Glossary of Terms Used in the SDIP EIS/EIR

The definitions in this glossary include ecological and regulatory terms used in the South Delta Improvements Program (SDIP) Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Some of the definitions of terms were specifically developed for the SDIP EIS/EIR and are not the same as definitions used for other programs in other places.

Term	Definition
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Acre-foot	The volume of water that would cover one acre to a depth of 1 foot, or 325,851 gallons of water. A flow of 1 cubic foot per second (cfs) for 1 day is approximately 2 acre-feet.
Action	A physical, operational, legal, or institutional change intended to maintain or achieve a desirable condition. A structure, operating criterion, program, regulation, policy, or restoration activity that is intended to address a problem or resolve a conflict.
Action Specific Implementation Plan (ASIP)	The Action Specific Implementation Plan (ASIP) serves as the biological assessment (BA) for the South Delta Improvements Program (SDIP) for compliance with Section 7 of the federal Endangered Species Act (ESA) and the natural community conservation plan (NCCP) for compliance with the California Endangered Species Act (CESA) and the California Natural Community Conservation Planning Act (NCCPA).
Adaptive management	The process of refining or redefining management actions as a process unfolds and results are obtained. Adaptive management is an interactive and iterative approach to decision-making that incorporates feedback loops for evaluating actions and adding new information as it becomes available.
Anadromous fish	Fish that spend a part of their life cycle in the sea and return to freshwater to spawn.
Anadromous Fish Restoration Program (AFRP)	Part of the Central Valley Project Improvement Act, the AFRP identifies instream and Delta flows needed for recovery of anadromous fish species.
Anaerobic conditions	Conditions characterized by low levels of oxygen.
Article 21 water	Water in excess of the amount required to meet the needs of the water project. Article 21 water is allocated to 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

Term	Definition
b(2) water	See *CVPIA b(2) water*.
Bank stabilization	Adding materials to a streambank to prevent erosion.
Baseline assessment	An assessment intended to help characterize existing watershed conditions and/or to establish a background for planning or future comparisons.
Bay-Delta	See *San Francisco Bay/Sacramento–San Joaquin Delta Estuary*.
Bay-Delta Advisory Council (BDAC)	A 34-member federally chartered citizens' advisory committee. BDAC provides formal comment and advice to the CALFED agencies during regularly scheduled meetings.
Bay-Delta Public Advisory Committee (BDPAC)	The California Bay-Delta Public Advisory Committee (BDPAC) is a cornerstone of CALFED's public involvement. Established by charter issued by the United States Department of Interior dated June 8, 2001, and filed on July 2, 2002, the 30-member Committee is charged with advising state and federal CALFED agencies on all aspects of Program implementation. With representation from an array of environmental, water, tribal, and civic interest groups, BDPAC provides a key link among CALFED agencies, stakeholders and the public. Nine subcommittees—formed over the past year—have emerged as an integral part of CALFED, providing oversight and input on specific program areas such as environmental justice and water use efficiency.
Bedload	Sediment or other material that slides, rolls, or bounces along a stream or channel bed of flowing water.
Beneficial Use	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.
Bentonite	Bentonite is a clay mineral that is used in drilling operations. Bentonite is 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.
Berm	A sloped wall or embankment (typically constructed of earth, hay bales, or timber framing) used to prevent inflow or outflow of material into/from an area
Boil	A seepage exit point on the landside of a levee that is characterized by the rapid movement (boiling) of sand particles.
Bulletin 160-98	Bulletin 160-98 is the latest in a series of California Water Plan updates. The previous update, Bulletin 160-93, was released in 1994. 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 160-98 is to evaluate options for meeting the state's future water needs.

Term	Definition
CALFED Bay-Delta Program (CALFED)	The mission of the CALFED Bay-Delta Program is to develop and implement a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta System. There are three phases to the CALFED Bay-Delta Program: **Phase I**—In Phase I, completed in September 1996, CALFED identified the problems confronting the Bay-Delta, developed the mission statement and guiding principles, and devised three preliminary categories of solutions for Delta water conveyance. In addition, CALFED identified three preliminary alternatives, representing differing approaches to conveying water through the Delta, to be further analyzed in Phase II. **Phase II**—In Phase II, CALFED has completed the Final Programmatic EIS/EIR and issued the Record of Decision. This includes development of the Preferred Program Alternative and development of the Plan of Action focusing on the first 7 years (Stage 1) following issuance of the Record of Decision. **Phase III**—Implementation will begin in Phase III. This period will include project-specific environmental review and permitting, as necessary.
CALFED Final Programmatic EIS/EIR	The NEPA and CEQA compliance document that provides a broad overview of the CALFED Program and the CALFED agencies' vision of their highest priority actions to pursue. It describes, in a broad sense, the environmental consequences of proposed actions and enables decisions to be made regarding CALFED Program direction and content.
CALFED Programmatic Record of Decision (ROD)	The Record of Decision issued by the federal lead agency for adopting the CALFED project as described in the CALFED Programmatic Final EIS/EIR and associated actions.
California Bay-Delta Authority (Authority)	The California Bay-Delta Authority oversees the implementation of the CALFED Bay-Delta Program for the 25 state and federal agencies working cooperatively to improve the quality and reliability of California's water supplies while restoring the Bay-Delta ecosystem. The California Bay-Delta Act of 2003 established the Authority as the new governance structure and charged it with providing accountability, ensuring balanced implementation, tracking and assessing Program progress, using sound science, assuring public involvement and outreach, and coordinating and integrating related government programs.
CALSIM model	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.
CALSIM II model	CALSIM II is the agreed upon CVP-SWP implementation of the CALSIM model code.
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. 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.
Carryover storage	The amount of water stored in reservoirs carried over from one year to another.

