

## GLOSSARY

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<b>Term</b>	<b>Definition</b>
<b>accretion</b>	The act of adding material, such as from the deposition and accumulation of waterborne particles (e.g., the process of adding water to an aquifer from all sources).
<b>acre-foot</b>	The volume of water that would cover 1 acre to a depth of 1 foot; equal to 43,560 cubic feet or 325,851 gallons of water.
<b>anadromous fish</b>	Fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.
<b>Anadromous Fish Restoration Program (AFRP)</b>	The AFRP is tasked by the Central Valley Project Improvement Act to make "all reasonable efforts to at least double natural production of anadromous fish in California's Central Valley streams on a long-term, sustainable basis". The AFRP identified instream and Delta flows needed for recovery of anadromous fish.
<b>appropriative water rights</b>	Right to use a given quantity of water for reasonable and beneficial use in a prescribed place in order of priority based on the time water is first put to use. Since December 19, 1914, the exclusive method for establishing an appropriative water right is through the permit system administered by the State Water Resources Control Board.
<b>aquifer</b>	Underground layer of porous rock, sand, etc. that is sufficiently porous and permeable to store, transmit and yield a sufficient quantity of groundwater to wells and springs.
<b>Article 21 water</b>	Article 21 water is surplus SWP water that is available to SWP contractors, as determined by DWR. Article 21 water is allocated to the SWP contractors when (1) the San Luis Reservoir is full, (2) the contractor's Table A allocations are otherwise being met, and (3) sufficient water exists to meet state water quality standards.
<b>Basin Plan</b>	Basin Plans (also called Water Quality Control Plans) provide the basis for protecting water quality in California. Basin Plans are mandated by both the federal Clean Water Act and the state Porter-Cologne Water Quality Act. Basin Plans are designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Basin Plans typically: (1) designate beneficial uses for surface and ground waters; (2) establish narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy; (3) describe implementation programs to protect the beneficial uses of all waters in the Region; and (4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.
<b>Bay-Delta</b>	The entire estuary system of the San Francisco Bay, Sacramento-San Joaquin Rivers, and Delta.

Term	Definition
<b>1995 Bay/Delta Water Quality Control Plan and Decision 1641 (D-1641)</b>	The purpose of this plan is to establish water quality control measures which contribute to the protection of beneficial uses in the Bay-Delta Estuary. Like all water quality control plans, this plan consists of: (1) beneficial uses to be protected; (2) water quality objectives for the reasonable protection of beneficial uses; and (3) a program of implementation for achieving the water quality objectives. Together, the beneficial uses and the water quality objectives established to protect them are called water quality standards under the terminology of the federal Clean Water Act. On December 29, 1999, the State Water Resources Control Board (State Water Board) adopted Water Right Decision 1641 (D-1641), which among other matters amended DWR, Reclamation and other parties permits and licenses to implement certain flow-related water quality objectives adopted by the State Water Board for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. On March 15, 2000, in response to petitions for reconsideration, the State Water Board revised D-1641 in accordance with Order WR 2002-02.
<b>beneficial use</b>	Actual or reasonable potential use that may be made of waters of the state, including but not limited to domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and propagation and enhancement of fish, wildlife, and other aquatic resources.
<b>biological opinion</b>	Document issued under the authority of the federal Endangered Species Act stating the findings of the USFWS and/or the NMFS as to whether or not a federal action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. See 16 USCA 1536(b).
<b>Bulletin 160-05</b>	Bulletin 160-05 is the latest in a series of California Water Plan updates. The Bulletin 160 series evaluates water supplies and assesses agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The main focus of Bulletin 160-05 is to evaluate options for meeting the state's future water needs.
<b>C.W. Jones Pumping Plant</b>	The CVP export pumping plant in the south Delta (formerly known as Tracy Pumping Plant).
<b>CALFED Bay-Delta Program</b>	A consortium of 15 State and Federal agencies with management or regulatory responsibilities in the Bay-Delta.
<b>California Endangered Species Act (CESA)</b>	California legislation that prohibits the "take" of plant and animal species designated by the CDFG as either endangered or threatened. Take includes hunting, pursuing, catching, capturing, killing, or attempting such activity. CESA provides CDFG with administrative responsibilities over the plant and wildlife species listed under the State act as threatened or endangered. CESA also provides CDFG with the authority to permit the take of State-listed species under certain circumstances. See Fish and Game Code Section 2050-2116.

