

13 IRWM Plan - Reduce Delta Water Dependence

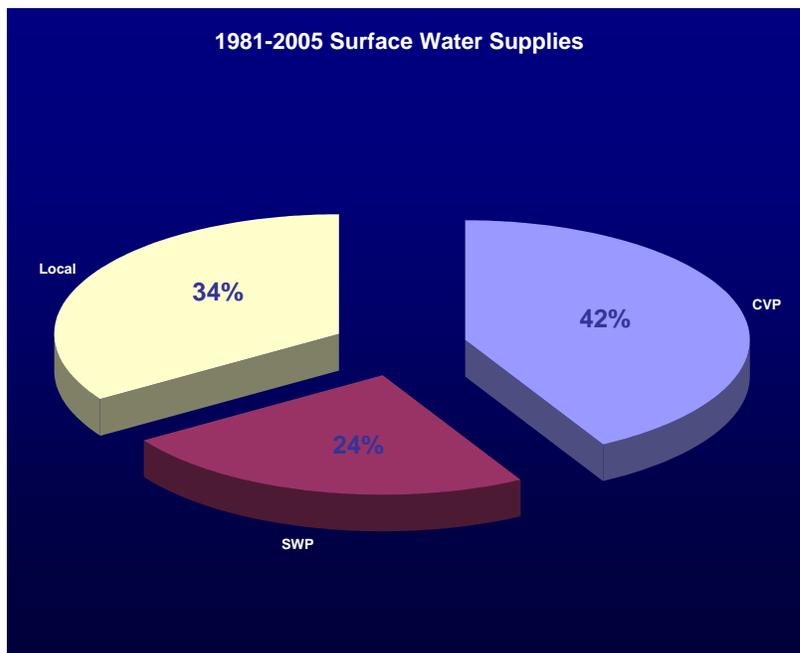
Introduction

The Poso Creek IRWM Plan was developed by seven public agencies known as the Poso Creek Regional Water Management Group (RWMG), and formally adopted in 2007. Water supply reliability, cost, and other factors continue to lead local interests to develop programs and implement projects that include conjunctive use, groundwater banking, and water use conservation. The 2007 Plan emphasizes water management strategies that promote better management and utilization of water supplies available to the Region. The RWMG has begun revising the plan and this process will be complete by June 30th, 2014.

The Region relies on three sources of surface water supplies: 1) local supplies --- principally Kern River; 2) SWP supplies; and 3) CVP supplies. The relative proportions of each source used within the Region are illustrated in the following Exhibit for the 25-year period extending from 1981 through 2005.

Exhibit 13-1

Average Annual Surface Water Supplies in the Poso Creek Region, (IRWMP 2007)



While most of the CVP supplies are delivered from the Friant Division, an increasing portion is diverted from the Sacramento-San Joaquin Delta (Delta) due to the need for Recirculation Water to meet the Water Management Goals of the San Joaquin River Settlement. The Adopted Poso Creek IRWM Plan contains Appendix C Description of San Joaquin River Settlement. The settlement was reached on September 13, 2006 following 18 years of debate

through litigation. The Settlement contains “Water Management Goals” that release Restoration Water down the San Joaquin River and recapture it by recirculating the water through the Delta and south using the CA Aqueduct, to be delivered to CVP Contractors. The Madera Avenue Intertie is a conveyance mechanism needed to connect the CA Aqueduct to CVP Contractors to allow Recirculation Water deliveries, west to east, across the Southern San Joaquin Valley.

The following Exhibit identifies the agencies within the Region which hold contracts for the diversion of either SWP water or CVP water from the Delta; this information is from the 2007 Poso Creek IRWM Plan and shows the districts with contract amounts dependent on Delta for delivery and does not show the recent need to deliver Recirculation Water for DEID, Shafter-Wasco, and Kern-Tulare WD. In 2012, Reclamation delivered Recirculation Water south of the Delta for the first time.

Exhibit 13-2

Agencies with Contracts for the Diversion of Water from the Delta within the Poso Creek Region

Agency	Contractual Amount (AFY)
Cawelo Water District (SWP)	38,200
Semitropic Water Storage District (SWP)	155,000
Subtotal SWP “Table A”	192,200
Kern-Tulare Water District (CVP)	53,300
Total SWP and CVP	245,500

Over the 1981-2005, about one-third of the surface water supplies used within the Region were diverted from the Delta. The San Joaquin River Water Management is requiring Recirculation Water to be delivered south of the Delta, which increases the need for use of the Delta conveyance to move CVP water supplies through the Delta that we not previously delivered through the Delta to CVP members of the Poso Creek IRWM Plan Region. The Poso Creek IRWM Plan RWMG has proposed the Madera Avenue Intertie as a regional conveyance facility that will add flexibility for delivery of CVP Recirculation Water south of the Delta.