Term	Definition
Central Valley Project (CVP)	Federally operated water management and conveyance system that provides water to agricultural, urban, and industrial users in California. The CVP was originally authorized by legislation in 1937.
Central Valley Project Improvement Act (CVPIA)	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.
Central Valley Project Operations Criteria and Plan (OCAP)	The OCAP identifies the factors influencing the physical and institutional conditions and decision-making process under which the CVP operates.
Channel islands	Small, unleveed land masses in Delta channels that typically provide quality wildlife habitat. Some islands are remnants of original Delta marsh lands, and others are the result of channel widening, levee construction, and dredged material disposal.
Clifton Court Forebay (CCF)	The in-Delta storage used to regulate flows to the SWP Harvey O. Banks Pumping Plant.
Common Delta Pool	The Delta provides a common resource, including fresh water supply, for all Delta water users. 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.
Common Program	One of the six CALFED Bay-Delta Program elements (Water Use Efficiency, Water Quality, Long-Term Levee Protection, Ecosystem Restoration, Water Transfers, and Watershed) that are essentially the same for each of the three Bay-Delta Program Phase II alternatives.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Comprehensive Monitoring, Assessment, and Research Program (CMARP)	A program currently under development by the CALFED Bay-Delta Program to identify the monitoring, assessment and research needed for CALFED-related projects, actions, and activities. CMARP is a critical component of the CALFED adaptive management strategy.
Conceptual model	An explicit description of the critical cause-and-effect pathways in ecosystem function. A conceptual model includes a summary of current knowledge and hypotheses about ecosystem structure and function, and highlights key uncertainties where research might be necessary. Alternative or competing conceptual manipulations designed both to restore and explore the ecosystem. Conceptual models also help to define monitoring needs, and bases for quantitative modeling.
Conjunctive use	The operation of a groundwater basin in combination with a surface water storage and conveyance system. Water is stored in the groundwater basin for later use in place of or to supplement surface supplies. Water is stored by intentionally recharging the basin during years of above-average water supply.

Term	Definition
Conservation	From Section 3(3) of the Federal Endangered Species Act: The terms "conserve," "conserving," and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided under this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transportation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.
Conservation measure	Two types of conservation measures were developed under the CALFED Multi-Species Conservation Strategy: (1) measures designed to avoid, minimize, and compensate for CALFED's adverse effects on Natural Community Conservation Plan (NCCP) communities and evaluated species (applicable to species with "R," "r," and "m" conservation goals; and (2) measures to enhance NCCP communities and evaluate species that are not directly linked to CALFED's adverse impacts.
Contaminants	Any undesirable physical, chemical, biological, or radiological substance present in water as a result of human activities.
Contra Costa Canal (CCC)	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. Water is drawn from Rock Slough near Knightsen (8 miles east of Antioch) and Old River. Rock Slough water travels through a 4-mile unlined channel before entering the concrete-lined section of the canal in Oakley. Old River water is delivered by pipeline either to the Los Vaqueros Reservoir or to the Contra Costa Canal in Antioch.
Conveyance	See *water conveyance*.
Cooperating Agency	See *Responsible Agency*.
Critical habitat	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.
Cut-off wall	An impermeable barrier constructed through the levee to interrupt (cut off) seepage through the levee or foundation. A slurry cut-off wall is a combination of soil, cement, and bentonite (a clay material) constructed inside a trench down the center of the levee. This trench must be sufficiently deep to cut off or reduce seepage through or under the levee.
CVP Tracy	See *CVP Tracy Pumping Plant*.
CVP Tracy Pumping Plant	The Central Valley Project pumping plant in the south Delta.
CVPIA b(2) water	Statutory mandate to manage the water dedicated to fish and wildlife purposes pursuant to Section 3406(b)(2) of the Central Valley Project Improvement Act (CVPIA).
D-1630	Draft State Water Resources Control Board decision to modify Decision 1485 (Bay-Delta water quality). Decision directed the CVP and SWP to meet certain quality conditions.

Term	Definition
D-1641	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.
D-893	State Water Resoruces Control Board Water Right Decision 893 (1958) permitted Reclamation to operate the CVP.
Datums	Datums are baseline elevations at particular points against which other elevation measurements can be taken.
Day-Night Level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
Deep water	Water over 6 feet deep.
Delta	See *Sacramento–San Joaquin Delta*.
Delta Cross Channel (DCC)	Existing gated structure and channel connecting the Sacramento Rive at Walnut Grove to the North Fork Mokelumne River. The facility was constructed as part of the CVP to enhance 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.
Delta inflow	The combined water flow entering the Delta at a given time from the Sacramento River, San Joaquin River, and other tributaries.
Delta islands	Islands in the Sacramento–San Joaquin Delta protected by levees. The surface of the majority of islands are below sea level and provide many benefits, including agriculture, recreation, water quality, and habitat for fish and wildlife.
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 the exports from the Delta.
Delta-Mendota Canal (DMC)	The Delta-Mendota Canal, completed in 1951, carries water southeasterly from the Tracy Pumping Plant along the west side of the San Joaquin Valley for irrigation supply, for use in the San Luis Unit, and to replace San Joaquin River water stored at Friant Dam and used in the Friant-Kern and Madera systems. The canal is about 117 miles long and terminates at the Mendota Pool, about 30 miles west of Fresno. The initial diversion capacity is 4,600 cfs, which is gradually decreased to 3,211 cfs at the terminus.
Direct mortality	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*).
Disconnected backwaters	Backwaters that lack a surface connection to the river, generally respond to changes in groundwater elevation, and provide isolated habitat for fish and other aquatic organisms.