Term	Definition
<b>California Environmental Quality Act (CEQA)</b>	Act requiring California public agency decision-makers to document and consider the environmental impacts of their actions. Also requires and 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. See Public Res. Code Sections 21001.1, 21002, 21080; Guidelines 15002(c).
<b>CALSIM model</b>	CALSIM is a planning model designed to simulate the operations of the CVP and SWP reservoir and water delivery system under current and future conditions. CALSIM predicts how reservoir storage and river flows would be affected based on changes in system operations. CALSIM output is typically used to help assess impacts on water supply, water quality, aquatic resources, and recreation.
<b>CALSIM II model</b>	CALSIM II is the agreed upon CVP-SWP implementation of the CALSIM model code.
<b>candidate species</b>	Any species being considered by the U.S. Secretary of the Interior or Secretary of Commerce for listing as an endangered or a threatened species, but not yet the subject of a proposed rule (see 50 CFR 424.02), or any species accepted as a candidate species by the California Department of Fish and Game pursuant to Fish and Game Code Section 2074.2.
<b>carriage water</b>	Additional flows released during export periods to ensure maintenance of water quality standards and assist with maintaining natural outflow patterns in Delta channels. For instance, a portion of transfer water released from upstream of the Delta intended for export from south Delta would be used for Delta outflow.
<b>carry-over storage</b>	The amount of water stored in reservoirs carried over from one year to another.
<b>Central Valley Project (CVP)</b>	Multiple-purpose federal water project operated by the Bureau of Reclamation in California that provides water to agricultural, urban, and industrial users in California. The CVP was originally authorized by legislation in 1937.
<b>Central Valley Project contractors</b>	Agencies that have long-term contracts for water entitlements from the Central Valley Project.
<b>Central Valley Project Improvement Act (CVPIA)</b>	This federal legislation, signed into law on October 30, 1992, mandates major changes in the management of the federal Central Valley Project. The CVPIA puts fish and wildlife on an equal footing with agricultural, municipal, industrial, and hydropower users.

Term	Definition
<b>CVPIA Water Acquisition Program for Refuge Level 4 Supplies</b>	The purpose of this program is to acquire water supplies to meet the habitat restoration and enhancement goals of the CVPIA and to improve the Department of the Interior's (Interior) ability to meet regulatory water quality requirements. Section 3406(d) of the CVPIA refers to "Level 4" refuge water supplies, which is the amount of water required for optimum habitat management of the existing refuge lands identified in the 1989 Report on Refuge Water Supply Investigations. Section 3406(d) of the CVPIA requires Interior to acquire water supplies, known as incremental Level 4, to meet optimal waterfowl habitat management needs at identified wildlife areas in the California Central Valley. Incremental Level 4 is defined as the difference between historic annual average water deliveries (Level 2) and water supplies needed to achieve optimal waterfowl habitat management (Level 4).
<b>CVP Operations Criteria and Plan (OCAP)</b>	Document that identifies the factors influencing the physical and institutional conditions and decision-making process under which the CVP operates.
<b>CEQA Responsible Agency</b>	Under CEQA, a Responsible Agency is a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration and includes all public agencies other than the Lead Agency which have discretionary approval power over the project.
<b>CEQA Trustee Agency</b>	Under CEQA, a Trustee Agency is a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California.
<b>Clean Air Act (CAA)</b>	The United States Congress passes the Clean Air Act in 1963, the Air Quality Act in 1967, the Clean Air Act Extension of 1970, and Clean Air Act Amendments in 1977 and 1990. The Clean Air Act (1990) proposed emissions trading, added provisions for addressing acid rain, ozone depletion and toxic air pollution, and established a national permits program.
<b>Clean Water Act (CWA)</b>	Growing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also continued requirements to set water quality standards for all contaminants in surface waters. The Act made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. It also funded the construction of sewage treatment plants under the construction grants program and recognized the need for planning to address the critical problems posed by nonpoint source pollution.
<b>Clifton Court Forebay (CCF)</b>	The in-Delta storage facility used to regulate flows to the SWP Harvey O. Banks Pumping Plant.

Term	Definition
<b>Component 1 Water</b>	The Water Purchase Agreement in the Yuba Accord identifies four water supply components that would be provided based on certain water availability conditions and subject to various pricing structures. Portions of the water used to implement Schedules 1 through 6 of the Fisheries Agreement would be delivered as Component 1, 2, 3, or 4 water. From 2008 through 2015, the Water Purchase Agreement would require YCWA to provide 60 TAF of water annually to the EWA Program or an equivalent program. Reclamation and DWR plan to use these supplies exclusively for the EWA Program. In certain years, operational limitations of the Yuba Project, the CVP or the SWP may cause the quantity of water provided by YCWA to be less than 60 TAF. In this event, YCWA would provide "makeup" water quantities in a later water year of the same classification, ensuring that over the course of the agreement, the EWA Program, or a program equivalent to the EWA, would receive its full entitlement of Component 1 water.
<b>Component 2 Water</b>	The Water Purchase Agreement would enable provision of Component 2 water in drier years for use in the CVP and SWP, including for fish and wildlife purposes. YCWA would provide Reclamation and DWR 15 TAF of Component 2 water in any dry year, and 30 TAF in any critical year.
<b>Component 3 Water</b>	The Water Purchase Agreement states that, under certain CVP and SWP delivery allocation scenarios, Reclamation and DWR could request up to 40 TAF of Component 3 water from YCWA.
<b>Component 4 Water</b>	Under the Water Purchase Agreement, Component 4 water could be delivered in all water year types. YCWA would inform Reclamation and DWR of the quantity of any additional water available from surface and groundwater supplies. Reclamation and DWR then would notify YCWA if they opted to take delivery of any or all of this Component 4 water.
<b>Conference Years</b>	Conference Years are defined as water years for which the North Yuba Index is less than 500 TAF.
<b>cone of depression</b>	A cone of depression occurs in an aquifer when ground water is pumped from a well. In an unconfined (water table) aquifer, this is an actual depression of the water levels. When a well is pumped, the water level in the well is lowered. By lowering this water level, a gradient occurs between the water in the surrounding aquifer and the water in the well. Because water flows from high to low water levels or pressure, this gradient produces a flow from the surrounding aquifer into the well.
<b>conjunctive use</b>	Application of surface and groundwater to meet the demand for beneficial use. Coordinated and planned management of both surface water and groundwater resources to maximize the efficient use of the resource. Typically, groundwater is used in place of or to supplement surface supplies during drier years when surface water supplies may be diminished.
<b>Conjunctive Use Agreement</b>	An agreement between YCWA and its Member Units (including water districts and water companies within Yuba County) for implementation of a comprehensive program of conjunctive use and water use efficiency.

