

CALFED
BAY-DELTA
PROGRAM

Final Programmatic Environmental Impact Statement/Environmental Impact Report

July 2000

Final Environmental Impact Statement/Environmental Impact Report CALFED Bay-Delta Program

Prepared by the CALFED Bay-Delta Program for the
U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service,
National Marine Fisheries Service, U.S. Environmental Protection Agency,
Natural Resources Conservation Service, U.S. Army Corps of Engineers, and
California Resources Agency

This Final Programmatic Environmental Impact Statement/Environmental Impact Report (Final Programmatic EIS/EIR) is prepared in compliance with the National Environmental Policy Act (NEPA), the U.S. Bureau of Reclamation (Reclamation) policy and procedures for implementing NEPA, and the California Environmental Quality Act (CEQA).

The CALFED Bay-Delta Program (Program) is a cooperative effort of 18 state and federal agencies with regulatory and management responsibilities in the San Francisco Bay/San Joaquin River Bay-Delta to develop a long-term plan to restore ecosystem health and improve water management for beneficial uses of the Bay-Delta system. The objective of this collaborative planning process is to identify comprehensive solutions to the problems of ecosystem quality, water supply reliability, water quality, and Delta levee and channel integrity.

Each of the four alternatives, including the Preferred Program Alternative, includes Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, Watershed, Storage, and Conveyance elements. Because the problems addressed by the Program and the solution are closely interrelated, the descriptions of each of the Program elements, except for the Conveyance element, do not vary among alternatives. This is a programmatic-level document to select a long-term plan. The document focuses on the interrelated long-term and cumulative consequences of each of the alternatives. Implementation of the long-term plan will follow the approval of this Final Programmatic EIS/EIR, and subsequent environmental review for project-specific aspects of the Program will be required.

The Program issued a Draft Programmatic EIS/EIR in June 1999. Public comments were received from June 25, 1999, to September 23, 1999. Responses to public comments can be found in the Response to Comments Document - Volumes I, II, and III.

Additional Information

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Preface

The CALFED Bay-Delta Program (Program) includes a series of proposed actions that will take place in stages over time and a decision-making process for moving forward through the next phase of the Program. This preface describes the relationships between:

- The Preferred Program Alternative evaluated in this document, potential near-term actions, and a long-term implementation strategy.
- This document and the program plans, which together constitute the Final Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR).
- The programmatic impact analysis in this document and project-specific impact analyses associated with future proposed actions.

Preferred Program Alternative and Proposed Actions

The Preferred Program Alternative consists of programmatic actions that set the long-term, overall direction of the Program. However, detail at a greater level of specificity than is available in the programmatic description of the Preferred Program Alternative is important to understanding how this large, complex program may be implemented, funded, and governed in the future. Accordingly, the CALFED agencies have described proposed actions for the first years following a Record of Decision/Certification of the Final Programmatic EIS/EIR, as well as set out a long-term implementation strategy.