Term	Definition
Distressed pavement	Distressed pavement refers to pavement that shows some type of failure, usually failure of the soils under the structural roadway section. This causes depressions in the roadway along the path of the wheels, and eventually creates potholes.
Diversions	The action of taking water our of a river system of changing the flow of water in a system for use in another location.
Drainage blanket	A layer of crushed or rounded gravel and coarse sand, usually encapsulated in a geotextile filter fabric, that is placed on the slope and landside toe of a levee to control seepage and piping. Drainage blankets usually are placed prior to the addition of a stability berm.
Dredged material	Material removed by dredging.
Dredge spoil	Dredged material deposited on land or in a water body.
Dredging (spot, conveyance)	The SDIP will include "spot dredging" to allow extension of agricultural diversions and "conveyance dredging" to increase the capacity of selected Delta channels.
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, dry critical.
Ecological Management Zone (EMZ)	The 14 geographic subdivisions of the CALFED Ecosystem Restoration Program Regions of the Bay-Delta watershed.
Ecological process	Ecological processes act directly, indirectly, or in combination, to shape and form the ecosystem. These include streamflow, stream channel, and floodplain processes, among others.
Ecosystem	An interactive system that includes the organisms of a natural community association together with their abiotic physical, chemical, and geochemical environment.
Ecosystem management	Management of land and aquatic resources based on perspective of ecosystem structure, function, and dynamics aimed at long-term sustainability of watershed productivity. Ecosystem management integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting ecosystem integrity over the long term.
Ecosystem rehabilitation	In the context of CALFED, ecosystem rehabilitation is defined as the process by which resource managers reestablish or refurbish key elements of ecological structure and function within the Bay-Delta ecosystem to a level necessary to achieve Ecosystem Restoration Program (ERP) goals and objectives.
Ecosystem restoration	The establishment of ecological functions within an area that historically supported those functions but presently does not support those functions. Ecosystem restoration is a term sometimes used to imply the process of recreating the structural and functional configurations of an ecosystem to that present at some agreed to time in the past. Because the structure and function of many elements of the Bay-Delta ecosystem have been severely disrupted and cannot be feasibly restored to a specific historic condition, within the context of CALFED, ecosystem restoration is more realistically defined as the process by which resource managers ensure that the capacity of the ecosystem to provide ecological outcomes valued by society is maintained, enhanced, or restored.

Term	Definition
Ecosystem Restoration Program (ERP)	The CALFED ERP consists of restoration actions to help restore and improve the health of the Bay-Delta system for all native species while reducing water management constraints. The goals of the ERP are the recovery of 19 at-risk native species and to rehabilitate natural hydrologic processes, maintain and enhance fish populations, protect and restore functional habitat, reduce the negative impact of invasive species, and improve water quality.
Ecosystem Restoration Program Plan (ERPP)	A comprehensive plan for restoration and management of the Bay-Delta ecosystem, including upstream tributaries and watersheds.
Electrical Conductivity (EC)	See *salinity*.
Emergent	Flooded or ponded areas that support rooted, herbaceous vegetation with parts of the shoot both below and above water, including cattail and bulrush.
Endemic species	A species restricted to and only known to naturally occur within a specific geographic area.
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 commitments	Elements of the project description that, when implemented, avoid adverse impacts of constructing or operating a project.
Environmental Water Account (EWA)	A method of accounting for the water and financial assets that can be managed to provide additional protections for fishery resources beyond prescriptive standards.
Epilimnion	Warm, oxygen-rich, circulating layer of water at the surface of a lake.
Equivalent Sound Level (L_{eq})	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
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.
Estuary	Regions of interaction between rivers and near-shore ocean waters, where river flow and tidal action mix fresh and salt water.
Eutrophic	Classification of lakes with the highest nutrient levels and highest primary productivity.
Evolutionarily Significant Unit (ESU)	A population or group of populations that is considered distinct (and hence a "species") for purposes of conservation under the Endangered Species Act. To qualify as an ESU, a population must (1) be reproductively isolated from other conspecific populations, and (2) represent an important component in the evolutionary legacy of the biological species.
Export	Water diversion from the Delta used for purposes outside the Delta.
Export-Inflow Ration (E/I Ratio)	This requirement 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.

Term	Definition
Extinct species	A species no longer in existence.
Extirpated species	A species no longer surviving in regions that were once part of its range.
Fish control gate	A gate across a water body designed to control the downstream or upstream movement of fish. SDIP includes a fish control gate at the head of Old River.
Fish Entrainment	The incidental capture and loss of fish during water diversion.
Fish salvage	The process of screening fish at the south Delta export facilities and physically transporting them by truck to release on 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.
Flexible operations	Operation of the south Delta export pumps that would allow reducing export pumping at times critical to fish and increasing export pumping at other times. Flexible operations would allow higher or lower export rates and export-inflow ratios than prescribed by the *1995 Water Quality Control Plan*. Pumping could deviate from currently permitted rates seasonally and on a real-time basis in response to Delta flows and fish distributions.
Floodplain processes	Floodplain processes include overbank flooding and sediment retention and deposition.
Flow control gate	A gate across a water body designed to allow water levels to be controlled. SDIP includes three flow control gates.
Freeboard	The vertical distance between the levee crest and the design water surface elevation.
Geodetic datums	Geodetic datums are established relative to the idealized surface of the earth, which is approximately but not exactly sea-level. This is the datum most often used to gauge altitude or elevation.
Geographic information systems (GIS)	Integrated systems of computer hardware and software for the analysis and display of spatially distributed data. Computer programs that link features commonly seen on maps (such as roads, town boundaries, waterbodies) with related information not usually presented on maps (such as the type of road surface, population, type of vegetation, land use, or water quality information). GIS is a unique information system in which individual observations can be spatially referenced to each other.
Grant Line Canal	A canal in the south Delta. A flow control gate will be constructed at the western end of Grant Line Canal.
Grasslands Bypass Project	The Grasslands Bypass Project is a means of diverting selenium contaminated agricultural drainage water away from fresh water channels serving Grassland wetlands. The project includes interim use of a 28-mile section of the San Luis Drain with strict monthly and annual selenium-load targets for discharges from the 97,000-acre project area.
Groundwater	Any water naturally stored underground in aquifers, or that flows through and saturates soil and rock, supplying springs and wells.
Groundwater banking	Storing water in the ground for use to meet demand during dry years. In-lieu Groundwater Banking replaces groundwater used by users with surface water to build up and save underground water supply for use during drought conditions.

