Sacramento Valley
Integrated Regional Water Management Plan

Prepared by

NCWA
Northern California Water Association

CH2MHILL

GEI Consultants
Bookman-Edmonston Division

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Acronyms and Abbreviations

AB	Assembly Bill
ac-ft	acre-feet
ACID	Anderson-Cottonwood Irrigation District
af/yr	acre-feet per year
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Estuary
BMO	basin management objective
BWGWD	Biggs-West Gridley Water District
California Water Plan	California Department of Water Resources' Bulletin 160
CBDD	Colusa Basin Drainage District
cfs	cubic feet per second
Coalition	Sacramento Valley Water Quality Coalition
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
DAU	Data Analysis Unit
Department	California Department of Water Resources
DFG	California Department of Fish and Game
DW&RC	Butte County Department of Water and Resource Conservation
EIR	environmental impact report
EIS	environmental impact statement
FCWCD	Flood Control and Water Conservation District
FMMP	Farmland Mapping and Monitoring Program

Four County Document	*Northern Sacramento Valley (Four County) Drinking Water Quality Strategy Document*
GCID	Glenn-Colusa Irrigation District
GIS	Geographic Information System
IRWMP	Integrated Regional Water Management Plan
JEP	Joint Exercise of Powers
JEPA	Joint Exercise of Powers Agreement
M&I	municipal and industrial
M&T	M&T Chico Ranch
MHI	median household income
MOU	Memorandum of Understanding
msl	mean sea level
NCWA	Northern California Water Association
NPS	non-point source
NWR	National Wildlife Refuge
OAWD	Orland Artois Water District
OUWUA	Orland Unit Water User's Association
PG&E	Pacific Gas and Electric Company
RBDD	Red Bluff Diversion Dam
RCD	Resource Conservation District
RD	Reclamation District
Reclamation	U.S. Bureau of Reclamation
SB	Senate Bill
Service	U.S. Fish and Wildlife Service

SRCAF	Sacramento River Conservation Area Forum
SVWMA	Sacramento Valley Water Management Agreement
SVWMP	Sacramento Valley Water Management Plan
SWP	State Water Project
SWRCB	State Water Resources Control Board
TB	Targeted Benefit
TCCA	Tehama-Colusa Canal Authority
TMDL	Total Maximum Daily Load
Water Board	Central Valley Regional Water Quality Control Board
Water Inventory	Butte County Water Inventory and Analysis
WRA	Water Resource Agency of Yolo County
YCFCWCD	Yolo County Flood Control and Water Conservation District
YCWA	Yuba County Water Agency

1 Program Overview

1.1 Purpose

The Sacramento Valley Integrated Regional Water Management Plan (IRWMP) is being developed to provide a framework and forum to guide the development of water resources policies, programs, and projects to meet the objectives described in Section 2, Sacramento Valley IRWMP Objectives. This IRWMP builds on many years of ongoing regional and subregional planning, and related project development and implementation. The Sacramento Valley IRWMP is intended to improve coordination and the sharing of ideas across the Sacramento Valley IRWMP Region to allow for improved water management at the local, regional, and state level.

This IRWMP will serve as a regional planning process that is consistent with the California Department of Water Resources' (Department) Bulletin 160 (California Water Plan) and the State Water Resources Control Board's (SWRCB) Strategic Plan, its Watershed Management Initiative, and the basin planning process. The Sacramento Valley IRWMP is a grassroots planning process that will help implement the state's strategy to place "more emphasis on integrated regional water management" by building on regional-level water management strategies and then integrating these strategies into a coherent super-regional water management plan.

1.2 Organization of this IRWMP

This IRWMP is organized into the following nine primary sections:

- Section 1 – Program Overview (overview of ongoing and proposed regional planning efforts)
- Section 2 – Sacramento Valley IRWMP Objectives (identification of overall regional planning objectives)
- Section 3 – Planning Process (overview of current and continuing IRWMP participant and stakeholder coordination process)
- Section 4 – Assessment of Water Management Strategies (review of applicable regional water management strategies and issues)
- Section 5 – Conservation Strategies (identification of current and proposed ecosystem conservation efforts)
- Section 6 – Land and Water Use/Development Trends (summary of existing and anticipated land and water use across the eight-county region)

In addition to the fish screens installed on larger diversions, the Family Water Alliance Small Diversion Fish Screen Program, in collaboration with state and federal resource agencies and private landowners, developed a program that has researched, developed, and resulted in the installation and monitoring of 24 fish screens projects, focusing on diversions under 100 cfs. This innovative technology has resulted in the cumulative screening of over 563 cfs, resulting in over 21,600 private acres of land that are irrigated in a fish-friendly manner. This program serves to protect these water rights and the fishery resource by assuring compliance with the mandates of the federal Endangered Species Act. Currently, this program is completing a 100-cfs screen for Reclamation District 999, and will be installing a fish screen for the Richter Brothers in Knights Landing next year.

