

**Accretion** – Sediments carried by a stream and deposited along banks or surrounding areas.

**Acre-foot**– A quantity or volume of water covering one acre to a depth of one foot (43,560 cubic feet).

**Active Restoration** – Specific human actions taken to reestablish the natural process, vegetation, and resultant habitat of an ecosystem.

**Agency Preferred Alternative** - The alternative which the agency (or agencies) believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors.

**Aggrade (aggradation)** – To raise the channel of a river by depositing sediment and similar materials.

**Alluvial** – Pertaining to clay, silt, sand, gravel, or other sedimentary matter deposited by flowing water, usually within a river valley.

**Anadromous** – Pertaining to fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.

**Annual Demand** – Total yearly amount of water required for irrigation, usually expressed in a volume (acre-feet).

**Approach Velocity** – The velocity of water flowing towards and perpendicular to a fish screen face.

**Avoidance Periods** – Time periods of days, weeks, or months that represent critical life history stages for species. Disruption during these stages could harm individuals and/or populations.

**Baffle** – A device used to direct water flow, often to equalize flow across a boundary surface such as a fish screen.

**Bank Protection** – A method of erosion control in which materials (usually rock revetment) are placed along the banks of a river in order to prevent encroachment on adjacent land.

**Bank Stabilization** – The prevention of channel migration through bank protection.

**Basin** – An area drained by a river and its tributaries.

**California Environmental Quality Act (CEQA)** – Act requiring California public agency decision makers to document and consider the environmental impacts of their actions. Also requires an agency to identify ways to avoid or reduce environmental damage and to implement those measures where feasible, and provides a means to encourage public participation in the decision-making process.

**Central Valley Project (CVP)** – Agricultural water supply system that is operated and maintained by the Federal Bureau of Reclamation; water from the Sacramento River is captured and conveyed from Lake Shasta to the San Joaquin Valley.

**Channel** – The space above the bed and between the banks occupied by a natural or artificial waterway that confines water.

**Channel Migration** – The lateral movement of a river as it adjusts to balance erosion with deposition.

**Chute Cutoff** – A channel that connects the converging areas of a meander bend: a chute cutoff creates an oxbow lake from an existing meander bend.

**Conservation** – Reduction in applied water due to more efficient water use.

**Conservation Easement** – Legally binding restrictions that landowners voluntarily place on their properties that bind present and future owners; these restrictions limit certain rights and uses of the property for conservation, preservation or restoration purposes.

**Cooperating Agency** – A cooperating agency may be 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 proposal.

**Critical Habitat** – A specific area or type of area considered to be essential for the survival of a species and designated as such under the Endangered Species Act.

**Dewater** – To remove water.

**Degrade (degradation)** – Opposite of aggrade (aggradation); to erode or deepen a river channel.

**Designated Floodway** – The river channel and that portion of the adjoining floodplain required to reasonably provide passage for the 100-year flood (defined by State Reclamation Board).

**Distributary** – A branch of the river that flows away from the main river channel without rejoining it.

**Diversion** – The removing or turning of water from its natural channels.

**Drainage Water** – Excess surface or subsurface water collected and conveyed from irrigated lands. May be recaptured and reused or conveyed for downstream demands.

**Dredging** – Widening or deepening of water channel by removing sand, mud, silt, or gravel. Dredging can be accomplished using suction pumps or mechanical scrapers.

**Ecosystem** – A community of different species interacting with one another and their environment.

**Ephemeral** – Lasting a short time; a stream that does not flow year round.

**Extirpation** – Local extinction or complete disappearance of a species from a region.

**Effects** – CEQA Guidelines Definition 15358 states “Effects” and “impacts” are synonymous. Effects include:

- (1) Direct or primary effects which are caused by the project and occur at the same time and place.
- (2) Indirect or secondary effects, which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- (3) Effects analyzed under CEQA must be related to physical change.

**Emigrate** – To migrate or move from one habitat to another; in the case of anadromous fish such as salmon, to migrate or move in a downstream direction from fresh riverine systems to estuarine and marine systems as juveniles.

**Endangered Species Act** – State and Federal laws which authorize and establish the process for the protection of habitats and populations of species threatened with extinction. The stated purposes of the of the Endangered Species Act are to provide conservation of the ecosystems upon which endangered and threatened species depend and to establish and implement a program to conserve these species.

**Enhancement** – Actions that improve the quality of existing habitat beyond its originally designed purpose or condition.

**Entrainment** – Process by which fish are pulled through or around the fish screen face and are carried into the intake channel.

