
6. GLOSSARY AND ACRONYMS

Glossary

AF Abbreviation for acre feet; the volume of water that would cover one acre to a depth of one foot, or 325,851 gallons of water. On average, could supply 1-2 households with water for a year. A flow of 1 cubic foot per second for a day is approximately 2 AF.

Alternative A collection of actions or action categories assembled to provide a comprehensive solution to problems in the Bay-Delta system.

AFRP Anadromous Fish Restoration Program, part of the Central Valley Project Improvement Act. The AFRP identified instream and Delta flows needed for recovery of anadromous fish.

Action A structure, operating criteria, program, regulation, policy, or restoration activity that is intended to address a problem or resolve a conflict in the Bay-Delta system.

Anadromous Fish Fish that spend a part of their life cycle in the sea and return to freshwater streams to spawn.

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.

Banks Pumping Plant The State Water Project (SWP) export pumping plant in the south Delta. The plant is located downstream of Clifton Court Forebay.

BDAC The Bay-Delta Advisory Council, a 34-member federally chartered citizens' advisory committee. BDAC provides formal comment and advice to the CALFED agencies during regularly scheduled meetings.

Best Management Practices (BMP) An urban water conservation measure that the California Urban Water Conservation Council agrees to implement among member agencies. The term is also used in reference to water quality standards, watershed management activities, and others.

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.

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.

Channel Islands Natural, unveeved land masses within Delta channels. Typically good sources of habitat.

Clifton Court Forebay The in-Delta storage used to regulate flows to the Banks Pumping Plant.

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

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 models illustrate areas of uncertainty, paving the way for suitably-scaled experimental 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 ground water 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.

Conveyance A pipeline, canal, natural channel or other similar facility that transports water from one location to another.

Delta Cross Channel Existing gated structure and channel connecting the Sacramento River 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. Delta Islands provide space for numerous functions including agriculture, communities, and important infrastructure such as transmission lines, pipelines, and roadways.

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.

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

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).

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

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.

Dual Conveyance A means of improving conveyance across the Delta by both improving through-Delta conveyance and isolating a portion of conveyance from Delta channels.

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

Ecosystem Manager (Trustee) An entity responsible for environmental improvements in the Bay-Delta system with the financial means, legal rights, authorities, and discretion needed to carry out the Ecosystem Restoration Program (ERP).

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

Environmental Water Account A method of accounting for the water and financial assets that can be managed to provide additional protections for fishery resources beyond prescriptive standards.

ESA (Endangered Species Act) Federal (FESA) and State (CESA) legislation that provides protection for species that are in danger of extinction.

Export Water diversion from the Delta used for purposes outside the Delta.

Export-Inflow Ratio (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.

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 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.

Fish Screens Physical structures placed at water diversion facilities to keep fish from getting pulled into the facility and dying there.

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.

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 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.

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.

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

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 fish species are present in the south Delta.

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).

Interagency Coordinated Program A cooperative effort among the California Department of Fish and Game, the U.S. 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.

Isolated Conveyance Facility A canal or pipeline that transports water between two different locations while keeping it separate from Delta water.

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.

MAF An abbreviation for million acre feet, as in 2 MAF or 2,000,000 AF.; 10,000 cfs flowing for a year is about 7 MAF.

Mine Drainage Remediation Controlling or treating polluted drainage from abandoned mines.

Meander Belt Protecting and preserving land in the vicinity of a river channel in order to allow the river to meander. Meander belts are a way to allow the development of natural habitat around a river.

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.

Program Element The program elements for the Phase II Alternatives include an element for Delta conveyance, a element for storage, and the six common program elements (Water Use Efficiency, Water Quality, Levee System Integrity, Ecosystem Restoration, Water Transfers, and Watershed Management).

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 barrier 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.

Overdraft The condition, over the long-term, when more water is withdrawn from a groundwater basin than is recharged.

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.

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.

Riparian 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.

Riverine Habitat within or alongside a river or channel.

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.

Setback Levee A constructed embankment to prevent flooding that is positioned some distance from the edge of the river or channel. Setback levees allow wildlife habitat to develop between the levee and the river or stream.

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. Serve as spawning areas for delta smelt.

Smolt A young salmon that has assumed the silvery color of the adult and is ready to migrate to the sea.

Solution Principles Fundamental principles that guide the development and evaluation of Program alternatives. They provide an overall measure of acceptability of the alternatives.

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

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.

TAF Thousand acre feet, as in 125 TAF equals 125,000 AF.

Tracy Pumping Plant The CVP export pumping plant in the south Delta.

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.

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

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 Reclamation Practices that treat and reuse water. The waste water 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.

Watershed 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.

X2 The location (measured in 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 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.

Acronyms

A

AB	Assembly Bill
AFRP	Anadromous Fish Restoration Program
ASIP	Action-specific implementation plan
AWMC	Agricultural Water Management Council
AWWARF	American Water Works Association Research Foundation

B

Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta estuary
BCDC	San Francisco Bay Conservation and Development Commission
BDAC	Bay-Delta Advisory Council
BMPs	best management practices
BOD	biochemical oxygen demand

C

CCFB	Clifton Court Forebay
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CMARP	Comprehensive Monitoring Assessment and Research Program
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project

CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
CZMA	Coastal Zone Management Act

D

DDT	dichlorodiphenyltrichloroethane
DEFT	Diversion Effects on Fisheries Team
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DO	dissolved oxygen
DWR	California Department of Water Resources
DWRSIM	DWR system operational model

E

EEWMA	Economic Evaluation of Water Management Alternatives
E/I Ratio	Export/Inflow Ratio
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ERP	Ecosystem Restoration Program
ESA	Endangered Species Act
EWA	Environmental Water Account
EWMP	efficient water management practices

F

FERC	Federal Energy Regulatory Commission
FWCA	Fish and Wildlife Coordination Act

G

GLC	Grant Line Canal
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I

ICP	Interagency Coordinated Program
IEP	Interagency Ecological Program
ISDP	Interim South Delta Program
ISI	Integrated Storage Investigation

J

JPOD	joint point of diversion
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M

"m" species	"maintains"
M&I	municipal and industrial

MAF	million acre-feet
mg/L	milligrams per liter
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSCS	Multi-species Conservation Strategy
MTBE	methyl tert-butyl ether
μg/L	micrograms per liter

N

NCCP	Natural Community Conservation Plan
NCCPA	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service

O

Ops Group	California-Federal Operations Group
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P

PCB	polychlorinated biphenyl
PL	Public Law
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
Program	CALFED Bay-Delta Program

R

"R" species	"recovery"
"r" species	"contributes to recovery"
Reclamation	U.S. Bureau of Reclamation
ROD	Record of Decision

S

SB	Senate Bill
SFEI	San Francisco Estuary Institute
SWP	State Water Project
SWRCB	State Water Resources Control Board

T

TAF	thousand acre-feet
TDS	total dissolved solids
TMDL	total maximum daily load
TOC	total organic carbon

U

USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

V

VAMP	Vernalis Adaptive Management Plan
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W

WMS	Water Management Strategy
WUE	Water Use Efficiency Program

X

X2	Location (measured in kilometers upstream from the Golden Gate Bridge) of 2 parts per thousand total dissolved solids
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Y

yr	year
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