Term	Definition
<b>contaminant</b>	Any substance or property preventing the use or reducing the usability of water for ordinary purposes such as drinking, bathing, recreation and cooling. Any solute or cause of change in physical properties that renders water unfit for a given use. (Generally considered synonymous with pollutant.)
<b>Contra Costa Canal</b>	Part of the Central Valley Project, the Contra Costa Canal is the principal element of the Contra Costa Water District, delivering water from the Delta to the District's treatment facilities and raw-water customers. The canal is a 48-mile-long facility that starts at Rock Slough in East Contra Costa County and ends at the Terminal Reservoir in Martinez.
<b>conveyance</b>	A pipeline, canal, natural channel, or other similar facility that transports water from one location to another.
<b>Coordinated Operations Agreement (COA)</b>	A 1986 agreement between USBR Reclamation and DWR to coordinate the operation of the CVP and SWP.
<b>Cooperating Agency</b>	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.
<b>critical habitat</b>	An area designated as critical habitat listed in 50 CFR Parts 17 or 226 (50 CFR §402.02). Critical habitat areas are specific geographic areas, whether occupied by special-status species or not, that are determined to be essential for the conservation and management of special-status species, and that have been formally described in the Federal Register.
<b>cross Delta water transfers</b>	These transfers typically involve moving water from areas transfers north of the Delta to areas south or west of the Delta.
<b>cubic feet per second (cfs)</b>	Cubic feet per second (cfs, ft <sup>3</sup> /s) is the rate of flow representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.
<b>cultural resource</b>	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, districts, sites, buildings, structures, objects or cultural practices that are usually greater than 50 years of age and possess architectural, historic, scientific or other technical value.
<b>cumulative impact</b>	For CEQA purposes, 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 future projects. Under NEPA, defined by the CEQ regulations as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of the source (federal or non-federal) of these other actions.

Term	Definition
<b>Darcy's equation</b>	<p>Based on the analytical approach, the rate of water movement over time (Q) between surface and groundwater systems can be quantified using Darcy's equation:</p> $Q = K \cdot A \cdot \frac{dh}{dl}$ <p>Where K is the hydraulic conductivity (or ability of porous media to transmit water) of the streambed, <i>dh</i> is the hydraulic head difference between head above and below the streambed, and <i>dl</i> is the streambed thickness, and Q is the total flux over the area A which is the streambed through which surface water percolates. The direction of water movement between the surface water and groundwater system may change over time or over the extent of the surface water body depending on the sign of <i>dh/dl</i>.</p>
<b>Delta balanced conditions</b>	<p>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 can occur at any time of the year, but generally occur during late spring, summer and fall, or during drier years.</p>
<b>Delta Cross Channel</b>	<p>Existing gated structure and channel connecting the Sacramento River at Walnut Grove to Snodgrass Slough and thence to the North Fork of the Mokelumne River. The facility was constructed as part of the Central Valley Project to control movement of Sacramento River water into the central Delta and to the south-Delta export pumps. Operating criteria currently require the gates to be closed for specific periods to keep downstream-migrating fish in the Sacramento River and to prevent flooding of the central Delta.</p>
<b>Delta excess conditions</b>	<p>During excess conditions, Delta flow requirements for water quality have been met and excess water is available for Delta users.</p>
<b>Delta facilities</b>	<p>CVP and SWP facilities in the Delta that collect and convey water through the Delta.</p>
<b>Delta Simulation Model (DSM2)</b>	<p>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.</p>
<b>Delta inflow</b>	<p>The combined water flow entering the Delta at a given time from the Sacramento River, San Joaquin River, and other Central Valley tributaries.</p>
<b>Delta-Mendota Canal</b>	<p>The Delta-Mendota Canal conveys water in a southeasterly direction from the CVP Jones Pumping Plant along the west side of the San Joaquin Valley for irrigation supply, for use in the San Luis Unit of the CVP, and to replace San Joaquin River water stored at Friant Dam and used in the Friant-Kern and Madera systems.</p>