**Environmentally Superior Alternative** – That alternative which minimizes adverse environmental effects. If the no-project alternative is identified as environmentally superior, CEQA Guidelines 15126 (d)(4) indicates the EIR shall also identify an environmentally superior alternative among the other alternatives.

**Exposure Time** – The average length of time fish could be exposed to the fish screen face.

**Feasible** – CEQA Guidelines Definition 15364 states: “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

**Fish and Wildlife Coordination Act** – The Fish and Wildlife Coordination Act and related acts express the policy of Congress to protect the quality of the environment as it affects the conservation, improvement, and enjoyment of fish and wildlife resources. Under this act, any federal agency that proposes to control or modify any body of water, or to issue a permit allowing control or modification of a body of water, must first consult with the U.S. Fish and Wildlife Service and State fish and game officials.

**Fish Migration** – Movement of fish from one aquatic habitat to another; in the case of anadromous fish, movement from freshwater to estuarine and marine habitats or vice versa.

**Floodplain** – The relatively flat area along the sides of a river which is naturally subject to flooding.

**Floodway** – The river zone that could theoretically (based on surveying data and hydraulic calculations) convey the 100-year flood with only a one foot rise of water level above the height of the unconfined flood; construction is generally prohibited in these areas.

**Flow** – The volume of water passing a given point per unit of time. Same as streamflow.

**Fluvial** – Pertaining to a river.

**Forb** – An herb that is not considered to be a grass or grasslike.

**Fry** – Life stage of fish between the egg and fingerling stages.

**Geomorphology** – The form or shape of the earth or landscape.

**Groundwater** – Water contained beneath the land surface of the earth that can be collected with wells, or drainage galleries, or water that flows naturally to the earth's surface via seeps or springs.

**Habitat** – The environment of a plant or animal species.

**Hard Points** – Structures located adjacent to a river, such as buildings, bridges, or levees, that change the direction or rate of channel migration by interfering with the river's movement.

**Hydrologic Hydraulic “Hot Spot”** – An area along the screen face that is subject to velocities or unusual flow patterns that could impinge, entrain, or entrap small fish.

**Hydrology** – The science concerned with the properties, distributions and characteristics of the water in relation to the earth.

**Immigrate** – To migrate or move from one habitat to another; in the case of anadromous fish such as salmon, to migrate or move in an upstream direction from estuarine and marine systems to freshwater riverine systems as adults.

**Impacts** – “Impacts” and “Effects” are synonymous. See “Effects” for a complete description.

**Impingement** – Flows causing fish to become stuck to the face of a fish screen.

**Incidental Take** – The loss or harassment of a listed species or degradation of their habitat incidental to an otherwise lawful activity.

**Instantaneous (Peak) Demand** – Peak daily amount of water required to meet near-term irrigation needs. This is usually expressed as flow (cubic feet per second).

**Internal Fish Bypass** – Opening (bays) along the screen face that leads to pipelines which take juvenile fish downstream of the fish screen. Its purpose is to minimize fish screen exposure time.

**Lead Agency** – CEQA Guidelines Definition 15367 states: “Lead Agency” means the public agency that has the principal responsibility for carrying out or approving a project.

**Levee** – An embankment designed to prevent the flooding of a river; may be natural or human made.

**Levee Toe** – The outer edge of the levee base where it meets the levee grade.

**Mainstem** – The principal channel of the river.

**Meander** – A turn or winding in a river or streambed that changes over time.

**Meander Scar** – The area of land marked by the earlier presence of a meandering river channel.

**Mitigation** – CEQA Guidelines Definition 15370 states: “Mitigation” includes: (a) avoiding the impact altogether by not taking an action or certain parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments.

**Mortality** – The rate or proportion of deaths.

**National Environmental Policy Act (NEPA)** - Directs federal agencies to prepare an environmental impact statement for all major federal actions which may have a significant effect on the human environment. States that it is the goal of the federal government to use all practicable means, consistent with other considerations of national policy, to protect and enhance the quality of the environment. Requires all federal agencies to consider the environmental impacts of their proposed actions during the planning and decision-making process.

**Natural Levee** – Naturally occurring deposits along the sides of a river that constrain frequent floods.

**Non-point Source Pollution** – Water pollution deriving from a broad area rather than a specific place; for example, urban and agricultural runoff may contain non-point source pollutants.

**One-hundred-year Floodplain** – The relatively flat portion of the river channel that has a one percent chance of being inundated by flood waters in any given year.