5.1.9 Stony Creek

Three storage reservoirs are located on Stony Creek that in tandem provide flood control and water supply benefits. Opportunities exist to reoperate Orland Project reservoirs in conjunction with that of other downstream supplies that can result in increased yield of the presently underused Orland Project reservoir system. Yields resulting from reoperation of the Stony Creek Reservoir system have not been determined; however, in 2003, a CALFED-funded feasibility study was completed for the OUWUA in cooperation with TCCA titled *OUWUA and the TCCA Regional Water Use Efficiency Project.* One conclusion in the study stated, "Regional supplemental supplies of 40,000 to 120,000 [ac-ft] may be possible during dry years, depending on the timing and quantity of Stony Creek runoff." The study was based on aggressive institutional assumptions that combined the operation of the Orland Project with the improvements and development of groundwater wells to extract an average of 30,000 ac-ft annually. The study also supported that winter seasonal runoff that must be spilled from Black Butte Dam could be rediverted through an enlarged Orland Project conveyance connecting Black Butte Dam with the Tehama-Colusa Canal. It indicated that such a new conveyance "could convey up to 100,000 [ac-ft] during a 4-month runoff period."

A 2003 report titled, *Stony Creek Alternative for Conveyance to Sites Reservoir North-of the-Delta Storage Evaluations,* was completed for the Department to provide alternative conveyance routes to deliver water to a future Sites Reservoir. Such routing could also serve to accommodate direct or substitution water transfers, whereby Stony Creek supplies diverted into the Tehama-Colusa Canal are offset by other Sacramento River supplies made available to others. Further investigation into reoperating the Stony Creek Reservoir system and Black Butte-Tehama-Colusa conveyance intertie are needed. Diversions from Stony Creek are currently permitted for two 45-day period periods between April 1 and May 15, and between September 15 and October 29. The Stony Diversion depends on the U.S. Army Corps of Engineers' operation of Black Butte Reservoir. TCCA must annually supplement its water supply during the times that gravity diversion at RBDD is not available. During these times, TCCA obtains water, when it is available, from Black Butte Reservoir via a diversion from Stony Creek.

In 2004, Reclamation completed the third and final year of a monitoring program on Stony Creek in Glenn and Tehama Counties. The purpose of the monitoring program was primarily to determine if steelhead trout were present in the creek. During the 3-year program, no steelhead trout were found in Stony Creek. This information should allow the state and federal fishery agencies to concentrate their steelhead restoration activities on other rivers and streams on the east side of the Sacramento Valley where steelhead are present.

5.1.10 Yuba River

The Yuba River drains about 1,339 square miles with a total storage capacity of 1,377,000 ac-ft. The monthly mean flow for the gage station in Marysville on the Yuba River is 2,341 cfs. Flows range from 833 cfs during the summer to 4,740 cfs during the winter and spring. If fall flows in the lower Yuba River drop below 600 cfs, spawning habitat becomes limited.

Local agencies on the Yuba River have been implementing numerous projects and activities to benefit the passage and survivability of anadromous and other fish species.

In late 1999, Browns Valley Irrigation District completed construction of its Yuba River Diversion Fish Screen. This project protects salmon in the Yuba River, and because Browns Valley Irrigation District relied heavily on local and in-house construction services, came in below budget. The final project was funded with Browns Valley Irrigation District's own resources, and assistance was provided by the YCWA, Yuba River PG&E Mitigation Account, Category III, CVPIA Restoration Fund, and Tracy Pumps Mitigation Fund.

Prior to the 2001 irrigation season, work was completed on a 600-cfs fish screen for the diversion on the north side of the Yuba River at Daguerre, which serves Cordua Irrigation District, Hallwood Irrigation District, and Ramirez Water District. This screen was constructed in cooperation with YCWA, National Marine Fisheries Service, DFG, and the Service, and replaced an obsolete screen that was owned and operated by DFG. The DFG screen was not operated on a continuous basis, and about 1 million juvenile fish were estimated to be entrained in the diversion each year. Funding for the screen came from the irrigation districts and YCWA.

The YCWA has performed numerous activities promoting Yuba River fish recovery, including partnering with the fishery agencies and other stakeholders in reviewing studies and making decisions on the lower Yuba River; conducting an annual Chinook salmon escapement survey after DFG discontinued the survey in 1990, because of a lack of funding; including fishery conditions into water management decisions; scheduling water transfers in a fish-friendly manner; and improving the reliability of its Narrows 2 Powerhouse to be less susceptible to PG&E transmission line outages that can result in flow reductions out of Englebright Reservoir.