

CHAPTER 10

Glossary

100-year flood	The flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years.
acre-foot (AF)	The volume of water that would cover 1 acre to a depth of 1 foot. Equal to 1,233.5 cubic meters (43,560 cubic feet).
Action Specific Implementation Plan (ASIP)	Document that may serve as a biological assessment for compliance with Section 7 of the Federal Endangered Species Act and the natural community conservation plan for compliance with the California Endangered Species Act and the California Natural Community Conservation Planning Act.
Alternative Intake Project (AIP)	The new CCWD intake, currently under construction and expected to be operational in 2010, that is located along Victoria Canal and connected to the Old River Pipeline. The maximum capacity of the intake will be 250 cubic feet per second.
anadromous fish	Fish that spend a part of their lifecycle in the sea and return to freshwater streams to spawn.
appropriation	The right to withdraw water from its source.
Bay Area	San Francisco Bay Area
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin estuary.
beneficial uses	Those uses of water as defined in the State of California Water Code (Chapter 10, Part 2, Division 2), including but not limited to, agricultural, domestic, municipal, industrial, power generation, fish and wildlife, recreation, and mining.
bentonite	A clay mineral used in drilling operations; mixed with water to form a gel that lubricates the drill bit, helps keep the walls of a borehole intact, and helps bring drill cuttings to the surface.
Biological Opinion	Document issued under the authority of the Federal Endangered Species Act stating the findings of the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service 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.
borrow area	An excavated area or pit created by the removal of earth material to be used as fill in a different location.
bromate	A chemical compound of bromine that can be formed from the ozonation of water containing bromide. A disinfection byproduct of ozone water treatment.
bromide	A chemical compound of bromine with another element or radical naturally occurring in small concentrations in sea water. Bromides interact with disinfection agents used in water treatment to create disinfection byproducts that have potential adverse health effects.

CALFED Bay-Delta Program (CALFED)	Joint federal and state program to address water-related issues in the Sacramento-San Joaquin Delta.
California Environmental Quality Act (CEQA)	Act requiring California public agency decision-makers to document and consider the environmental impacts of their actions. Also requires an agency to identify ways to avoid or reduce environmental damage and to implement those measures where feasible. Provides means to encourage public participation in the decision-making process.
CalSim II	Agreed upon CVP-SWP implementation of the CalSim model code.
CalSim model	A planning model designed to simulate the operations of the CVP and SWP reservoir and water delivery system under current and future conditions; predicts how reservoir storage and river flows would be affected based on changes in system operations; output is typically used to help assess impacts on water supply, water quality, aquatic resources, and recreation.
Central Valley Project (CVP)	Multiple-purpose federal water project operated by the Bureau of Reclamation in California extending from the Cascades to the Tehachapi Mountains. Consists of 20 dams and reservoirs, 11 powerplants, and 500 miles of major canals, as well as conduits, tunnels, and related facilities. Manages some 9 million acre-feet of water.
channel	Natural or artificial watercourse, with a defined bed and banks to confine and conduct continuously or periodically flowing water.
CNEL	Community Noise Equivalent Level adds a 5-dBA "penalty" for the evening between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between 10:00 p.m. and 7:00 a.m. See also "decibel (dB)", below.
conjunctive use	A water management strategy for the coordinated use of groundwater and surface water resources.
consumptive uses	The application of water to agricultural, municipal, or industrial uses. In contrast, non-consumptive uses would include water dedicated to fish and wildlife.
Contra Costa Canal	The 48-mile canal that begins at Rock Slough and travels west to Clyde, south to Walnut Creek, and north to Martinez.
cooperating agency	Any federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to the environmental impacts expected to result from a proposed project.
criteria air pollutants	Pollutants that are the primary focus of regulatory agencies as indicators of ambient air quality, which include ozone, carbon monoxide (CO), nitrogen dioxide (NO ₂), sulfur dioxide (SO ₂), particulate matter (PM), and lead. These are the most prevalent air pollutants known to be harmful to human health, and extensive documentation on health-effects criteria is available for them.
critical habitat	An area designated as critical habitat listed in 50 CFR Parts 17 or 226 (50 CFR Section 402.02); specific geographic areas, whether occupied by special-status species or not, that are determined to be essential for the conservation and management of the special-status species, and that have been formally described in the Federal Register.
cryptosporidium	A waterborne intestinal parasite of the genus <i>Cryptosporidium</i> that can cause the disease cryptosporidiosis in humans and other vertebrates. The disease, characterized by vomiting, diarrhea, abdominal cramps, and fever, can be severe or fatal to immuno-suppressed individuals.
cubic foot per second (cfs)	A measurement of water flow equivalent to one cubic foot of water passing a given point in a second.

