil particles.

hydraulic barrier - A barrier developed in an estuary by release of fresh water from upstream reservoirs to prevent intrusion of sea water into the body of fresh water.

hydrograph - A chart or graph showing the change in flow over time for a particular stream or river.

hydrologic balance - An accounting of all water inflow to, water outflow from, and changes in water storage within a hydrologic unit over a specified period of time.

hydrologic basin - The complete drainage area upstream from a given point on a stream.

hydrologic region - A study area, consisting of one or more planning subareas.

I

indicator species - Organisms, species, or community which indicates presence of certain environmental conditions.

infiltration - Downward movement of water through the soil or alluvium to a groundwater table. Also called percolation.

in-lieu groundwater banking - Replaces groundwater used by irrigators with surface water to build up and save underground water supply for use during drought conditions.

instream flow requirements - Amount of water flowing through a stream course needed to sustain instream values.

instream use - Use of water that does no require diversion from its natural watercourse. For example, the use of water for navigation, recreation, fish and wildlife, aesthetics, and scenic enjoyment.

interbasin transfers - Transfers of water from one basin to another.

intrabasin transfers - Transfers of water within the same basin.

irrecoverable losses - The water lost to a salt sink or lost by evaporation or evapotranspiration from a conveyance facility, drainage canal, or in fringe areas.

irrigated acreage - Land area that is irrigated, which is equivalent to total irrigated crop acreage minus the amount of acreage that was double cropped.

irrigation efficiency - The efficiency of water application and use. Computed by dividing evapotranspiration of applied water by applied water and converting the result to a percentage.

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.

irrigation water - Water made available form the Central Valley Project or State Water Project which is used primarily in the production of agricultural crops or livestock, including domestic use incidental thereto, and the watering of livestock. Irrigation water does not include water used for domestic uses such as watering of landscaping or pasture for animals (i.e. horses) which are kept for personal enjoyment. It generally does not include water delivered to landholdings operated in units of fewer than 2 acres, unless the contractor establishes to the satisfaction of the contracting officer that the use of the water delivered to any such landholding is a use within this definition.

isolated conveyance facility - A canal or pipeline that transports water between two different locations while keeping it separate from Delta water.

J

juvenile - Young fish older than 1 year but not having reached reproductive age.

L

land classification - Economic classification of variations in land reflecting its ability to sustain long-term agricultural production.

land retirement - Permanent or long-term removal of land from agricultural production by leaving it fallow or letting it return to a natural state.

land subsidence - Lowering of the natural land surface. In California this is principally has been caused by groundwater extraction but also can be due to lowering of fluid pressure; removal of underlying supporting materials by mining or solution of solids, either artificially or from natural causes; compaction by wetting (hydro compaction); oxidation of organic matter in soils; or added load on the land surface.

laterals - Part of an irrigation district's delivery system that conveys water from the district's main canals to turnouts at farmers' fields.

leaching - Flushing of salts from the soil by downward percolation of applied water.

leaching requirement - Theoretical amount of irrigation water that must pass (leach) through the soil beyond the root zone to keep soil salinity within acceptable levels for sustained crop growth.

level 2 - Term to refer to refuge water supply deliveries. The 1989 and 1992 Refuge Water Supply Studies define Level 2 refuge water supplies as the average amount of water the refuges received between 1974 and 1983.

level 4 - Term to refer to refuge water supply deliveries. Level 4 refuge water supplies are defined in the 1989 and 1992 Refuge Water Supply Studies as the amount of water for full development of the refuges based upon management goals developed in the 1980s.

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.

limnology - Scientific study of the physical characteristics and biology of lakes, streams, and ponds.

long-term contract - Contracts with terms of more than 10 years.

M

mainstem - Main course of a stream.

minimum flow - Lowest flow in a specified period of time.

mitigation - One or all of the following: (1) avoiding an impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying an impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating an impact

over time by preservation and maintenance operations during the life of an action; and (5) compensating for an impact by replacing or providing substitute resources or environments.

model - Tool used to mathematically represent a process which could be based upon empirical or mathematical functions.

multi-cropping - Practice of producing two or more crops consecutively on the same parcel of land during a 12-month period. Also called double cropping.

multipurpose project - Project designed to serve more than one purpose. For example, one that provides water for irrigation, recreation, fish and wildlife, and at the same time, controls floods and/or generates electric power.

