

# Biological Assessment for the California WaterFix

United States Department of the Interior, Bureau of Reclamation, Federal Lead Agency

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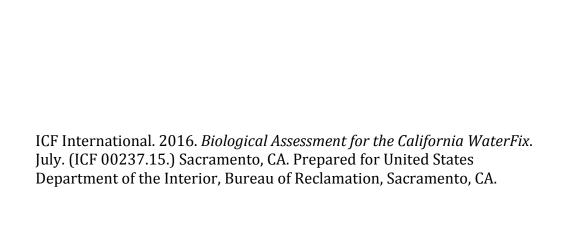
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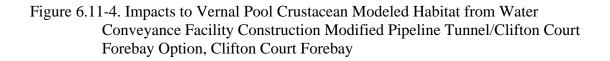
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## ABBREVIATIONS AND ACRONYMS

°C Celsius °F Fahrenheit

7DADM seven day average daily maximum

af acre feet

AFRP Anadromous Fish Restoration Program AMMs avoidance and minimization measures

ARG American River Group

A-weighted decibel dBA

B2IT b2 interagency team
BA Biological Assessment
BAFF bioacoustic fish fence
Banks PP Banks Pumping Plant

Bay-Delta Plan WQCP for the San Francisco Bay/Sacramento-San Joaquin

Delta Estuary

BDCP Bay Delta Conservation Plan

Biological Review Biological Review for Endangered Species Act Compliance of

the WY 2015 Updated Drought Contingency Plan for July-

**November Project Description** 

BiOp biological opinion

BMPs best management practices
CALFED CALFED Bay-Delta Program

CAMT Collaborative Adaptive Management Team

CCF Clifton Court Forebay

CCFPP Clifton Court Forebay Pump Plant

CCPP CCF pumping plant
CCV California Central Valley
CCWD Contra Costa Water District

CDFG California Department of Fish and Game CDFW California Department of Fish and Wildlife

CESA California Endangered Species Act

cfs cubic feet per second CIDH cast-in-drilled-hole

CNDDB California Natural Diversity Database
COA Coordinated Operation Agreement

CPT cone penetration testing

CSAMP Cooperative Science and Adaptive Management Program

CV Central Valley

CVP Central Valley Project
CVPA Central Valley Project Act

CVPIA Central Valley Project Improvement Act

cy cubic yards

D-1641 State Water Resources Control Board Decision-1641

dB decibels

DCC Delta Cross Channel

DCT Delta Condition Team

DDT dichlorodiphenyltrichloroethane
DEIS draft environmental impact statement
Delta Sacramento–San Joaquin Delta

DHCCP Delta Habitat Conservation and Conveyance Program
DOP CPV and SWP Drought Operations Plan and Operational

Forecast for April 1, 2014 through November 15, 2014

DOSS Delta Operations for Salmon and Sturgeon
DOT Washington Department of Transportation

DPM Delta Passage Model

DPS distinct population segment

DWR California Department of Water Resources

E/I export/inflow

EIS environmental impact statement ENSO El Niño Southern Oscillation

EOS end-of-September

EPA U.S. Environmental Protection Agency

ESA Endangered Species Act

ESA of 1972, as the Section 7 of the Endangered Species Act

amended

ESRP Endangered Species Recovery Program

ESU evolutionarily significant unit

FCRPS Federal Columbia River Power System
FERC Federal Energy Regulatory Commission