cultural resource	An aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually more than 50 years old and possess architectural, historic, scientific, or other technical value.
cumulative impact	For NEPA purposes, defined in Council of Environmental Quality (CEQ) regulations as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions. Under CEQA, defined as the change in the environment that results from the incremental impact of the project when added to other, closely related past, present, and reasonably foreseeable probable future projects.
CVP Improvement Act (CVPIA)	This federal legislation, signed into law on October 30, 1992, mandates major changes in the management of the Federal CVP; puts fish and wildlife on an equal footing with agricultural, municipal, industrial, and hydropower uses.
CVP Operations Criteria and Plan (OCAP)	Document that identifies the factors influencing the physical and institutional conditions and decision-making process under which the CVP operates.
CVP Tracy Pumping Plant	The CVP pumping plant in the south Delta.
CVP water	As defined by Section 3403(f) of the CVPIA, all water developed, diverted, stored, or delivered in accordance with statutes authorizing the CVP, in accordance with terms and conditions of water rights acquired pursuant to California law; water diverted by CCWD under its CVP contract.
decibel (dB)	A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals. An A-weighted dB (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. A measurement that includes the low frequency component is denoted by dBL.
delivered water	General term for water provided to CCWD untreated- and treated-water customers.
Delta	In this report, "Delta" refers to the delta formed by the Sacramento and San Joaquin Rivers. See also "Sacramento-San Joaquin Delta", below.
Delta balanced conditions	During balanced conditions, Delta inflow and exports are controlled by Reclamation and DWR to meet SWRCB environmental and water quality standards, the needs of in-Delta diverters, and CVP/SWP exports from the Delta. Balanced conditions in the Delta can occur at any time of the year, but generally occur during late spring, summer, and fall, or during very dry years.
Delta excess conditions	During excess (also known as surplus) conditions, Delta flow requirements for water quality and environmental regulations have been met, and excess water is available for Delta users.
Delta inflow	The combined water flow entering the Delta at a given time from the Sacramento River, San Joaquin River, and other Central Valley tributaries.
Delta outflow	The net amount of water (not including tidal flows) at a given time flowing out of the Delta towards the San Francisco Bay. The Delta outflow equals Delta inflow minus the water used within the Delta and exported from the Delta.
delta smelt	A small, slender-bodied fish with a typical adult size of 2 to 3 inches that is found only in the Sacramento-San Joaquin Delta estuary.

Delta surplus	Under excess conditions in the Delta, surplus water is available to Delta users after all environmental protection and water quality regulations have been met.
desalination	A process whereby the salt concentration of sea water or brackish water is reduced, generally through an advanced form of water treatment.
dewater	To remove water.
disinfection byproducts (DBPs)	Chemical, organic, and/or inorganic substances that can form during a reaction of a disinfectant (such as chlorine or ozone) with naturally occurring materials in water.
diversion	A location where water is removed from a water body (river, creek, reservoir, etc.) for use in another location.
DNL	The 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
DSM2	The Delta hydrodynamic and salinity model developed by DWR to simulate hydrodynamic and mixing processes in the Delta, using upstream river flows and salinities, downstream tidal stage and salinity, diversion rates, agricultural return flow and seepage rates, and salinities as boundary conditions.
ecosystem	A geographically identifiable area that encompasses unique physical and biological characteristics. An ecosystem is the sum of the plant community, animal community, and environment in a particular region or habitat.
electric and magnetic fields (EMF)	Fields of force caused by electric voltage and current around the electric wire or conductor when an electric transmission line or any electrical wiring is in operation. Magnetic fields exist only when current is flowing. Electric fields are present in electrical appliances and cords whenever they are plugged in.
electrical conductivity (EC)	A measure of salinity in water.
endangered species	Any species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that is in serious danger of becoming extinct throughout all or a significant portion of its range. Official federal designations of endangered species are made by the USFWS or NMFS and published in the Federal Register. Species are listed under the California Endangered Species Act by the California Department of Fish and Game.
Endangered Species Act (ESA)	The federal or state acts administered by the USFWS/NMFS and California Department of Fish and Game, respectively, to list and protect animal and plant species that are listed as threatened or endangered, are formally recognized candidates for listing, or are declining to a point where they may be listed.
entrainment	The incidental trapping of fish and other aquatic organisms in water diverted from streams, rivers, and reservoirs. The process of drawing fish into diversions along with water, resulting in the loss of such fish.
Environmental Impact Report (EIR)	A detailed statement (i.e., report) prepared under the California Environmental Quality Act by a state or local agency describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects.