Term	Definition
Habitat	Habitat may be defined as the specific places where the environmental conditions (i.e., physical and biological conditions) are present that are required to support occupancy by individuals or populations of a given species. Habitat is always identified with regard to a species and is specific to each species physical and biological requirements.
Harass	An intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR §17.3).
Harm	An act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering (50 CFR §17.3).
Historical range	Those geographic areas the species was known or believed to occupy in the past.
Hood	A location on the Sacramento River in the northern Delta above the major tidal influence. It has been identified as one potential location for a new diversion, if it is determined to be needed, from the Sacramento River. A new intake at this point could move more water into the central Delta or be the beginning for an isolated facility. Sacramento River water is much fresher at this location than at the export facilities and a diversion at this point may have substantially fewer impacts on most species of fish than the current diversions at the export pumps.
Hydraulic gradient	Difference in water surface elevation between two points; describes the water surface slope that controls the movement of water along a channel (i.e., feet per mile).
Hydraulic radius	Channel cross-section area divided by the perimeter of the channel; used in this document as the effective depth of water in a channel.
Hydraulics	Study of the practical effects and control of moving water; used to refer to the relationship among channel geometry and flow, velocity, and depth of water.
Hydrocompaction	The loss of water between peat particles as a result of compaction from farming practices. The loss of water contributes to land subsidence.
Hydrograph	A chart or graph showing the change in flow over time for a particular stream or river.
Hydrostatic pressure	The pressure of water at a given depth resulting from the weight of the water above it.
Hypolimnion	Cold, oxygen-poor, non-circulating layer of water at the bottom of a lake.
Implementation objective	A description of water the CALFED Bay-Delta Program will strive to maintain or achieve for the Delta levee system that is not intended to change over the life of the program.
Incidental take	Take that results from, but is not the purpose of, carrying out an otherwise lawful activity.
In-Delta storage	Water storage within the Delta by converting an existing island to a reservoir. The storage can help facilitate flexible operations of the export pumps by allowing export of stored water when critical fresh species are present in the south Delta.

Term	Definition
Indirect mortality	The indirect fish losses from operating the Delta Cross Channel and south Delta export pumps. For example, fish diverted from the Sacramento River into the central and south Delta experience higher mortality through increased stress, small agricultural water diversions, poor water quality, predation, reduced shallow water habitat for fry, higher water temperatures, and higher residence times. This indirect mortality is a portion of the total fish mortality resulting from operation of the export pumps (see *direct mortality*).
Intactness	The visual integrity of the natural and artificial landscape and its freedom from encroaching elements. Intactness can be present in well-kept urban and rural landscapes, as well as natural settings.
Interagency Coordinated Program	A cooperative effort among the California Department of Fish and Game, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the Grasslands Water District to develop optimum water use planning for managed wetlands of the Central Valley.
Interagency Watershed Advisory Team (IWAT)	A group of 16 individuals representing 10 CALFED lead and cooperating agencies. The IWAT functions to help direct the development and implementation of the Watershed Program.
Interim South Delta Program (ISDP)	The objectives of the ISDP were to improve water levels and circulation in the south Delta and use the full Banks Pumping Plant capacity of 10,300 cfs. Before an EIS/EIR was completed on the program, it was decided that these actions should be reviewed as part of a comprehensive plan develop by the CALFED agencies.
Isolated Conveyance Facility	A canal or pipeline that transports water between two different locations while keeping it separate from Delta water.
Jib crane	A cantilevered boom or horizontal beam with hoist and trolley. This lifting machine may pick up loads in all or part of a circle around the column to which it is attached.
Land cover type	A land cover type represents the dominant features of the land surface and can be defined by natural vegetation, water, or human uses (e.g., agricultural lands, landscaping). Land cover type definitions for the SDIP tier from the CALFED Multi-Species Conservation Plan.
Land fallowing/retirement	Allowing previously irrigated agricultural land to temporarily lie idle (fallowing) or purchasing such land and allowing it to remain out of production for a variety of purposes for a long period of time.
Land subsidence	See *subsidence*.
Lead Agency	A lead agency is the government agency that has the principal responsibility for carrying out or approving a project and therefore the principal responsibility for preparing CEQA/NEPA documents. For the SDIP, the Bureau of Reclamation is the federal lead agency under NEPA and the California Department of Water Resources is the state lead agency under CEQA.
Levee	A natural or artificial embankment that constrains the flow of water to a channel.
Levee crest	See *levee crown*.
Levee crown	The highest, near-horizontal part of the levee between the water and landside slopes. The levee crest.
Level	See *tidal level*.