Term	Definition
<b>Delta outflow</b>	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.
<b>depletion</b>	Depletion refers to the loss of water from surface water reservoirs or groundwater aquifers at a rate greater than that of recharge.
<b>direct mortality</b>	The direct loss of fish associated with facilities (forebay, fish screens, and salvage facilities) for the south Delta export pumps. This direct mortality is a portion of the total fish mortality resulting from operation of the export pumps (see indirect mortality).
<b>dissolved organic carbon (DOC)</b>	DOC is used to describe the thousands of dissolved compounds found in water that derive from organic materials (such as decomposed plant matter). DOC is organic material from plants and animals broken down into such a small size that it is “dissolved” into water.
<b>ecosystem</b>	A recognizable, relatively homogeneous unit that includes organisms, their environment, and all the interactions among them.
<b>electrical conductivity (EC)</b>	The measure of the ability of water to conduct an electrical current, the magnitude of which depends on the dissolved mineral content of the water. Electrical conductivity estimates the amount of total dissolved salts (TDS), or the total amount of dissolved ions in the water (also see salinity).
<b>emergent vegetation</b>	A plant rooted in shallow water that has most of its vegetative growth above water.
<b>endemic species</b>	A species native and confined to a certain region; having comparatively restricted distribution.
<b>entrainment</b>	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.
<b>Environmental Impact Report (EIR)</b>	A detailed statement (i.e., report) prepared under CEQA 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.
<b>Environmental Impact Statement (EIS)</b>	An environmental impact document required of federal agencies under NEPA for major projects or legislative proposals that would significantly affect the environment. Analyzes and describes the environmental impacts of a proposed action, adverse effects that cannot be avoided, alternative courses of action, and documents the information required to evaluate the environmental impacts of a proposed action.
<b>environmental justice</b>	Defined by the U.S. Environmental Protection Agency 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.”

Term	Definition
<b>Environmental Water Account (EWA)</b>	The Environmental Water Account (EWA) Program is a cooperative management program designed to provide protection to the at-risk native fish species of the Bay-Delta estuary through environmentally beneficial changes in the operations of the CVP and SWP, at no uncompensated water cost to CVP and SWP water users. The EWA Program obtains its water by acquisition from willing sellers (fixed assets), through operational flexibility of Delta facilities (variable assets), and through other water management tools and agreements.
estuarine fish	Fish that spend a part of their life cycle in an estuary.
estuary	A semi-enclosed body of water with an open connection to the sea. Estuaries are regions of interaction between rivers and near-shore ocean waters where river flow and tidal action mix fresh and salt water, and the influx of nutrients from both sources results in high productivity. Thus, water in estuaries tends to be at an intermediate and variable salinity and temperature.
essentially equivalent	The degree of change between variables is determined to have a negligible difference, and thus the variables are considered to be nearly the same. The degree of change between variables as “essentially equivalent” indicates that strong similarities, or weak differences, have been found between these variables. To illustrate, for impact assessment purposes, essentially equivalent is defined as water temperature changes (increases or decreases) that are less than or equal to 0.3°F (i.e., represent no measurable change) between modeled simulations. The difference in simulated average monthly reservoir volume (TAF) is considered to be negligible (i.e., essentially equivalent) if the calculated relative percent difference between alternatives is less than one percent (i.e., 0 percent). Salinity changes are defined as essentially equivalent if there is as a less than 1.0 percent change. DOC concentrations are considered essentially equivalent if there is a less than 0.1 mg/L change.
<b>Evolutionarily Significant Unit (ESU)</b>	A population or group of populations inhabiting a defined geographical area that comprises a unique segment of the species; a distinct population, reproductively isolated from other conspecific populations and is an important evolutionary legacy of the species.
export	Water diversion from the Delta used for purposes outside the Delta.
<b>Export to Inflow Ratio (E/I ratio)</b>	This requirement of the SWRCB Water Rights Order D-1641 presently limits Delta exports by the CVP and SWP to a percentage of Delta inflow. During 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.
export pumps	CVP and SWP pumping plants in the southern portion of Delta - the Jones Pumping Plant and the Banks Pumping Plant, respectively. These large pumps export water to urban and agricultural water users in the Export Service Area.
<b>Export Service Area</b>	Lands that receive, store and use CVP and SWP water pumped from the Delta.

Term	Definition
<b>Federal Endangered Species Act (ESA)</b>	Federal legislation that requires Federal agencies, in consultation with the USFWS and NMFS, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species.
<b>Federal Energy Regulatory Commission (FERC)</b>	The federal agency within the Department of Energy that regulates the price, terms and conditions of energy sold through interstate commerce and all transmission services, including electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates and gas pipeline certification.
<b>Fisheries Agreement</b>	The Fisheries Agreement under the Yuba Accord Alternative contains proposed new instream flow requirements for the lower Yuba River that are intended to provide protection for the river’s fisheries resources equivalent to or greater than the protection provided by the instream flow requirements in RD-1644. Key elements of the Fisheries Agreement include: (1) changes to lower Yuba River instream flow requirements; and (2) formation of a RMT (a collaborative decision-making body made up of the signatories to the “Statement of Support for Proposed Lower Yuba River Fisheries Agreement” and River Management Fund (RMF).
<b>fish salvage</b>	The process of screening fish at the south Delta export facilities and physically transporting them by truck to release in other parts of the Delta. This generally results in higher fish mortality than a more conventional fish screen where screened fish simply return to the river and continue downstream. Fish salvage is required at the existing export facilities since there is no flow continuing downstream to carry the fish away.
<b>fish screen</b>	Barrier on the front face of a water intake facility to prevent fish and debris from being drawn into the intake.
<b>flow dependent habitat availability</b>	For the adult spawning life stage of anadromous salmonids, flow dependent habitat availability refers to the amount of appropriate spawning habitat, including the suitable water depths, velocities and substrate, for successful spawning that is, in part, contingent on stream flow.
<b>fry</b>	Salmon that have emerged from gravel, completed yolk absorption, remained in freshwater streams, and are less than a few months old.
<b>groundwater</b>	Water that occurs beneath the land surface and is naturally stored underground in aquifers, or flows through or fills the pore spaces of the alluvium, soil or rock formation in which it is situated.
<b>groundwater basin</b>	An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well defined boundaries in a lateral direction and having a definable bottom.
<b>Groundwater Management Plan</b>	A comprehensive written document developed for the purpose of groundwater management and adopted by an agency having appropriate legal or regulatory authority.