Environmental Impact Statement (EIS)	An environmental impact document required of federal agencies under the National Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. Describes the positive and negative effects of the proposed action, lists alternative actions, and documents the information required to evaluate the environmental impacts of a proposed action.
environmental justice	Defined by the U.S. Environmental Protection Agency (EPA) Office of Environmental Justice as “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.” Fair treatment means “no group of people, including racial, ethnic, or socioeconomic group shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”
erosion	The gradual wearing away of land by water, wind, and general weather conditions; the diminishing of property by the elements. With regard to levees specifically: loss of levee material as a result of the effects of channel flows, tidal action, boat wakes, and wind-generated waves.
evapotranspiration	Water losses from the surface of soils and plants.
expansive soils	Soils that shrink and swell as a result of moisture changes.
export	Water diversion from the Delta used for purposes outside the Delta.
export/inflow (E/I) ratio	This requirement of the SWRCB Water Rights Order D-1641 presently limits Delta exports by the state and federal water projects to a percentage of Delta inflow. In July through January, 65% of inflow can be exported. During February through June, months most critical to fisheries, the allowable E/I ratio is reduced to 35% to help diminish reverse flows and the resulting entrainment of fish caused by south Delta export operations.
federal P&Gs	Principles and Guidelines for federal water studies, published as “Federal Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies” by the U.S. Water Resources Council, 1983.
fish screen	Barrier on the front face of a river intake to prevent fish and debris from being drawn into the intake.
floodplain	Any land area susceptible to inundation by floodwaters from any source.
flow	The volume of water passing a given point per unit of time.
groundwater	Any water naturally stored underground in aquifers, or that flows through and saturates soil and rock, supplying springs and wells.
habitat	The specific area or environment in which a particular type of animal or plant lives.
impingement	Contact or collision with a diversion structure (used to describe deleterious effects of some diversion facilities on aquatic species).
Important Farmland	Farmland categories mapped by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are often described together under the term “Important Farmland.”
integrated water resource planning	An open and participatory planning process emphasizing least-cost principles and a balanced consideration of objectives, infrastructure risk, supply, resources and demand management options for meeting water needs.
L50	The noise level that is equaled or exceeded 50 percent of the specified time period. The L50 represents the median sound level.

L90	The noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is sometimes used to represent the background sound level.
Leq	The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
levee	An embankment raised to restrict a river to a defined channel.
liquefaction	The process in which soil loses cohesion when subject to seismic activity (i.e., shaking).
Lmax	The instantaneous maximum noise level for a specified period of time.
Los Vaqueros Project	CCWD's 1998 project which included the construction of the Los Vaqueros Reservoir and associated facilities, such as the Old River intake and Old River, transfer, and Los Vaqueros pipelines. The primary purposes of the Los Vaqueros Project are to improve the quality of water supplied to CCWD customers, to minimize seasonal water quality changes in delivered water, and to improve the reliability of the emergency water supply available to CCWD.
minimum flow	Lowest flow in a specified period of time.
mitigation	One or more of the following: (1) avoiding an impact altogether by not taking a certain action or parts of an action; (2) minimizing an impact 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/or (5) compensating for an impact by replacing or providing substitute resources or environments.
modeling	Computer simulations of natural and man-made water systems used to provide a forecast of outcomes for a variety of parameters, such as water quality, flow rates, and reservoir levels, under an assumed set of conditions.
National Environmental Policy Act (NEPA)	Act that directs federal agencies to prepare an environmental impact statement for all major federal actions that may have a significant effect on the environment. States that it is the goal of the federal government to use all practicable means, consistent with other considerations of national policy, to protect and enhance the quality of the environment. Requires all federal agencies to consider the environmental impacts of their proposed actions during the planning and decision-making processes.
neap tide	Especially low high tides and high low tides that occur during quarter moons, when the gravitational forces of the moon and the sun are perpendicular to one another with respect to the Earth. The opposite of a spring tide.
Notice of Availability (NOA)	The notice issued by a local, state, or federal agency to publicly announce that a draft environmental impact report or environmental impact statement is available for review, pursuant to the California Environmental Quality Act and the National Environmental Policy Act, respectively.
Notice of Intent (NOI)	The notice issued by a federal agency to publicly announce its intention to prepare an environmental impact statement, pursuant to the National Environmental Policy Act.
Notice of Preparation (NOP)	The notice issued by a state or local agency to publicly announce its intention to prepare an environmental impact report, pursuant to the California Environmental Quality Act.
Old River intake	The CCWD intake located on Old River, with conveyance facilities linked to the Contra Costa Canal and Los Vaqueros Reservoir. The maximum capacity of the intake is 250 cubic feet per second.