13.1 Reduced Dependence on Delta

Regulatory and judicial actions have adversely impacted Delta water supply reliability. The reduced reliability is well documented in the SWP Delivery Reliability Reports that are prepared by DWR. In recent history, about one-third of the Region’s surface water supplies diverted from the Delta, it is no surprise that reduced reliability of Delta water supplies was a major driver in bringing the Region together to prepare the Poso Creek IRWM Plan. As a generalization, reliability is a measure of coincidence of supply and demand --- the better the match, the more reliable or “firm” is the supply. With the IRWMP as a guide, districts within the Region are working cooperatively to reduce dependence on “firm” deliveries from the Delta. In particular, this is being accomplished through projects --- both structural and non-

structural --- which increase the Region’s ability to make the best use of water supplies when they are available and adding flexibility in conveyance for scheduling deliveries, whatever the source (local, SWP, or CVP). To a large extent, this means leveraging the direct and in-lieu recharge assets and conveyance facilities of the Region to regulate water supplies from times of surplus¹ or available pumping south of the Delta to times of need --- this is what *regional* water management, water banking, and *regional* conveyance interties are all about. This, in turn, translates to having the necessary conveyance interties to wheel the available supplies to available absorptive capability and to deliver previously-banked water during times of need. Project 1 Madera Avenue Intertie fills the need to add west to east conveyance to allow water supplies from the CA Aqueduct to reach CVP Contractors and the Friant-Kern Canal to complete exchanges with CVP Contractors that will maximize exchanges and banking in the Region. The Project is ready to begin construction in 2014 and is the highest priority project within the Poso Creek IRWM Plan as Recirculation Water deliveries occurred for the first time in 2012.

Projects (formulated in the context of the IRWMP) are being implemented to support regional conveyance improvements. In particular, listed following are selected projects and their status. In May of 2012, Reclamation signed an environmental document allowing the Poso Creek IRWM Plan RWMG to operate each identified facility for regional water management, once it was constructed with a construction environmental document. An example of the success, immediately once constructed and operational, projects 14 and 19, interties between North Kern WSD and Shafter-Wasco ID allowed the CVP Contracting districts to complete exchanges and deliver water that could not have happened if the districts were operating independently. Each project on this list was vetted in the Poso Creek IRWM Plan meetings, competed for and received federal or state grant funding, and completes a step in the regional “planning for a purpose” for *regional* water management. The Madera Avenue Intertie adds much needed capacity to deliver water west to east, which is the next identified step needed for improving the *regional* operation.

Exhibit 13-3

Implementation of Relevant Poso Creek IRWM Plan Projects Since Plan Adoption

IRWMP No.	Project	Description	Capital Cost [Rounded]	Implementation Status
14	Improvements to North Interconnection between North Kern Water Storage District and Shafter-Wasco Irrigation District (includes pumps (totaling 75 cfs), motors, VFD, and	Bi-directional intertie between North Kern's Calloway Canal and Shafter-Wasco's north (main) pipeline lateral.	\$600,000	Project Complete

¹ In this context, “surplus” refers to the availability of water supplies over and above the concurrent irrigation demand.

IRWMP No.	Project	Description	Capital Cost [Rounded]	Implementation Status
	traveling water screen)			
19	South Interconnection between North Kern Water Storage District and Shafter-Wasco Irrigation District (includes canal turnout, traveling water screen, and provides 50 cfs)	Intertie between North Kern's 8-5 Canal and Shafter-Wasco's South (main) pipeline lateral; allows for gravity deliveries from North Kern to Shafter-Wasco.	\$600,000	Project Complete
11	Cross Valley Canal to Calloway Canal Intertie [Links CA Aqueduct with Calloway Canal and the Friant-Kern Canal – 400 cfs]	Construct level connection between the two canals to accommodate conveyance in either direction. Project will expand opportunities for in-lieu and banking projects.	\$11,000,000	Project Under Construction, to be Completed by end of 2013
12	Calloway Canal to Lerdo Canal Intertie (includes 400 cfs pumping plant, one-mile of 96-inch RCP, and 96-inch steel siphon crossing of Friant-Kern Canal)	Bi-directional intertie between North Kern's Calloway Canal and North Kern's Lerdo Canal (which also serves Cawelo Water District).	\$11,000,000	Project Complete
5	North Kern Turnout No. 2 from the Friant-Kern Canal (includes 400-cfs gated canal turnout structure, 78-inch RCP, and meter vault)	In combination with an existing turnout and the Calloway Canal to Lerdo Canal Intertie, this will allow enough water to be diverted from the Friant-Kern Canal (when available) to fully supply spreading ponds in North Kern and Cawelo.	\$1,200,000	Project Complete
6	Pond-Poso Spreading Grounds (includes interbasin flow structures for over 400 acres of spreading ponds)	Improvements complete over 400 acres of spreading ponds and allow for their full utilization.	\$2,200,000 [Federal funding portion]	Project Complete
8	Turnipseed Groundwater Banking Enhancement	Upgraded banking capacity along White river in DIED	\$1,550,000 [Federal funding portion]	Project Complete
20	Bay-Delta Agricultural	System modifications to	\$711,000	Projects 50-