Term	Definition
<b>groundwater overdraft</b>	The condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which water supply conditions approximate average.
<b>groundwater recharge</b>	The natural and intentional infiltration of surface water into the zones of saturation.
<b>groundwater subbasin</b>	A subdivision of the groundwater basin created by dividing the basin using geologic and hydrologic conditions or institutional boundaries.
<b>groundwater substitution transfer</b>	Additional pumping of groundwater with a one-for-one reduction in surface water diversions that would have occurred absent the additional groundwater pumping. The amount of reduced surface water diversions is then transferred to other water users.
<b>hardness</b>	A physical-chemical characteristic of water created by the amount of dissolved minerals, such as calcium, magnesium, and iron present in the water. The degree of hardness is expressed as the equivalent concentration of calcium carbonate (CaCO <sub>3</sub> ).
<b>Harvey O. Banks Pumping Plant (Banks Pumping Plant)</b>	The State Water Project (SWP) export pumping plant in the south Delta. The plant is located downstream of Clifton Court Forebay.
<b>hydraulic conductivity</b>	Hydraulic conductivity, symbolically represented as K, is a property of vascular plants, soil or rock that describes the ease with which water can move through pore spaces or fractures. It depends on the intrinsic permeability of the material and on the degree of saturation.
<b>hydrograph</b>	A graph that shows some property of groundwater or surface waters as a function of time at some given point.
<b>impingement</b>	Contact or collision with a diversion structure (used to describe deleterious effects of some diversion facilities on aquatic species).
<b>Indian Trust Assets (ITAs)</b>	Indian trust assets are legal interests in property held in trust by the federal government for federally recognized Indian tribes or individual Indians. "Assets" are anything owned that has monetary value. Indian trust assets can be real property, physical assets or intangible property rights, such as a lease, or a right to use something. Examples of items that can be Indian trust assets are land, minerals, hunting and fishing rights, water rights, and instream flows.
<b>instream flows</b>	The amount of flow required to sustain stream values, including fish, wildlife, and recreation. May refer either to specific instream water needs as determined by scientific studies or a protected flow level set by regulation.
<b>invertebrate</b>	An animal that lacks a backbone or spinal column.
<b>Joint Point of Diversion (JPOD)</b>	SWRCB Water Rights Decision 1641 refers to the ability of the SWP and CVP to utilize each other's point of diversion. Allows the SWP and CVP to pump water for each other during times of restriction for one set of pumps.

<b>Term</b>	<b>Definition</b>
<b>kriging technique</b>	A method of spatial interpolation based upon geostatistics. By "spatial interpolation", this means estimating the value of a variable at an unsampled location based upon measured values of the same value at known locations.
<b>land fallowing</b>	Allowing previously irrigated agricultural land to temporarily lie idle (fallowing) or purchasing such land and allowing it to remain out of production.
<b>land subsidence</b>	The lowering of the natural land surface due to groundwater extraction. There are two distinct types of land subsidence that occur when a well in a confined aquifer is pumped: elastic subsidence that is temporary and which reverses itself as water levels recover; and inelastic subsidence, which results in permanent lowering of the land surface even after pumping stops.
<b>Lead Agency (CEQA)</b>	Under CEQA, the "lead agency" is the local or state governmental agency that has the principal responsibility for carrying out or approving the activity. All other local or state agencies with discretionary approval authority are responsible agencies. The lead agency must determine first whether the activity is exempt from CEQA. If the activity is not exempt, the lead agency must prepare an environmental impact report.
<b>Lead Agency (NEPA)</b>	The role of a federal agency in the NEPA process depends on the agency's expertise and relationship to the proposed undertaking. The agency carrying out the federal action is responsible for complying with the requirements of NEPA. In some cases, there may be more than one federal agency involved in an undertaking. In this situation, a lead agency is designated to supervise preparation of the environmental analysis, or environmental impact report if one is required. Federal agencies, together with state, tribal or local agencies, may act as joint lead agencies.
<b>level of development</b>	Criteria used in predicting the amount of water supply needed to meet existing or future demands and the capacity of water supply facilities to meet that demand.
<b>low flow conditions</b>	Defined as the lowest 25 percent of the monthly cumulative probability distribution in the model output that is used for analytical purposes in this EIR/EIS (see Chapters 9 and 10).
<b>Magnuson-Stevens Fishery Conservation and Management Act (MSA)</b>	Statute enacted in 1976, primarily to establish an Exclusive Economic Zone in which foreign fishing could be controlled, and to set up a conservation and management structure for United States fisheries.
<b>maximum contaminant level (MCL)</b>	The highest drinking water contaminant concentration allowed under federal and state Safe Drinking Water Act regulations.
<b>Member Units</b>	Any municipality, town or district wholly or partially within or contiguous to YCWA that is empowered to appropriate and deliver water and which contracts with the agency for payment of construction costs or for delivery of water, as defined in Section 2(g) of the Yuba County Water Agency Act.
<b>mitigation</b>	Measures taken to minimize or avoid adverse environmental impacts.