Term	Definition
Level of demand	See *level of development*.
Level of development	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.
Level of service (LOS)	1) A qualitative assessment of a road's operating conditions. For local government comprehensive planning purposes, level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility. 2) This term refers to a standard measurement used by transportation officials that reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F.
Liquefaction	A condition in which saturated or silty sands or sandy silts have no shear strength. Liquefaction occurs often when loose soils are subjected to ground shaking during an earthquake.
Loss of habitat	Loss of habitat is a reduction in habitat quality or quantity that results from an adverse change in an environmental condition. Environmental conditions may include cover, substrate, channel type, interacting species, river area, reservoir area, water quality, and groundwater depth.
Maximum Sound Level (L_{max})	The maximum sound level measured during the measurement period.
Mean high water	The average of all high waters over a long period.
Mean low water	The average of all low waters over a long period.
Mean lower low water	The average of the lower of the two low water heights of each tidal day.
Mean sea level (msl)	The average height of the sea surface over a long period.
Meander belt	Protecting and preserving land in the vicinity of a river channel ion order to allow the river to meander. Mender belts are a way to allow the development of natural habitat around a river.
Mesotrophic	Classification of lakes with nutrient levels and primary productivity intermediate between oligotrophic and eutrophic lakes.
Middle River	Major south Delta channel connecting Old River to the south with the San Joaquin River to the north. Segments of Middle River will be dredged to enhance water diversions.
Mine drainage remediation	Controlling or treating polluted drainage from abandoned mines.
Minimum Sound Level (L_{min})	The minimum sound level measured during the measurement period.
Mixing	Exchange of mass between two volumes; used in this document to refer to the movement of salt or fish from one location to another caused by the tidal movement of water within the Delta channels.
Model calibration	Adjustments made to a model (i.e., equations or coefficient values) to provide results that more closely follow observed data; used especially during initial model development and testing.

Term	Definition
Model validation	Comparative testing of model results with measured data to determine the adequacy of model simulations for describing the observed behavior of the modeled variables; used especially during model application to conditions different from those used to calibrate the model
Monitoring	The organized collection of information over time to aid the understanding process of a system. The information may be used in assessment, planning, and in overall management decision-making. Monitoring is also used to track the implementation accuracy and effectiveness of specific policies and projects.
Mudflats	Areas on the seaward side of tidal wetlands that remain under water even at the lowest tides.
National Geodetic Vertical Datum (NGVD)	An older system for determining elevation, based on surveys conducted in 1929 and regarded as less accurate than NAVD-88.
NCCP communities	The 20 natural community types identified by the CALFED Program. The NCCP communities are composed of 18 habitat types and two ecologically based fish groups.
Natural Community Conservation Planning (NCCP)	The NCCP program, a program of the Department of Fish and Game, is a cooperative effort to protect habitats and species. The program, which began in 1991 under the State's Natural Community Conservation Planning Act, is broader in its orientation and objectives than the California and federal Endangered Species Acts. These laws are designed to identify and protect individual species that have already declined in number significantly. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.
Net flow	Long-term average of flows in a channel; used to describe the magnitude and direction of flow in a channel after flows during a tidal cycle are averaged.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Non-native Species	Also called introduced species or exotic species; refers to plants and 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.
Non-project levee	A local flood control levee in the Delta that is not a project facility under the State Water Resources Law of 1945, as shown on page 38 of the California Department of Water Resources' *Sacramento–San Joaquin Delta Atlas* (California Department of Water Resources 1993).
North American Vertical Datum (NAVD-88)	A federally maintained system for determining elevation, based on 1988 surveys.
Noxious weeds	An alien, introduced or exotic undesirable species that is aggressive and overly competitive with more desirable native species.
O&M	See *operations and maintenance*.

Term	Definition
Old River	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. Potential improvements to the channel include a fish gate at its upstream end to keep migrating fish in the San Joaquin River and dredging north of Clifton Court Forebay to allow more efficient flow to the export facilities.
Oligotrophic	Classification of lakes with the lowest nutrient levels and lowest primary production.
OM&R	See *operations, maintenance, and replacement*.
Open water	A flooded or ponded area that does not support rooted vegetation. Deep water (over 6 feet deep) or frequent, rapid fluctuation in water depth are usually the cause for the lack of vegetation.
Operations and maintenance	Operating and maintaining built project features.
Operations Criteria and Plan (OCAP)	See *Central Valley Project Operations Criteria and Plan (OCAP).*
Overdraft	The condition, over the long-term, when more water is withdrawn from a groundwater basin than is recharged.
Oxidation	The conversion of organic matter (such as peat) by bacteria to carbon dioxide. The conversion is directly related to aerobic soil bacteria.
Peak Particle Velocity (PPV)	The maximum velocity of a particle in vibrating medium such as soil. PPV us usually expressed in inches/second.
Percentile-Exceeded Sound Level (L_{xx})	The sound level exceeded "x" percent of a specific time period. L10 is the sound level exceeded 10% of the time.
Performance measures	A means to gauge the progress of an action. Progress may be judged based on a variety of factors.
Piping	Erosion of levee or foundation material at seepage exit points. The process carries away levee material, resulting in shorter seepage paths and accelerated internal erosion of the levee.
Population	A group of individuals of the same species inhabiting a given geographic area at the same time and among which mature individuals interbreed or are likely to interbreed. Ecological interactions and genetic exchange are more likely among individuals within a population than with individuals in other populations of the same species.
Primary zone	The Delta land and water area of primary state concern and statewide significance that is situated within the boundaries of the Delta but not within the urban limit line or sphere of influence line of any government's general plan or currently existing studies, as of January 1, 1992 (Delta Protection Act of 1992).
Production	Production is the total tissue elaboration of a population per unit area per unit of time; it involves the ability of populations of animals to replace themselves in terms of the materials in the bodies of their individuals. Tissue elaboration includes growth, accumulation of fat, gonad maturation, reproduction, recruitment and contribution to a population.