N

natural flow - Flow past a specified point on a natural stream that is unaffected by stream diversion, storage, import, export, return flow, or change in use caused by modifications in land use.

natural pollutant discharge elimination system (NPDES) - Provision of Section 402 of the federal Clean Water Act of 1972 that establishes a permitting system for discharges of waste materials to water courses.

natural production - fish produced to adulthood without direct human intervention in the spawning, rearing, or migration processes.

net water demand / use - Amount of water needed in a water service area to meet all requirements. It is the sum of evapotranspiration of applied water in an area, the irrecoverable losses from the distribution system, and the outflow leaving the service area. It does not include reuse of water within a service area (such as reuse of deep-percolated applied water or use of return flows).

net water diversion - amount of water needed in a depletion study area to meet requirements, less reuse (recoverable service loss and deep percolation)

new water - Water that is transferable that was no previously available and accessing it creates an increase in supply. Real water is not necessarily new water, but new water, by definition, must be real.

nonconsumptive water use - water uses including swimming, boating, waterskiing, fishing, maintenance of stream-related fish and wildlife habitat, hydropower generation, and other uses that do not substantially deplete water supplies.

nonpoint source - Wastewater discharge other from point sources. See also Point Source.

nonrecoverable loss - losses to sinks, or evaporation and evapotranspiration in conveyance and drainage canals

nonreimbursable costs - Project costs allocated to general statewide or national beneficial purposes and funded from general revenues.

normalized demand - Process of adjusting actual water use in a given year to account for unusual events such as dry weather conditions, government interventions for agriculture, and rationing programs, or other irregularities.

O

operating nonfederal entity - Nonfederal entity that operates and maintains federal facilities pursuant to an agreement with the United States.

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 approximate average conditions. Also called *groundwater overdraft*.

P

paper water - Water proposed for transfer that does no create an increase in water supply.

peak flow - Maximum instantaneous flow in a specified period of time.

perched groundwater - Groundwater supported by a zone of material of low permeability located above an underlying main body of groundwater with which it is not hydrostatically connected.

per capita water use - Water produced by or introduced into the system of a water supplier divided by the total residential population.

percolation - Downward movement of water through the soil or alluvium to a groundwater table. Also called infiltration.

perennial yield - Maximum quantity of water that can be annually withdrawn from a groundwater basin over a long period of time (during which water supply conditions approximate average conditions) without developing an overdraft condition. Also called *sustained yield*.

permeability - Capability of soil or other geologic formations to transmit water.

piezometric surface (head) - Indicator of pressure level of water in an aquifer.

place of use - Geographic area specified in a water right permit or license issued by the California State Water Resources Control Board, wherein the water may be used.

planning subarea (PSA) - An intermediate-sized study area consisting of one or more Detailed Study Unit(s)

point of diversion - Point along a river or stream that a water right permit or license specified water may be diverted to areas away from the river.

point source - Specific site from which waste or polluted water is discharge into a water body, the source of which can be identified.

porosity - Ratio of volume of voids to total volume of sample.

porous medium - Geologic material that will allow water to flow through it.

programmatic environmental impact statement - Environmental impact statement prepared prior to federal agency's decision regarding a major program, plan, or policy. It is usually broad in scope and followed by subsequent more narrowly focused National Environmental Policy Act compliance documents, such as site-specific environmental assessments and environmental impact statements.

project yield - Water supply attributed to all features of a project, including integrated operation of units that could be operated individually.

project repayment - Return to the treasury of the reimbursable fund expended to construct, operate, maintain, and replace project facilities under the terms and conditions authorized by Congress/State plus costs assigned by Congress/State.

proposed action - Plan that an agency or institution intends to implement or undertake that is subject to an environmental analysis. Usually, but not always, the proposed action is the agency or institution's preferred alternative for a project. The proposed action and all reasonable alternatives are evaluated against the no action alternative.

public involvement - Process of obtaining citizen input into each stage of the development of planning documents. Required as a major input into any environmental impact report / statement.

pump lift - Distance between the groundwater table and the overlying land surface.