Term	Definition
<b>Modified Flow Alternative</b>	The Modified Flow Alternative is proposed as an action alternative to the Proposed Project/Action (i.e., Yuba Accord Alternative), and is evaluated in the individual resource chapters in this EIR/EIS (see Chapters 5 through 20).
<b>Monterey Agreement</b>	Amendment made to contracts for State water as a result of the Monterey principles. This amendment established a number of water management tools including: (1) the turnback pool; (2) transfer of water amounts in Table A; (3) storage of water outside of the Export Service Area; and (4) flexible management of SWP terminal reservoirs.
<b>Monterey Amendment</b>	The amendments to the long term water supply contracts for the State Water Project entered into by the California Department of Water Resources and most of the State Water contractors in 1995 and 1996 for purposes of implementing the Monterey Agreement.
<b>multilevel piezometer</b>	Generally, a small-diameter, nonpumping well used to measure the elevation of the water table or potentiometric surface. The water table is an imaginary surface that represents the static head of groundwater and is defined by the level to which water will rise.
<b>National Environmental Policy Act (NEPA)</b>	In 1969, the National Environmental Policy Act was enacted establishing a national environmental policy and the Council on Environmental Quality (CEQ) to advise the president on environmental issues. NEPA requires the preparation of environmental impact statements (EIS) for all major federal actions which would have a significant effect on the environment. NEPA served as a model for the California Environmental Quality Act (CEQA) enacted in 1970.
<b>Net Delta Outflow Index (NDOI)</b>	A measure of the net freshwater flow of water from the Delta into the San Francisco Bay, which is derived from a water balance that considers river inflows, precipitation, agricultural consumptive demand, and project exports.
<b>No Action Alternative (NEPA)</b>	The NEPA basis of comparison for impact evaluation purposes.
<b>No Project Alternative (CEQA)</b>	The CEQA basis of comparison for impact evaluation purposes.
<b>Non-Governmental Organization (NGO)</b>	The term non-governmental organization (NGO) is used in a variety of ways all over the world and, depending on the context in which it is used, can refer to many different types of organizations. In its broadest sense, a non-governmental organization is one that is not directly part of the structure of government.
<b>non-native species</b>	Also called introduced or exotic species; refers to plants or animals that originate elsewhere and are brought into a new area, where they may dominate the local species or in some way negatively impact the environment for native species.

Term	Definition
<b>North Yuba Index (NYI)</b>	The North Yuba Index was developed in conjunction with the Proposed Yuba Accord, and provides a measure of available water in the North Yuba River that can be used to meet instream flow requirements and delivery requirements to Member Units on the lower Yuba River. The North Yuba Index is comprised of two components: (1) active storage in New Bullards Bar Reservoir at the start of the current water year (October 1), and (2) total actual and forecasted inflow into New Bullards Bar Reservoir for the current water year, including diversions from the Middle Yuba River and Oregon Creek to New Bullards Bar Reservoir.
<b>North Yuba Subbasin</b>	One of two aquifers in Yuba River Basin. The North Yuba subbasin is bounded on the north by Honcut Creek, the Feather River on the west, on the south by the Yuba River, and on the east by the Sierra Nevada. It is believed that the Yuba and Feather rivers create a groundwater divide, which act as flow barriers in the shallow subsurface, creating two distinct Yuba groundwater subbasins (i.e., North Yuba subbasin and South Yuba subbasin).
<b>Notice of Intent (NOI)</b>	The notice issued by a federal agency to publicly announce its intention to prepare an environmental impact statement, pursuant to NEPA.
<b>Notice of Preparation (NOP)</b>	The notice issued by a state or local agency to publicly announce its intention to prepare an environmental impact report, pursuant to CEQA.
<b>Old River</b>	A natural channel in the southern Delta. The channel merges with many other channels in the south Delta, passes by the south Delta export facilities and connects with the San Joaquin River at its upstream end. Much of the water approaching the export facilities flows up Old River from the central Delta.
<b>pelagic fish</b>	Fish that spend most of their life swimming in the water column with little contact with or dependency on the bottom. Adult spawning usually occurs in open water, often near the surface.
<b>pelagic organism decline (POD)</b>	While the pelagic fish community of the upper San Francisco estuary historically has showed substantial variability, a recent collapse in the abundance of delta smelt, longfin smelt, striped bass, and threadfin shad has captured the attention of resource managers, scientists, politicians, and the general public. The consequences of the decline are most serious for delta smelt, a threatened species whose relatively narrow range overlaps with large water diversions that supply water to over 22 million people. The pelagic organism decline occurred despite moderate hydrology in recent years, which typically results in at least modest fish recruitment, and recent investments in habitat restoration and environmental water to support native fishes.