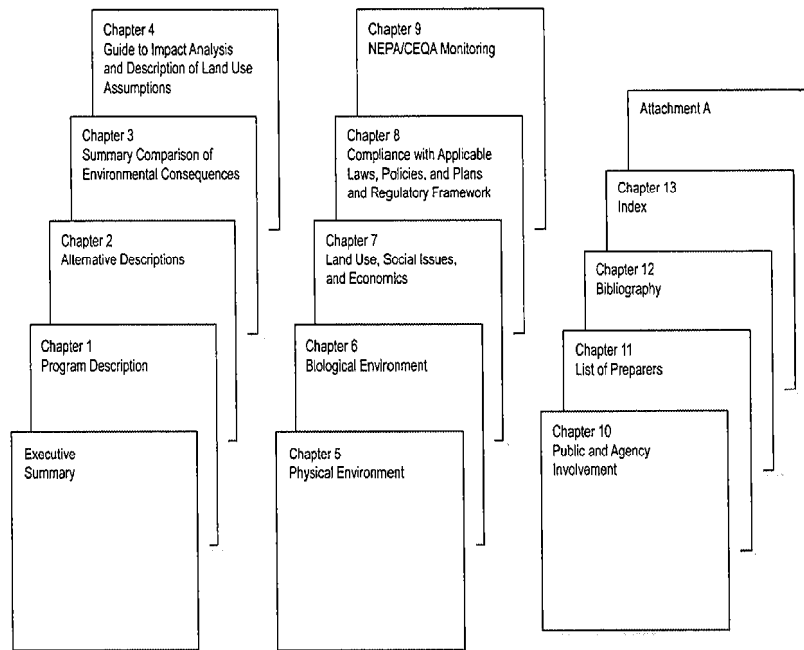
The potential near-term actions and long-term implementation strategy are presented in the Implementation Plan and the Phase II Report. The proposed near-term actions and long-term implementation strategy share two characteristics: they are designed to achieve multiple benefits by emphasizing actions that serve several purposes, and they will be implemented in ways that increase knowledge so that the CALFED agencies can adapt subsequent actions to increase their effectiveness. As appropriate, the near- and long-term actions will be subject to subsequent alternative analysis, environmental review, and permitting decisions before they are implemented.

Contents of the Final Programmatic EIS/EIR

The Final Programmatic EIS/EIR includes the impact analysis document and the program plans.



Impact Analysis Document. The impact analysis document contains the required programmatic environmental document elements, including an Executive Summary. The illustration below depicts those elements.



Program Plans. The Phase II Report contains a general summary of the program plans. More fundamentally, the report also describes the Program process, the fundamental Program concepts that have guided their development, and analyses that have contributed to Program development. Further, this report describes how this large, complex program may be implemented, funded, and governed in the future.

The following plans outline Program actions:

- Ecosystem Restoration Program Plan (Volumes 1, 2, and 3)
- Water Quality Program Plan
- Water Use Efficiency Program Plan
- Water Transfer Program Plan
- Levee System Integrity Program Plan
- Watershed Program Plan

These plans include a description of programmatic plans and actions that are evaluated in this impact analysis document as well as more specific actions that will be subject, as appropriate, to subsequent environmental review.

The remaining program plans include the:

- Implementation Plan
- Multi-Species Conservation Strategy (MSCS)
- Comprehensive Monitoring, Assessment, and Research Program (CMARP)

The Implementation Plan describes the proposed schedule and process for implementing near-term actions in the context of the overall implementation approach, including financial and assurance strategies. The MSCS describes a comprehensive species and habitat conservation program that builds on the Ecosystem Restoration Program to provide a framework for compliance with endangered species laws. The CMARP describes the information generated from monitoring, assessment, and research that will be used to (1) assess the effectiveness of existing actions, (2) guide additional research, and (3) modify the actions of each of the Program elements in order to improve the Program's ability to meet its goals and objectives.

Programmatic Impact Analysis

The Program currently consists of multiple actions that are diverse, geographically dispersed, and to be carried out over many years. Consequently, the Program will be implemented in stages, using the information gained by adaptive management to modify and refine Program actions over time, within the framework of the Preferred Program Alternative. Given the uncertainties, the large scope of the Program area, and the conceptual nature of the proposed actions, the CALFED agencies elected to prepare a Programmatic EIS/EIR.

This document provides a broad overview of the 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 Program direction and content. Information from this document will be incorporated by reference into subsequent tiered environmental documents for specific projects. This level of analysis is consistent with the guidance for programmatic documents provided by the Council on Environmental Quality's Regulations for implementing the National Environmental Policy Act (NEPA) and by the State California Environmental Quality Act (CEQA) Guidelines.