**Overwinter** – To remain in a particular habitat during the winter season.

**Oxbow** – Crescent shaped bend in the river.

**Pacific Flyway** – An established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America.

**Phreatophyte** – Plant that draws water from saturated soils typically found in river floodplains.

**Pumping** – To draw water from a river.

**Recapture** – Water diverted for reuse from runoff of agricultural fields.

**Redd** – A depression dug by spawning salmon in gravel into which eggs are laid.

**Reforestation** – The replanting of trees in an area that was previously forested.

**Responsible Agency** – CEQA Guidelines 15381 states “Responsible Agency” means 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. For the purposes of CEQA, the term “Responsible Agency” includes all public agencies other than the lead agency which have discretionary approval over the project.

**Restoration/Revegetation** – Reestablishing a habitat or plant community in an area that historically supported it.

**Revetment** – Materials (e.g. rock, riprap, or matting) or a structure placed to restrain underlying material from being transported away.

**Revetted Bank** – Shoreline protected by riprap.

**Riffle** – The topographic high points on a streambed profile composed of the coarsest bed material being transported by the river.

**Riparian** – Located on the banks of a stream, river, lake, or pond.

**Riparian Corridor** – A band of native riparian vegetation, or frequently flooded land, of variable width, adjacent to a river channel.

**Riparian Habitat** – An area composed of native riparian vegetation that provides habitat for wildlife.

**Riprap** – A foundation or wall made of broken stones or other erosion-resistant materials (e.g. concrete).

**River Gradient** - The slope of a river’s water surface profile.

**Riverine** – Relating to, formed by, or situated on a river.

**Rock Revetment** – A layer of rock designed to protect a river embankment.

**Sacramento River Water Management System** – The upper Sacramento River, its tributaries, and facilities affecting the timing and amounts of flows in the river.

**Salinity** – The quality, state, or degree of saltiness.

**Salmonid** – A fish or species of the salmon and trout family.

**Scoping** – An early, open process for determining the scope of issues to be addressed and identifying the significant issues related to a proposed action.

**Screen Extension** – The feature or alternative that would lengthen the existing screen.

**Sedimentation** – Soil or gravel transported by water from other streams and bodies of water that settle out of water and are deposited.

**Sensitive Species** – A plant or animal species listed by the state or federal government as threatened, endangered, or as a species of special concern. SEE ALSO: threatened species, endangered species.

**Seral Stages** – Ecological communities that succeed one another in the biotic development of an area.

**Set-back Levee** – Levees that are constructed at a distance from the river channel in order to allow the river to occupy a portion of its floodplain; these levees are usually smaller in size than levees placed immediately adjacent to the river channel. SEE ALSO: levee, natural levee.

**Shaded Riverine Aquatic Cover (SRA Cover)** – Unique, nearshore aquatic areas occurring at the interface between a river (or stream) and adjacent woody riparian habitat. Characteristics include: the adjacent bank being composed of natural, eroding banks supporting riparian vegetation that either overhangs or protrudes into the water; waters containing variable amounts of woody debris, such as leaves, logs, roots, and branches. This type of habitat has been designated as Resource Category 1 under U.S. Fish and Wildlife Service Mitigation Policy.

**Sinuous** – Having many curves, bends, or turns, such as a meandering river.

**Snag** – A dead tree or part of a tree, such as a stump, located in a river channel.

**State Water Project (SWP)** – The water storage and conveyance system that is operated and maintained by the California Department of Water Resources.

**Special-Status Species** – Any species listed or proposed for listing under the Endangered Species Act.

**Streamflow** – The volume of water passing a given point per unit of time.

**Succession** – The replacement of one plant community by another over time.

**Thalweg** – Generally defined as the center line of a river channel that (where uncontrolled) is constantly changing as a function of flow, sedimentation, and erosion processes, and other physical properties.

**Threatened Species** – A species that is still abundant in its natural range but may become endangered if it declines in number.

**Tributary** – A stream or body of water that flows into a larger body of water, such as a larger river.

**Turbidity** – Suspended matter in water that causes scattering or absorption of light rays and a cloudy appearance.

**Understory** – Underlying, low vegetation often including shrubs, small trees, grasses, and forbs.

**Watershed** – The total area above a given point on a watercourse that contributes water to its flow; the entire area from which a river receives its water supply. Also referred to as catchment or catchment basin.

**Weir** – A notch or depression in a dam or other water barrier through which the flow of water is either measured or regulated.

**Wetland** – Lands that are transitional between terrestrial and aquatic systems where water is usually at or near the surface or the land is covered by shallow water (typically streams, lakes, and the open ocean).