FERC DEIR PA Facilities Relicensing Draft Environmental Impact Report

Proposed Project Alternative

FFGS Floating Fish Guidance Structure FFTT Fish Facilities Technical Team's

FL fork length FR Federal Register

FRFH Feather River Fish Hatchery

ft/s foot per second

GCID Glenn Colusa Irrigation District's

general excavation General Excavation for the NCCF and SCCF

GIS Geographical Information System

H to V horizontal to vertical HCP habitat conservation plan

HCP/NCCP East Contra Costa County Habitat Conservation Plan/Natural

Communities Conservation Plan

HFC High Flow Channel

HMMP Hazardous Material Management Plan

HOR Head of Old River

HORB Head of Old River Barrier

I- Interstates
I 205 Interstate 205
I 580 Interstate 580

IEP Interagency Ecological Program
IES Illuminating Engineering Society

IF Intermediate Forebay

Interior U.S. Department of the Interior's

IOS Interactive Object-Oriented Salmon Simulation

IRP footnote Independent Review Panel ITP Incidental Take Permit

Jones PP C.W. 'Bill' Jones Pumping Plant

LFC Low Flow Channel

LOO footnote Long-term Operations Opinions

LSNFH Livingston Stone National Fish Hatchery

LSZ low-salinity zone

M&I municipal and industrial mg/L milligrams per liter

MIDS Morrow Island Distribution System

MOA Memorandum of Agreement

mph miles per hour

NAA No Action Alternative NBA North Bay Aqueduct

NCCF North Clifton Court Forebay NDOI Net Delta Outflow Index

NEPA National Environmental Policy Act new CCF embankment New Clifton Court Forebay Embankment

new CCF spillway and New Spillway and Stilling Basin

stilling basin

new forebay structures New Forebay Structures

NMFS National Marine Fisheries Service

NPB Nonphysical Fish Barrier
NWR National Wildlife Refuge
NWS National Weather Service

OBAN Oncorhynchus Bayesian Analysis

OMR Old and Middle River
ORV off-road vehicles
PA proposed action

PBDEs polybrominated diphenyl ethers
PBFs physical and biological features
PCBs polychlorinated biphenyls
PCEs primary constituent elements
PDO Pacific Decadal Oscillation

PG&E Pacific Gas and Electric Company
PGS Pittsburg Generating Station
Plan Water Quality Control Plan
POD Pelagic Organism Decline

Project Description Updated Project Description for July-November 2015 Drought

Response Actions to Support Endangered Species Act

Consultations

Reclamation United States Department of Interior, Bureau of Reclamation

RM river mile

RMS root mean square

RPA reasonable and prudent alternative RRDS Roaring River Distribution System

RTDOT Real Time Drought Operations Management Team

RTM reusable tunnel material
RTO Real-Time Operational
SA Settlement Agreement

SCCF South CCF

SCT Section 7 Consultation Team
Secretary Secretary of the Interior
SEL sound exposure level

SFCWA State and Federal Contractors Water Agency
Skinner John E. Skinner Delta Fish Protective Facility

SMSCG Suisun Marsh Salinity Control Gates SMUD Sacramento Municipal Utility District

south CCF South Clifton Court Forebay

SPCCP Spill Prevention, Containment, and Countermeasure Plan

SPL sound pressure level SPT standard penetration test

SR State Route

SRTTG Sacramento River Temperature Task Group SRWTP Sacramento Regional Wastewater Treatment Plan

State Water Board State Water Resources Control Board

SWG Smelt Working Group SWP State Water Project

SWPPP Stormwater Pollution Prevention Plan SWRCB State Water Resources Control Board

TBM tunnel boring machine
TBP Temporary Barriers Project
TCAs Temperature Control Actions

Temperature Management Revised Sacramento River Water Temperature Management

Plan Plan June 2015

TFCF Tracy Fish Collection Facility

Tracy PP Tracy Pumping Plant

TUCP Temporary Urgency Change Petition

U.S.C. United States Code

USACE U.S. Army Corps of Engineers USFWS U.S. Fish and Wildlife Service

USGS U.S. Geological Survey

Western Area Power Administration
WOMT Water Operations Management Team

WQCP Water Quality Control Plan WSE water surface elevation WUA weighted usable area

X2	an indicator of habitat suitability for many San Francisco
	Estuary organisms and is associated with variance in abundance
	of diverse components of the ecosystem
YCI	Year-Class Index