

Plan Formulation Report

Upper San Joaquin River Basin Storage Investigation

Prepared by

**United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region**



**U.S. Department of the Interior
Bureau of Reclamation**

October 2008

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Abbreviations and Acronyms

°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
ADA	Americans with Disabilities Act
AE	Arvin-Edison
AJE	Alternative Justifiable Expenditure
ALP	Alternative Licensing Process
Bay Area	San Francisco Bay Area
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta
BDCP	Bay Delta Conservation Plan
BDPAC	California Bay-Delta Public Advisory Committee
BLM	U.S. Department of the Interior, Bureau of Land Management
CAA	Federal Clean Air Act
CAAA	Federal Clean Air Act Amendments of 1990
CalEPA	California Environmental Protection Agency
CALFED	CALFED Bay-Delta Program
CALSIM	CALSIM II
CBDA	California Bay-Delta Authority
CDEC	California Data Exchange Center
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHABA	Committee of Hearing, Bio Acoustics, and Bio Mechanics
CMP	Common Model Package
CNDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
Comprehensive Study	Sacramento and San Joaquin River Basins Comprehensive Study
CVC	Cross Valley Canal
CVP	Central Valley Project

CVPIA	Central Valley Project Improvement Act
CVPM	Central Valley Production Model
CWA	Clean Water Act
Delta	Sacramento-San Joaquin Delta
DFG	California Department of Fish and Game
DHAC	Division of Hydropower Administration and Compliance
DO	dissolved oxygen
DPR	California Department of Parks and Recreation
DRMS	Delta Risk Management Strategy
DSM2	Delta Simulation Model
DWR	California Department of Water Resources
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
elevation xxx	elevation in feet above mean sea level
EPA	U.S. Environmental Protection Agency
EQ	Environmental Quality
ESA	Endangered Species Act
FCRPA	Federal Cave Resources Protection Act
FERC	Federal Energy Regulatory Commission
FIP	Federal Implementation Plan
FPA	Friant Power Authority
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
FWUA	Friant Water Users Authority
GAMA	Groundwater Ambient Monitoring and Assessment
GIS	geographic information system
HEC-FDA	Hydrologic Engineering Center – Flood Damage Analysis
hp	horsepower
IAIR	Initial Alternatives Information Report
IDC	interest during construction
Investigation	Upper San Joaquin River Basin Storage Investigation
IRWMP	Integrated Regional Water Management Plan
ITA	Indian Trust Assets
I-O	input-output
kW	kilowatt

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LCPSIM	Least Cost Planning Simulation Model
LEDPA	least environmentally damaging practicable alternative
LTGen	LongTermGen
M&I	municipal and industrial
MAF	million acre-feet
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
msl	mean sea level
MW	megawatt
MWDSC	Metropolitan Water District of Southern California
NAAQS	national ambient air quality standard
NAHC	Native American Heritage Commission
NAWQA	National Water Quality Assessment
NED	National Economic Development
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOD	north-of-Delta
NOI	Notice of Intent
NOP	Notice of Preparation
NPPA	Native Plant Protection Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
O&M	operations and maintenance
O ₃	ozone
OCAP	Operations Criteria and Plan
OSE	Other Social Effects
P&G	Federal Principles and Guidelines for Water and Related Land Resources Implementation Studies
PEIS/EIR	Programmatic Environmental Impact Statement/Environmental Impact Report
PFR	Plan Formulation Report
PG&E	Pacific Gas and Electric Company
PM ¹⁰	particulate matter
PM ^{2.5}	fine particulate matter
PMT	Program Management Team

PPV	peak particle velocity
RCC	roller-compacted concrete
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
The Reclamation Board	The Reclamation Board of the State of California
RED	Regional Economic Development
RHA	Rivers and Harbors Act
RM	river mile
RMP	Resource Management Plan
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SCRB	Separable Cost - Remaining Benefits
SCE	Southern California Edison Company
Secretary	Secretary of the Interior
Settlement	Stipulation of Settlement
SIP	State Implementation Plan
SJRA	San Joaquin River Agreement
SJRGA	San Joaquin River Group Authority
SJRGMA	San Joaquin River Gorge Management Area
SJRRP	San Joaquin River Restoration Program
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLIS	selective level intake structure
SMT	Study Management Team
SO ₂	sulfur dioxide
SOD	south-of-Delta
SP15	South of Path 15
SRA	State Recreation Area
SRWQM	Sacramento River Water Quality Model
State	State of California
SW	Shafter-Wasco
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	thousand acre-feet
TCD	temperature control device
TDS	total dissolved solids
TMDL	total maximum daily load
UFAS	Uniform Federal Accessibility Standards

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USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VAMP	Vernalis Adaptive Management Program
VdB	vibration decibel
W2	CE-QUAL-W2
WAM	Water Analysis Module
Williamson Act	California Land Conservation Act of 1965
WQCP	Water Quality Control Plan
WRC	U.S. Water Resources Council
WUE	water use efficiency