opacity	The amount of light obscured by particle pollution in the atmosphere.
peak flow	Maximum instantaneous flow in a specified period of time.
Piezometer	A device used to measure ground-water pressure head at a point in the subsurface. It can consist of either an vertical open pipe that allows the depth to the water in pipe to be measured, or an electronic instrument (or less commonly pneumatic or hydraulic) embedded in the ground that records hydrostatic pressure.
Qwest	A broad indication of the net direction and quantity of flow in the San Joaquin River at Jersey Point. This is only an indicator since net flow is not measurable at this location. Considerable tidal exchange at this point is not included, because Qwest is an estimate of net flow conditions. A positive Qwest indicates the net flow is generally in the downstream direction towards San Francisco Bay. A negative number indicates that the net flow is generally in the upstream direction to the east. Generally, a positive Qwest is desirable for Delta flow circulation, water quality, and fisheries.
reclamation district	A district formed under California State Water Code 50000 <i>et. seq.</i> as a way to pay for the costs of reclaiming land for future use. Reclamation districts are formed in areas that have been inundated with water, such as swamps, salt marshes, or tidelands.
Record of Decision (ROD)	Concise, public, legal document that identifies and officially discloses the federal lead agency's decision following the completion of an environmental impact statement.
recycled water	Wastewater that becomes suitable for a specific beneficial use as a result of treatment.
reservoir	An artificially impounded body of water.
responsible agency	As per the CEQA Guidelines, a public agency other than the lead agency that has discretionary approval over a project.
riparian area	The land adjacent to a natural watercourse such as a river or stream. Riparian areas support vegetation that provides important wildlife habitat, as well as important fish habitat when sufficient to overhang the bank or fall into the water.
Rock Slough intake	The CCWD intake located near the town of Oakley and used to serve the Contra Costa Canal. Also referred to as Pumping Plant No. 1.
Sacramento splittail	A somewhat large (40-centimeter full-length) <i>Cyprinid</i> endemic to the Sacramento and San Joaquin River systems and other drainages of the San Francisco Bay.
Sacramento-San Joaquin Delta (Delta)	The legal Delta, as described in the California Water Code Section 12220, generally extends from Sacramento to the north, Tracy to the south, Interstate 5 to the east, and Collinsville to the west. The Delta covers approximately 738,000 acres.
salinity	The amount of dissolved salts in a given volume of water.
seawater intrusion	The intrusion and mixing of saline or brackish water into a body of freshwater (in this case, into the Delta).
sedimentation	The phenomenon of sediment or other fine particulates entering a water body, or being disturbed from the bottom of a water body such that they move downstream and settle on the substrate in other aquatic areas.
seiche	A wave on the surface of a lake or landlocked bay caused by atmospheric or seismic disturbances.
seismicity	The frequency, intensity, and distribution of earthquake activity in a given area.