Term	Definition
<b>Porter-Cologne Water Quality Control Act</b>	Also referred to as the 'Porter-Cologne Act', it is contained in the California Water Code, Division 7, §13000 et seq. It is the principle law governing water quality regulation in California. It is the policy of the state, as set forth in Porter-Cologne, that the quality of all the waters of the state shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation. Porter-Cologne directs the SWRCB to formulate and adopt state policies for controlling water quality and designates the State Board as the state water pollution control agency for all purposes stated in the Clean Water Act. Porter-Cologne establishes the policies that are to be implemented and authorities that are to be used in achieving the goals of the Clean Water Act.
<b>1966 Power Purchase Contract</b>	YCWA executed a Power Purchase Contract with PG&E on May 13, 1966. The Power Purchase Contract specifies conditions of PG&E's power purchase from YCWA and PG&E's rights to require releases of water from New Bullards Bar Reservoir for power production.
<b>ramping criteria</b>	The timing, magnitude and frequency of flow reduction and fluctuation events have the potential to influence the condition and production of salmonids. Ramping criteria are operating rules intended to minimize or avoid in-river flow fluctuations. Flow reduction and fluctuation criteria for the lower Yuba River were established in the 2005 FERC Order Modifying and Approving Amendment of License for the Yuba River Development Project (FERC No. 2246).
<b>raptor</b>	A bird species in the order <i>Falconiformes</i> such as hawks, eagles, kites, and falcons, and in the order <i>Strigiformes</i> (owls).
<b>real-time monitoring and operations</b>	Continuous observation in multiple locations of biological conditions on site in order to improve management to protect fish species and allow optimal operation of the water supply system.
<b>recharge zone</b>	A land area into which water can infiltrate into an aquifer relatively easily, replenishing the aquifer.
<b>Record of Decision (ROD)</b>	Concise, public, legal document that identifies and officially discloses the federal lead agency's decision following the completion of an environmental impact statement.
<b>redd dewatering</b>	A redd is a nest of fish eggs consisting of gravel, typically formed by digging motion performed by an adult female salmon. Redd dewatering occurs when water levels fall below the level of egg deposition, which potentially could result in egg and alevin mortality.
<b>Revised Water Rights Decision 1644 (RD-1644)</b>	The State Water Resources Control Board adopted Revised Water Right Decision 1644 (RD-1644) in 2003, which specifies both long-term and interim instream flow requirements for the lower Yuba River.

Term	Definition
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.
river stage	A site-specific measurement of river-level referenced as the height in feet above a designated zero reference point at the site. The zero reference point is usually chosen as the elevation of the river bottom. Since each gage is established independently at each location, the stage reading is good for that location only and cannot be compared to other locations.
riverine habitat	The aquatic habitat within streams and rivers.
Sacramento Valley 40-30-30 Index	The Sacramento Valley 40-30-30 Index is implemented for water year types and is characterized as: (1) wet; (2) above normal; (3) below normal; (4) dry; and (5) critical. It is used to determine year types for Delta outflow criteria and Sacramento system requirements. Year types are set by first of month forecasts beginning in February. Final determination is based on the May 1st 50 percent exceedance forecast.
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	Generally, the concentration of mineral salts dissolved in water. Salinity may be expressed in terms of a concentration or as electrical conductivity. When describing salinity influenced by seawater, salinity often refers to the concentration of chlorides in the water.
seasonal high flow period	For impact analysis purposes in this EIR/EIS, the seasonal high flow period in the lower Yuba River is assumed to generally occur from December through June (see Chapter 9).
seasonal low flow period	For impact analysis purposes in this EIR/EIS, the seasonal low flow period in the lower Yuba River is assumed to generally occur from August through November (see Chapter 9).
Section 106 of the National Historic Preservation Act	A Section 106 Review under the U.S. National Historic Preservation Act of 1966 (NHPA), as amended and associated, 36 CFR Part 800, must be undertaken for projects that involve a direct, indirect, or an adverse impact on a site or sites that are on or are eligible for inclusion in the National Register of Historic Places. The responsibility of initiating and completing the Section 106 Review lies with the head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any federal department or independent agency having authority to license any undertaking.
smolt	A juvenile salmonid migrating to the ocean and undergoing physiological changes (called smoltification) to adapt from a freshwater to a saltwater environment.