Term	Definition
Program element	The CALFED Bay-Delta Program program elements for the Phase II Alternatives include and element for Delta conveyance, an element for storage, and the six common program elements (Water Use Efficiency, Water Quality, Levee System Integrity, Ecosystem Restoration, Water Transfers, and Watershed Management).
Project levee	A federal flood control levee, as shown on page 40 of the California Department of Water Resources' *Sacramento–San Joaquin Delta Atlas*, dated 1993, that is a project facility under the State Water Resources Law of 1945—if not less than a majority of the acreage under the jurisdiction of the local agency that maintains the levee is within the Primary Zone of the Delta, as defined in the Public Resources Code (and above) (California Department of Water Resources 1993).
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 the 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.
Range	The geographic area a species is known or believed to occupy.
Raveling	Raveling pavement occurs when pavement loses its oil content over time and becomes dry and brittle. This causes the surface aggregates to become loose and causes the pavement to develop potholes and fail.
Real-time monitoring and operations	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. This is an essential feature to allow flexible operations of the export pumps.
Rearing habitat area	Habitat used by fish during the rearing periods. As an example, delta smelt rearing habitat is the estuarine mixing zone.
Reasonable and Prudent Alternatives (RPAs)	Alternative actions identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the federal agency's legal authority and jurisdiction, that is economically and technologically feasible, and that the Director of USFWS believes would avoid the likelihood of jeopardizing the continued existence of special-status species or resulting in the destruction or adverse modification of critical habitat (50 CFR §402.02).
Reasonable and Prudent Measures (RPMs)	Actions the Director of USFWS believes necessary or appropriate to minimize the impacts, i.e., amount or extent, of incidental take (50 CFR §402.02).
Recovery	The process by which the decline of an endangered or threatened species is arrested or reversed, or threats to its survival neutralized so that its long-term survival in nature can be ensured. Recovery includes actions to achieve the conservation and survival of a species, including actions to prevent any further erosion of a population's viability and genetic integrity and actions to restore or establish environmental conditions that enable a species to persist (i.e., the long-term occurrence of a species through the full range of environmental variation).
Reliability	The probability of meeting a specified water delivery.

Term	Definition
Resource Conservation District (RCD)	Formed through Division 9 of the California Public Resources Code, a Resource Conservation District (RCD) is an independent special district, self-governed by a Board of Directors. Separate from county, state, and federal agencies, an RCD is charged with locally securing "the adoption of conservation practices including but not limited to, farm, range, open space, urban development, wildlife, recreation, watershed, water quality and woodland, best adapted to save the basic resources of the state from unreasonable and preventable waste and destruction" (Section 9001 Declaration of Policy; purposes).
Responsible Agencies	(Cooperating Agency under NEPA) Those that have a legal responsibility to approve the project. These agencies are required to rely on the Lead Agency's environmental document in acting on whatever aspect of the project requires its approval, but must prepare and issue its own findings regarding the project (CEQA Guidelines Section 15096). The California Department of Fish and Game, the Office of Historic Preservation, the Reclamation Board, the Air Resources Board, and Regional Water Quality Control Board (#5) are responsible agencies for the SDIP.
Riparian	Vegetation or other resources associated with a river that are dependent on groundwater and floodwater controlled by the river. The land adjacent to a natural water course such as a river or stream. Often supports vegetation that provides important wildlife habitat, and important fish habitat values when growing large enough to overhang the bank.
Riprap	A protective blanket of large loose stones, placed in random fashion on the upstream and downstream faces of embankment dams, streambanks, on a reservoir shore, on the sides of a channel, or other land surfaces to protect them from erosion or scour caused by current, wind, and/or wave action.
Sacramento–San Joaquin Delta (the 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.
San Joaquin River	The San Joaquin begins in the southern Sierra Nevada and flows southwest and then north-northwest past Stockton to join the Sacramento River above Suisun Bay. The river is approximately 350 miles long. Major water storage impoundments included CVP's Friant Dam near Fresno.
San Joaquin Valley Drainage Program	The federal-State San Joaquin Valley Drainage Program (SJVDP) studied ways of remedying subsurface agricultural drainage and related problems operated during the period 1985–1990. The SJVDP prepared the report titled, *A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside of the San Joaquin Valley, September 1990*. The report identified the need for 75,000 acres of land retirement by year 2040 but pointed out that without adequate drainage management, soil salinization will occur and potentially cause almost 500,000 acres of land to be abandoned by year 2040.

Term	Definition
San Luis Drain	CVP's San Luis Drain is designed to convey and dispose of subsurface irrigation return flows from the San Luis service area. The drain was designed to collect subsurface drainage from 8,000 acres in the San Luis service area and transport the water for disposal in the west Delta. Because of costs and Delta water quality concerns, the drain was not completed. It currently terminates at Kesterson Reservoir.
Scour	Removal of soil or fill material by the flow of floodwaters. The term is frequently used to describe storm-induced, localized conical erosion around pilings and other foundation supports where the obstruction of flow increases turbulence.
Sediment	Rock and mineral particles transported by water. Sediment relevant to wetlands tends to be relatively fine because the low gradients involved do not transport larger particles.
Sedimentation	Sediment is any particulate matter that can be transported by fluid flow and which eventually is deposited as a layer of solid particles on the bed or bottom of a body of water or other liquid. Sedimentation is the deposition by settling of a suspended material.
Seepage	The movement of water through a porous material in response to a hydraulic gradient.
Seismicity	The frequency, intensity, and distribution of earthquake activity in an area.
Setback levee	A constructed embankment to prevent flooding that is positioned some distance from the edge of the river or channel and is not in contact with the original levee. Setback levees provide area for wildlife habitat to develop and for floodflow capacity between the levee and the river or stream.
Settlement	A downward movement of a surface as a result of underlying sol compression or consolidation caused by an increased load or the loss of underlying soil (foundation) support.
Settling pond	Settling ponds can be permanent or semi-permanent structures, dugouts, impoundments, or raised tanks that remove silt and suspended clays from water used for washing aggregate, and/or from dirty stormwater.
Shallow water	Water with just enough depth to allow for sunlight penetration, plant growth, and the development of small organisms that function as fish food. Shallow waters can also serve as spawning areas for delta smelt.
Slope protection	Various types of materials used to protect the levee surface and stream bank adjacent to the levee from erosion.
Slurry	A liquid containing suspended solids.
Slurry cut-off wall	See *cut-off wall*.
Smolt	A young salmon that has assumed the silvery color of the adult and is ready to migrate to the sea.
Snags	Fallen branches, any dead or dying standing tree, washed out shrubs and small logs. They are important for the provision of food, shelter, and breeding places for animals in the water.
Solution principles	Fundamental principles that guide the development and evaluation of Program alternatives. They provide an overall measure of acceptability of the alternatives.