R

range - Geographic region in which a given plant or animal normally lives or grows.

real water - Water for transfer that is not derived at the expense of any other lawful user. Real water is not necessarily new water, but new water, by definition, must be real.

reasonableness criteria - Parameters established by the Anadromous Fish Restoration Program to determine the "reasonableness" of restoration actions. These parameters include: consideration of potential adverse economic and social impacts, public sentiment, the magnitude of benefits, the certainty that an action will achieve projected benefits, and the authority established by existing laws and regulations.

recharge - Processes of water filling the voids in an aquifer, which causes the piezometric head or water table to rise in elevation.

recharge basin - Surface facility, often a large pond, used to increase the percolation of surface water into a groundwater basin.

Reclamation laws - The Act of June 17, 1902 (82 Stat. 388) and all Acts amendatory thereof or supplemental thereto.

Record of Decision (ROD) - Concise, public, legal document which identifies and publicly and officially discloses the responsible official's decision on the alternative selected for implementation. It is prepared following completion of an environmental impact report / statement.

recycled water - Urban wastewater that becomes suitable, as a result of treatment, for a specific direct beneficial use. See also water recycling.

redd - Depression in river or lake bed dug by fish for the deposition of eggs.

Refuge Water Supply Report - Report issued by the Mid-Pacific Region of the Bureau of Reclamation of the U.S. Department of the Interior *Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California (March 1989)*

repayment contract - Same meaning as provided in sections 9(d) and 9(e) of the Reclamation Project Act of 1939 (53 Stat. 1187, 1195), as amended. See *water service contract*.

reservoir - Artificially impounded body of water.

reservoir storage capacity - Reservoir capacity normally usable for storage and regulation of reservoir inflows to meet established reservoir operating requirements.

Restoration Fund - Central Valley Project Restoration established by the Central Valley Project Improvement Act.

return flow - Portion of withdrawn water not consumed by evapotranspiration or system losses which returns to a body of water.

reuse - Additional use of previously used water.

reverse osmosis - Method of removing salts from water by forcing water through a membrane.

riparian - Located 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.

river basin - Area that drains ultimately to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain. Also called catchment, drainage basin, and watershed.

runoff - Surface flow of water from an area; the total volume of surface flow from an area during a specified time.

S

safe yield - (1) Rate at which groundwater can be withdrawn without causing a long-term decline of the water table or piezometric surface. Thus, the hydrologic definition is that it is equal to the average replenishment rate of the aquifer. (2) In the broadest sense, safe yield can be considered as the rate at which groundwater can be withdrawn without producing undesirable effects, including hydrologic, economic, and legal effects.

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 source of salt, salinity is used to refer to the concentration of chlorides in the water. See also total dissolved solids.

salinity intrusion - Movement of salt water into a body of fresh water. It can occur in either surface water or groundwater bodies.

salt sink - Body of water too salty for most freshwater uses.

salt-water barrier - Physical facility or method of operation designed to prevent the intrusion of salt water into a body of fresh water.

saturation zone- Zone within an aquifer where the spaces and voids are completely filled with water. Also called *groundwater zone*.

seasonal application efficiency (SAE) - Sum of evapotranspiration of applied water and leaching requirement divided by the total applied water, expressed as a percentage.

secondary 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 tricking filters or by activated sludge.

sediment - soil or mineral material transported by water and deposited in streams or other bodies of water.

seepage - Gradual movement of a fluid into, through, or from a porous medium.

self-produced water - Water supply (usually from wells) developed and used by an individual or entity. Also called *self-produced water*.

self-supplied water - Water supply (usually from wells) developed and used by an individual or entity. Also called *self-supplied water*.

service area - Geographical land area served by a distribution system of a water agency.

sewage - Liquid waste from domestic, commercial, and industrial establishments. See also wastewater.

smolt - Young salmon that has assumed the silvery color of the adult and is ready to migrate to the sea.

south of Delta storage - Water storage supplied with water exported south from the Delta.

spawning - Deposition and fertilization of eggs (or roe) by fish and other aquatic life.

specific yield - Volume of water released from a unit volume of saturated aquifer material drained by a falling water table. See also storage coefficient.

spreading basin - Surface facility, often a large pond, used to increase the percolation of surface water into a groundwater basin. Also called recharge basin and spreading grounds.

spreading grounds - Surface facility, often a large pond, used to increase the percolation of surface water into a groundwater basin. Also called recharge basin and spreading basin.