siltation	Sediment influx either from erosion or sediment carried into a water body by inflowing rivers and tributaries.
soil corrosion	The deterioration of metal due to interaction with materials in the soil; corrosion generally occurs in soils with high moisture content, high electrical conductivity, high acidity, and high dissolved salts.
South Bay Aqueduct (SBA)	A State Water Project facility that conveys water from Bethany Reservoir to the South Bay water agencies in Alameda and Santa Clara Counties.
South Bay water agencies	The South Bay water agencies include the three water agencies served by the SBA (Alameda County Water District, Santa Clara Valley Water District, Alameda County Flood Control and Water Conservation District, Zone 7).
special-status species	Federal and state classifications for plant and animal species that are listed as threatened or endangered, are formally recognized candidates for listing, or are declining to a point where they may be listed.
spring tide	The tide with the most variation in water level, occurring during new moons and full moons. This is the time of the highest high tide and the lowest low tide. The opposite of a neap tide.
stage	Water surface elevation; the elevation above mean sea level (msl) datum (typically measured in feet msl).
State Water Project (SWP)	California's largest water supply project operated and maintained by the California Department of Water Resources that stores surplus water during wet periods and later distributes it to areas of need in the San Francisco Bay area, northern California, San Joaquin Valley, and southern California. SWP facilities include 23 dams and reservoirs, 18 pumping plants, 4 generating-pumping plants, 5 hydroelectric power plants, and approximately 600 miles of canals and pipelines.
stormwater	Untreated surface runoff into a body of water during periods of precipitation.
Stormwater Pollution Prevention Plan (SWPPP)	Required to be developed and implemented when an entity is obtaining a General Permit under the National Pollutant Discharge Elimination System (NPDES). The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges, and (2) to describe and ensure the implementation of best management practices to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges.
subsidence	A decrease in ground surface elevation in the Delta, which results primarily from peat soil being converted into gas.
SWP Harvey O. Banks Pumping Plant	The SWP export pumping plant in the south Delta. The plant is located downstream of Clifton Court Forebay.
take	Defined in the Federal Endangered Species Act as "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" on special-status species covered under the Act.
terrestrial species	Types of species of animals and plants that live on or grow from the land.
threatened species	Legal status afforded to plant or animals species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range, as determined by the U.S. Fish and Wildlife Service or NMFS for federal species and by the California Department of Fish and Game for state species.
tidal flow	Water movements caused by tidal forces (i.e. gravitational); used to describe the movement of water in Delta channels caused by tidal level variations propagating from San Francisco Bay.
total Delta inflow	See Delta inflow.

total organic carbon (TOC)	A measure of organic matter content in water, which plays a significant role in aquatic ecosystems and has direct implications to drinking water treatment, including the potential for formation of disinfection byproducts.
treated water	Water treated at a water treatment plant and delivered to municipal and industrial customers.
turbidity	A measure of the cloudiness of water caused by the presence of suspended matter. Turbidity in natural waters may be composed of organic and/or inorganic constituents, and has direct implications to drinking water treatment.
unregulated tributary	A tributary stream that does not have a reservoir or other feature used to restrain or control flows.
uplands	The area on the landward side of the tidal marsh, where the land surface is not inundated by even the highest tides.
water right	A legal entitlement, granted as a permit or license from the California State Water Resources Control Board, authorizing water to be diverted from a specified source and put to beneficial, nonwasteful use.
water use efficiency	Refers to actions or activities that lead to sustainable or renewable uses of water and includes water conservation, water recycling and desalination.
waters of the U.S.	As defined in the Clean Water Act Section 404, waters of the U.S. applies only to surface waters, rivers, lakes, estuaries, coastal waters, and wetlands. Not all surface waters are legally waters of the U.S. Generally, those waters include interstate waters and tributaries, intrastate waters and tributaries used in interstate and/or foreign commerce, territorial seas at the cyclical high-tide mark, and wetlands adjacent to the above.
watershed	A region or area that ultimately drains to a particular watercourse or body of water.
wetland	A zone that is periodically or continuously submerged or has high soil moisture, has aquatic and/or riparian vegetation components, and is maintained by water supplies significantly in excess of those otherwise available through local precipitation.
Williamson Act	The California Land Conservation Act of 1965, commonly known as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use for 10 years. In return, landowners receive property tax assessments that are based on farming and open space uses as opposed to full market value.
X2	An index used to assess the location of, and thus the movement of, salinity inland from the ocean to the Delta. Used by regulatory agencies to establish estuarine habitat objectives, it is defined as the distance in kilometers from the Golden Gate Bridge to the point at which 2 parts-per-thousand salinity is found at any given time.