Term	Definition
Sound	A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
South Delta	Generally, the southern half of the Sacramento–San Joaquin River Delta.
South Delta Temporary Barriers Program	The South Delta Temporary Barriers Program was initiated in response to the draft settlement agreement among DWR, Reclamation, and the South Delta Water Agency to address water supply problems in the south Delta. The agreement included provisions to construct and operate temporary rock barriers across selected south Delta channels to improve water supply and water quality. Since 1991, DWR has seasonally installed three flow control barriers (Middle River, Grant Line Canal, and Old River) and one fish control barrier (head of Old River).
South of Delta storage	Water storage supplied with water exported south from the Delta.
Spawning habitat area	Areas used by fish for spawning. As an example, spawning habitat for steelhead includes clean gravels and water temperatures between 44- and 54ºF.
Special-status species	Federal and state classifications for plant and animal species that are either listed as threatened or endangered, are formally recognized candidates for listing, or are declining to a point where they may be listed.
Spoils (spoils ponds, spoils disposal)	Dirt or rock that has been removed from its original location, destroying the composition of the soil in the process, as with strip-mining or dredging
Stability berm	Earth fill usually placed against the levee landside slopes to act as a counterweight to prevent rotational slides.
Stakeholder	Anyone who lives in a watershed or has land management, administrative, or other responsibilities or interests in it. Stakeholders include private individuals, businesses, government agencies, and special interest groups, wildlife and fisheries, among others.
Stage	Water surface elevation; the elevation above mean sea level (msl) datum (typically measured in feet msl). This term appears only in Appendix D and is referred to as 'tidal level' in the remaining chapters and appendices.
State Water Project (SWP)	A California state water storage and conveyance system that pumps water from the Delta for agricultural, urban domestic, and industrial purposes. The SWP was authorized by legislation in 1951.
Stream channel processes	Stream channel processes include stream mender, gravel recruitment, and transport, water temperature, and hydraulic conditions.
Stressors	Natural and unnatural events or activities that adversely affect ecosystem processes, habitats, and species. Environmental stressors include, but are not limited to, water diversions, water contaminants, levee confinement, stream channelization and bank armoring, mining and dredging in streams and estuaries, and invasive plant species in aquatic and riparian zones. Other major stressors include large dams and reservoirs that block transport of the natural supply of woody debris and sediment in streams or alter unimpaired flows.
Structural section	The minimum levee cross section required for levee integrity
Subsidence	A decrease in ground surface elevation. Subsidence in the Delta is the result of a complex interaction of deep or large-scale processes and numerous shallow, near-surface causes. Subsidence is discussed in terms of levee subsidence or settlement and interior island subsidence.

Term	Definition
Subtidal	Always covered by water, even at low tide.
Succession	The change in the composition and structure of a biological community over time in the absence of major disturbance (e.g., fire, flood, land clearing by people). For example, deep open water in a backwater may gradually fill over time with organic and inorganic material and become colonized by marsh species (e.g., cattail and bulrush). The marsh may eventually be succeeded by riparian forest of willows and cottonwoods. A major flood event could scour out the backwater site, returning it to an open water condition.
Suisun Marsh islands	Islands in the Suisun Marsh protected by levees. The surface of the majority of islands are below sea level and provide many benefits, including recreation uses and habitat for fish and wildlife.
Suspended load	Sediment that is transported by suspension in the water column of a stream or river.
SWP Banks	See *SWP Harvey O. Banks Pumping Plant*.
SWP Harvey O. Banks Pumping Plant	The State Water Project (SWP) export pumping plant in the south Delta. The plant is located downstream of Clifton Court Forebay.
Table A	When the SWP was being planned, the amount of water projected to be available for delivery to contractors was 4.2 million acre-feet per year. Table A lists by year and acre-feet the portion of the 4.2 million acre feet deliverable to each contractor. Table A amounts are not an indication of the SWP water delivery reliability, but are a tool for apportioning available water supplies.
Take	From Section 3(18) of the Federal Endangered Species Act: The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The definition of "take" under the California Endangered Species Act comes from Section 86 of the California Fish and Game Code: The term take means an action to or attempt to hunt, pursue, catch, capture, or kill.
Target	A qualitative or quantitative statement of an implementation objective. Targets may vary as new information becomes available and according to Delta conveyance alternatives. Targets are to be set based on realistic expectations; must be balanced against other resource needs; and must be reasonable, affordable, cost effective, and practicably achievable.
Temporary Barriers Program	See *South Delta Temporary Barriers Program*.
Terrestrial species	Types of species of animals and plants that live on or grow from the land.
Through-Delta conveyance	A means of improving conveyance across the Delta by a variety of modifications to Delta channels.
Tidal datums	Tidal datums mark elevation relative to the range of tides at a particular point. This can be the most ecologically relevant measurement as it tells us about the relationship between the surface of the marsh and the tide. Tidal datums are valid only in the vicinity of where they are measured.
Tidal elevation	The height of a tide with respect to a fixed point (datum) on land.
Tidal excursion	The distance between the most upstream position and most downstream position of a floating object that is released from a location at mean tide and tracked over a complete tidal cycle.