The Preferred Program Alternative will not, in itself, enact any changes in law, regulation, or policy nor allow project construction. Instead, the Preferred Program Alternative describes programmatic actions that set the long-term, overall direction of the Program. Any subsequent actions or facility construction stemming from the programmatic actions in the Preferred Program Alternative must be developed in compliance with NEPA, CEQA, and other applicable laws and regulatory processes.

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




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Program Alternatives; and Actions That May Contribute to
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Program Plans

- Phase II Report
- Implementation Plan
- Ecosystem Restoration Program Plan:
 - Volume 1: Ecological Attributes of the San Francisco Bay-Delta Watershed
 - Volume 2: Ecological Management Zone Visions
 - Volume 3: Strategic Plan for Ecosystem Restoration
- Levee System Integrity Program Plan
- Water Quality Program Plan
- Water Use Efficiency Program Plan
- Water Transfer Program Plan
- Watershed Program Plan
- Multi-Species Conservation Strategy
- Comprehensive Monitoring, Assessment, and Research Program

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LIST OF ACRONYMS

A

AB	Assembly Bill
AFB	Air Force Base
AFRP	Anadromous Fish Restoration Program
ALs	action levels
ARWRI	American River Water Resource Investigation
ASIP	action-specific implementation plan
ATSF	Atchison, Topeka and Santa Fe
AWMC	Agricultural Water Management Council

B

BATs	best available technologies
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

C

CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CALFED Ops Group	California-Federal Operations Group
CART	CALFED Agency Review Team
CCC	Contra Costa Canal
CCCTs	combined cycle combustion turbines
CCFB	Clifton Court Forebay
CCWD	Contra Costa Water District
CDF	California Department of Forestry and Fire Protection
CDFA	California Department of Food and Agriculture
CERT	Certification of the EIS/EIR
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CMARP	Comprehensive Monitoring, Assessment, and Research Program
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CTs	combustion turbines
CUWA	California Urban Water Agency
CUWCC	California Urban Water Conservation Council
CVGSM	Central Valley Groundwater and Surface Water Model
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
CZMA	Coastal Zone Management Act

D

D-	Water Rights Decision
D/DBP Rule	Disinfectant/Disinfection By-Products Rule
DBCP	dibromochloropropane
DBPs	disinfection by-products
DCC	Delta Cross Channel
DEFT	Diversion Effects on Fisheries Team
DFG	California Department of Fish and Game

LIST OF ACRONYMS
(CONTINUED)

DHS	California Department of Health Services
DMC	Delta-Mendota Canal
DO	dissolved oxygen
DOC	Department of Conservation
DOC	dissolved organic carbon
DPC	Delta Protection Commission
Dupont	El Dupont De Nemours & Co.
DWR	California Department of Water Resources
DWRSIM	DWR system operational model

E

EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EC	electrical conductivity
ECCID	East Contra Costa Irrigation District
EDB	ethylene dibromide
EDD	California Economic Development Department
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ERAF	Education Reinvestment Augmentation Fund of 1992
ESA	Endangered Species Act
ESWTR	Enhanced Surface Water Treatment Rule
EWA	Environmental Water Account
EWMP	efficient water management practices

F

FACA	Federal Advisory Committee
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Act
FIP	Federal Implementation Plan
FPPA	Farmland Protection Policy Act of 1981
fps	feet per second
FWCA	Fish and Wildlife Coordination Act

G

GBT	getting better together
GIS	geographic information system
gpcd	gallons per capita per day
GWh	gigawatt hours

I

I-5	Interstate-5
I-80	Interstate-80
IID	Imperial Irrigation District
Interior	U.S. Department of the Interior
IOCs	inorganic chemicals
ISDP	Interim South Delta Program
ISO	Independent System Operator

J

JPD	joint point of diversion
-----	--------------------------

LIST OF ACRONYMS
(CONTINUED)

K

KCWA Kern County Water Agency

L

LCPSIM Least-Cost Planning Simulation Model
Ldn day-night sound level
LTMS Long-Term Management Strategy