State Water Project (SWP) - California State water conveyance system that pumps water from the Delta for agricultural, urban, and industrial purposes.

streamflow - Rate of water flow past a specified point in a channel.

striped bass index - In the San Francisco Bay / Sacramento - San Joaquin Delta system, a number representing the abundance of striped bass

subsurface drainage - Process of directing excess water away from root zones by natural or artificial means, such as by using a system of pipes and drains placed below ground surface level; also called agricultural drainage.

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

surface supply - Water supply from streams, lakes, and reservoirs.

surface water treatment rule - Federal regulation promulgated on June 29, 1989 (54 FR 124) requiring filtration and rigorous disinfection of surface water supplies and groundwater supplies directly under the influence of surface water.

surplus water - Developed water supplies in excess of contract entitlement or apportioned water.

sustained yield - Maximum quantity of water that can be annually withdrawn from a groundwater basin over a long period of time (during which water supply conditions approximate average conditions) without developing an overdraft condition. Also called *perennial yield.*

storage coefficient - Volume of water yielded per unit horizontal area and per unit drop of water table (unconfined aquifers) or piezometric surface (confined aquifers). See also *specific yield*.

T

tailwater - Applied irrigation water that runs off the end of a field. Tailwater is not necessarily lost; it can be collected and reused on the same or adjacent fields.

tertiary treatment - Additional treatment of effluent beyond that of secondary treatment to obtain a very high quality of effluent for reuse. Typical tertiary treatment includes further removal of nutrients, salts, and metals (verify).

third-party impacts - Direct and indirect economic, social or environmental effects of a water transfer to a party other than the seller or buyer. Also called *externalities*.

through Delta conveyance - Means of improving conveyance across the Bay-Delta by a variety of modifications to Delta channels.

total dissolved solids (TDS) - Quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution. See also salinity.

transmissivity - Measure of how easily water in a confined aquifer can flow through the porous media.

transpiration - Essential physiological process in which plant tissues give off water vapor to the atmosphere.

U

unconfined aquifer - Aquifer that does not have a confining unit and is defined by a water table.

upstream storage - Any water storage upstream of the Delta supplied by the Sacramento or San Joaquin or their tributaries.

usufructuary - A right to use rather than own the property of another, such as the State's water.

W

wastewater - Used water, liquid waste, or drainage water from a community, industry, or institution (make consistent with sewage)

water conservation - Those practices that encourage consumers to reduce the use of water. The extent to which these practices actually create a savings in water depends on the total or basin-wide use of water.

water demand schedule - Time distribution of the demand for prescribed quantities of water for specified purposes. It is usually a monthly tabulation of the total quantity of water that a particular water user intends to use during a specified year.

water marketing - Transfer, lease or sale of water or water rights from one user to another.

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 - Practices that capture, treat and reuse water that otherwise cannot be used, such as water recycling, seawater desalting, groundwater reclamation, and desalting agricultural brackish water. Reclaimed water is treated as needed to meet specific health and safety standards according to its intended use.

water recycling - Treatment of urban wastewater to a level rendering it suitable for a specific, direct, beneficial use.

water right - Legally protected right to take possession of water occurring in a natural waterway and to divert that water for beneficial use.

water transfers - Voluntary water transactions conducted under State law an in keeping with federal regulations. The agency most involved is the State Water Resources Control Board (SWRCB).

water service reliability - Degree to which a water service system can successfully manage water shortages.

watershed - Area that drains ultimately to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain. Also called catchment, drainage basin, or watershed.

water table - The upper surface of the saturation (groundwater) zone, except where the surface is formed by an impermeable body. Also called *groundwater table*.

wastewater - Liquid waste from domestic, commercial, and industrial establishments. See also sewage.

water year - 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.

wheeling - The transportation of water, as the result of ad hoc contracts or other arrangements, in conveyance facilities in which the transferring party does not otherwise have the authority to use.