Term	Definition
Tidal flats	A tidal flat is a broad and flat land caused by the rising tide and exposed at its ebb. Tidal flats can be divided into sand flat and mud flat based on the components of sediments, and into the coastal tidal flat and the estuary tidal flat based on the location. Normally these areas have an excess of soluble salt.
Tidal flow	Flow caused by tidal changes in level and hydraulic gradient; describes the fluctuating flows in a channel caused by the tide. Tidal flow is equal to the tidal velocity times the channel cross-sectional area.
Tule and cattail tidal emergent wetland	This wetland type includes portions of the intertidal zones of the Delta that support emergent wetland plants that are not tolerant of saline or brackish conditions.
Tidal hydraulics	Water movements caused by tidal forces (i.e., gravitational); used to describe the movement of water in Delta channels caused by tidal level variations in San Francisco Bay.
Tidal level	Water surface elevation; the elevation above mean sea level (msl) datum (typically measured in feet msl). This definition applies to 'stage' in Appendix D.
Tidal marshlands	Low, flat marshlands traversed by channels and tidal hollows, subject to tidal inundation; normally, the only vegetation present is salt-tolerant bushes and grasses
Tidal prism	The volume of water that moves past a location as the result of a change in tidal level; used in this document to refer to the change in volume between low tide and high tide, estimated as the upstream water surface area times the change in tidal level.
Tidal range	Mean high water minus mean low water. This can be used as an average movement of the water level during a typical tidal cycle.
Toe ditch	The open trench along the landside toe of the levee typically used to collect seepage water and distribute the water for agricultural purposes.
Toe drain	A trench along the landside toe of the levee designed to reduce saturation of the levee, control seepage, and help prevent boils. A toe drain is constructed by placing crushed rock in a trench at the landside toe of the levee. The rock is encapsulated in filter fabric that prevents levee and foundation soils from migrating into the rock.
Tracy Fish Test Facility	The Tracy Fish Test Facility is a research project with a goal of determining the feasibility of a new state-of-the-art fish screen and salvage facility for the SWP and CVP. Areas to be evaluated include fish screening and collecting, predator management, and fish release.
Tracy Fish Test Facility Forum	This group meets regularly to discuss problems related to operation of the CVP and DWR fish screens and potential solutions, including the fish test facility.
Transport	Movement of mass from one location to another; used in this document to refer to the movement of salt or fish from one location to another caused by net flows.
Tributary	Stream flowing into a lake or larger stream.
Trustee Agencies	Agencies that have jurisdiction over certain resources held in trust for the people of California but do not have legal authority over approving or carrying out the project. The California Department of Fish and Game and the State Lands Commission are trustee agencies for the SDIP.

Term	Definition
Unity	The visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape.
Unoccupied Habitat	Sites that support all of the constituent elements necessary for a species, but where surveys have determined the species is not currently present. The lack of individuals or populations in the habitat is assumed to be the result of reduced numbers or distribution of the species such that some habitat areas are unused. It is expect that these areas would be used if species numbers or distribution were greater. See also *habitat*.
Uplands	The area on the landward side of the tidal marsh, where the land surface is not inundated by even the highest tides.
Upstream storage	Any water storage upstream of the Delta supplied by the Sacramento or San Joaquin Rivers or their tributaries.
Validation monitoring	Validation monitoring is used to test the accuracy and reliability of a model or hypothesis.
Vehicle/capacity ratio	The vehicle/capacity ratio is the ratio of traffic volume on a given highway to the capacity of that highway. It is the peak hour traffic volume (vehicles/hour) on a highway section divided by the maximum volume that the highway section can handle.
Vernalis Adaptive Management Program (VAMP)	The Vernalis Adaptive Management Program (VAMP) was developed to study the effects of different qualities, quantities, and timing of flows on fish.
Victoria Canal	A south Delta canal, approximately 5 miles long, located northeast of Clifton Court Forebay and linking Middle River and Old River.
Vividness	The visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
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 conveyance	The flow capacity of a channel related to the hydraulic radius, used to describe the flow in channels.
Water reclamation	Practices that treat and reuse water. The wastewater is treated to meet health and safety standards depending on its intended use. Also called water recycling.
Water transfers	Voluntary water transactions conducted under state law and in keeping with federal regulations.
Waters of the United States	As defined in the CWA Section 404, *waters of the United States* applies only to surface waters, rivers, lakes, estuaries, coastal waters, and wetlands. Not all surface waters are legally waters of the United States. 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	Total land area draining to any point in a stream. An area that drains to a particular channel or river, usually bounded peripherally by a natural divide of some kind such as a hill, ridge, or mountain.

Term	Definition
Watershed activity	One of the several and diverse actions and decisions that cumulatively amount to watershed management.
Watershed analysis	A systematic procedure for characterizing watershed and ecological processes to improve understanding and/or meet management and social objectives.
Watershed management	The net result of numerous and varied actions in a watershed that directly affect watershed function and productivity. Actions may include, but are not limited to, land-use decision-making, restoration and enhancement projects, monitoring and assessment of watershed condition, natural resource allocation and use, parcel management techniques and education programs. Watershed management includes protection of existing healthy conditions.
Watershed restoration	Actions in a watershed that directly improve watershed function and productivity. Watershed restoration includes activities which promote conservation and protection of existing healthy conditions.
Watershed stewardship	See *watershed management.*
Wetland	Wetlands are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
X2	The location (measured in kilometers 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 each month 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.
Yolo Bypass	Floodway constructed by the U.S. Army Corps of Engineers designed to convey Sacramento, American, and Feather River floodflows around Sacramento.