Term	Definition
<b>South Yuba Subbasin</b>	One of two aquifers in Yuba River Basin. The South Yuba subbasin is bounded on the north by the Yuba River, on the west by the Feather River, on the south by the Bear River, and on the east by the Sierra Nevada and encompasses nearly 107,000 acres. Groundwater elevations range from about 150 feet in the northwest region of the South Yuba subbasin to about 30 feet in the southwest corner near the confluence of the Feather and Bear rivers.
<b>special-status species</b>	Species that are in at least one of the following categories: listed as threatened or endangered under the Federal ESA; proposed for Federal listing under the ESA; Federal candidates under ESA; listed as threatened or endangered under the CESA; candidates under CESA; plants listed as rare under the California Native Plant Protection Act; California fully protected species or specified birds under various sections of the California Fish and Game Codes; California species of special concern; or California Native Plant Society List 1A, 1B, 2, or 3 species.
<b>State Water Project (SWP)</b>	The water storage and conveyance system that is operated and maintained by the California Department of Water Resources.
<b>State Water Project contractors</b>	Agencies that have long-term contracts for water entitlements from the State Water Project.
<b>State Water Resources Control Board Decision 1641 (D-1641)</b>	State Water Resources Control Board Decision 1641 (March 2000) implemented the 1995 Water Quality Control Plan; D-1641 included new provisions for X2, export/import ratios, and implemented the Vernalis Adaptive Management Program.
<b>Table A</b>	<p data-bbox="513 1119 1430 1276">A tool for apportioning available water supply and cost obligations under the SWP contract. When the SWP was being planned, the amount of water projected to be available for delivery to the contractors was 4.2 million acre-feet (MAF) per year. Table A lists by year and acre-feet the portion of the 4.2 MAF deliverable to each contractor.</p> <p data-bbox="513 1297 1430 1423">The Table A amounts are not an indication of the SWP water delivery reliability, nor should these amounts be used to support an expectation that a certain amount of water will be delivered to a contractor in any particular time span.</p>
<b>terrestrial species</b>	Types of species of animals and plants that live on or grow from the land.
<b>transmissivity</b>	The rate of flow of water through a cross-sectional area of an aquifer which is one unit wide and which extends the full saturated depth of the aquifer.
<b>trihalomethane (THM)</b>	Organic compounds which may be harmful to health at certain levels in drinking water. Trihalomethanes are formed as a byproduct when chlorine or bromine are used to disinfect water for drinking. They result from the reaction of chlorine and/or bromine with organic matter in the water being treated. The THMs produced may have adverse health effects at high concentrations, and many governments set limits on the amount permissible in drinking water.

Term	Definition
turbidity	In water bodies, the condition of having suspended particles that reduce the ability of light to penetrate beneath the surface. Some rivers and streams are naturally more turbid than others; soil erosion and runoff into streams can increase turbidity.
unimpaired run-off	Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds.
<b>Vernalis Adaptive Management Program (VAMP)</b>	Science based management plan designed to determine and protect the survival and transport of salmon smolts through the Delta in relation to the flow of the San Joaquin River, SWP/CVP exports, and the operation of a fish barrier at the head of the Old River.
vernal pool	Seasonally ponded landscape depressions in which water accumulates because of limitations to subsurface drainage and that support a distinct association of plants and animals.
<b>Water Purchase Agreement</b>	Under the Water Purchase Agreement, Reclamation and DWR would enter into a long-term agreement to purchase water from YCWA to improve reliability for the CVP and SWP, including for fish and wildlife purposes, and to contribute to the EWP Program or an equivalent program.
water purveyor	Anyone who sells drinking water to the public, usually the owner of a public water supply system.
water transfers	A temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer of or exchange of water or water rights. A more general definition is that water transfers are a voluntary change in the way water is usually distributed among water users in response to water scarcity.
water year	A continuous 12-month period for which hydrologic records are compiled and summarized. Different agencies may use different calendar periods for their water years.
water year type	See Sacramento Valley 40-30-30 Index and Yuba River Index.
watershed	The land area that drains water to a particular stream, river, or lake.
<b>Weighted Usable Area (WUA)</b>	The relationship between instream flow and the quantity and quality of instream habitat expressed in terms of weighted usable area (WUA) produced by a particular flow level.

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Term	Definition
X2	The location (measured in river kilometers upstream from the Golden Gate Bridge) of 2 parts per thousand total dissolved solids. The length of time X2 must be positioned at set locations in the estuary in each month and is determined by a formula that considers the previous month's inflow to the Delta and a "Level of Development" factor, denoted by a particular year. X2 is currently used as the primary indicator in managing Delta outflows. The X2 indicator is also used to reflect a variety of biological consequences related to the magnitude of fresh water flowing downstream through the estuary and the upstream flow of salt water in the lower portion of the estuary. The outflow that determines the location of X2 also affects both the downstream transport of some organisms and the upstream movement of others and affects the overall water operations of the CVP and SWP.
Yuba Accord Alternative	The Proposed Project/ Action.
Yuba Project Model	In this Draft EIR/EIS, the spreadsheet-based model is referred to as the Yuba Project Model (YPM), and is described in detail in Attachment A of Appendix D.
Yuba River Index	The Yuba River Index was developed in 2000 for the SWRCB Lower Yuba River Hearings to describe the hydrology of the lower Yuba River. This index is a measure of the unimpaired river flows at Smartville. The Yuba River Index is used to determine the water year types and the corresponding instream flow requirements under RD-1644.