M

M&I municipal and industrial
MAD mosquito abatement district
MAF million acre-feet
MCLGs maximum contaminant level goals
MCLs maximum contaminant levels
mg/L milligrams per liter
MH Maas-Hoffman
MOA memorandum of agreement
MOU memorandum of understanding
MSCS Multi-Species Conservation Strategy
msl mean sea level
MTBE methyl tert-butyl ether
MW megawatts
MWD The Metropolitan Water District of Southern California
MWh megawatt hour
MWQI Municipal Water Quality Investigation
 $\mu\text{g/L}$ micrograms per liter
 $\mu\text{mhos/cm}$ micromhos per centimeter

N

NBA North Bay Aqueduct
NAWQA National Water Quality Assessment
NCCAB North Central Coast Air Basin
NCFWCDD Napa County Flood Control and Water Conservation District
NCCP Natural Community Conservation Plan
NCCPA Natural Community Conservation Planning Act
NCP navigation control point
NDDB National Diversity Database
NEPA National Environmental Policy Act
NHPA National Historic Preservation Act
NMFS National Marine Fisheries Service
NMOG non-methane organic gas
NOD Notice of Determination
NOI/NOP Notice of Intent/Notice of Preparation
 NO_x nitrogen oxide
NPDES National Pollutant Discharge Elimination System
NPS Program Nonpoint Source Program
NRA National Recreation Area
NRCS Natural Resources Conservation Service
NRHP National Register of Historic Places
NSDWR National Secondary Drinking Water Regulations
NWR National Wildlife Refuge

LIST OF ACRONYMS
(CONTINUED)

O

O₃ ozone
Ops Operations Coordination

P

PAH polycyclic aromatic hydrocarbon
PCB polychlorinated biphenyl
PEIS Programmatic Environmental Impact Statement
PG&E Pacific Gas and Electric Company
PL Public Law
PM₁₀ particulate matter smaller than 10 microns in diameter
PM_{2.5} particulate matter smaller than 2.5 microns in diameter
ppb parts per billion
ppm parts per million
ppt parts per thousand
Program CALFED Bay-Delta Program
Programmatic EIS/EIR Programmatic Environmental Impact Statement/Environmental Impact Report

Q

QWEST Measure of net flow in the lower San Joaquin River and other smaller Delta channels

R

RBDD Red Bluff Diversion Dam
Reclamation U.S. Bureau of Reclamation
RMP Regional Monitoring Plan
RO reverse osmosis
ROD Record of Decision
RWQCB Regional Water Quality Control Board

S

SB Senate Bill
SBA South Bay Aqueduct
SCFCWCD Solano County Flood Control and Water Conservation District
SCVWD Santa Clara Valley Water District
SDWA Safe Drinking Water Act
SHPO State Historic Preservation Officer
SIP State Implementation Plan
SMPA Suisun Marsh Preservation Agreement
SO₂ sulfur dioxide
SOC synthetic organic chemical
SR 99 State Route 99
SRA State Recreation Area
SRFCP Sacramento River Flood Control Project
Strategic Plan Strategic Plan for the Ecosystem Restoration Program
SDCWA San Diego County Water Authority
SWP State Water Project
SWRCB State Water Resources Control Board
SWTR Surface Water Treatment Rule

LIST OF ACRONYMS
(CONTINUED)

T

TAF	thousand acre-feet
TCE	trichloroethylene
TDS	total dissolved solids
THM	trihalomethane
TIE	toxicity identification evaluation
TMDL	total maximum daily load
TOC	total organic carbon
TSS	total suspended solids
TTHMs	total trihalomethanes

U

USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
USTs	underground storage tanks

V

UV	ultra violet
VAMP	Vernalis Adaptive Management Plan
VMS	Visual Management System
VOCs	volatile organic chemicals

W

Western	Western Area Power Administration
WMA	Wildlife Management Area
WQCP	water quality control plan
WSCC	Western Systems Coordinating Council