IRWMP No.	Project	Description	Capital Cost [Rounded]	Implementation Status
	Water Conservation and Efficiency Project – Reclamation district improvement combined with funding for on-farm water use efficiency improvements	improve water use and energy efficiency for Semitropic WSD and Growers	[Federal funding portion] plus \$1,000,000 from NRCS	percent Complete; completion date of June, 2014
22	Groundwater Bank Improvements in Northwestern Kern County – Planning and Permitting	Planning and permitting funding only, no construction, for conveyance and recharge capacity in Semitropic service area.	\$917,000 [Federal funding portion]	Project Complete
22	CEQA compliance for Groundwater Banking and Exchanges for 25-Years within the Poso Creek Integrated Regional Water Management Plan Area	Environmental compliance for exchanges, banking, and transfers among Poso Creek IRWM Plan RWMG	N/A	Negative Declaration Complete
22	NEPA compliance for Poso Creek Integrated Regional Water Management Plan Area Groundwater Banking and Exchanges Among and Between Friant Division, Cross Valley Contractors, and Non-Cross Valley Project Contractors – for 25-years	Environmental compliance for exchanges, banking, and transfers among Poso Creek IRWM Plan RWMG	N/A	EA/FONSI Complete

Reference Table ES-2 of the Executive Summary for the 2007 Poso Creek IRWMP and updates to RWMG

In 2007, findings stated in the adopted Poso Creek IRWM Plan – 2007 include:

Owing to its importance, *water supply reliability* is the first planning objective articulated in the 2007 Plan. Water supply reliability is expected to be the first planning objective in the revised plan as well. References in 2007 Plan to water supply reliability are frequent; however, this section highlights some of the statements in the Plan which are most relevant to reducing dependence on “firm” deliveries, whether from the Delta, or from the Friant Division of the CVP. The Executive Summary of the 2007 Plan includes the following at page ES-15,

“The findings of this study indicate that, due to reductions in availability and the uncertainty in timing of the imported supplies to the Region in the projected conditions,

it will likely be even more challenging and important to absorb *wet-year* supplies... The existing conjunctive-use operation of each district can be expanded into an integrated *regional* operation by adding interconnections and promoting water supply exchanges between districts that allow for more flexibility in the Region's water supply. The Region's assets of federal, state, and local water supplies, dewatered groundwater storage, and significant irrigation demand make it an ideal location to regulate surface supplies conjunctively to the benefit of the agricultural-based economy of the Region and to California."

At pages ES-19 and ES-20 (of the 2007 Plan), the following bullet points are set forth:

- A key element of water management in the Poso Creek IRWMP Region is providing conveyance capacity between districts in order to match available regulated and unregulated supplies with agricultural demands and make use of direct groundwater recharge facilities.
- Proposed modifications to the existing facilities will enhance conveyance of water between the Friant-Kern Canal and the California Aqueduct to allow for additional exchange capacity between districts that is to the benefit of the agricultural community, the environment, and economically-disadvantaged communities within the Region, as well as outside of the Region.
- Since the Region includes an operational history of groundwater banking, conjunctive use, and water exchanges between districts, the added flexibility created by enhancement of facilities in this regional area will also increase the reliability of water supplies of agencies located outside of the Region.
- The unique location and assets of the Poso Creek area with three distinct surface water supplies (State, Friant-Kern and Kern River) coupled with the very large usable groundwater basin make for an excellent regional conjunctive use project which not only benefits the local area but benefits the State.
- Major municipal water providers in both southern and northern California who participate in water banking projects in the Region are in a position to benefit from any added flexibility and reliability.

The 2007 IRWMP includes an itemized list of findings and conclusions. Items 13 through 17 are particularly relevant and reproduced below (at pages ES-5 and ES-6):

- (13) Access to local, state, and federal water supplies and conveyance facilities, which is provided by combining the assets of the districts within the Region, creates both the flexibility and the opportunity for regional water management that can realize water supply accomplishments that individual districts cannot. The key to unlocking this potential is conveyance between districts within the Region.

- (14) The ability to move water between districts within the Region is limited both physically and institutionally. Accordingly, both structural and non-structural measures were identified to address this observation.
- (15) *Non-structural measures* that have “risen to the top” include:
- An organizational structure and environmental compliance framework that allows for moving “quickly” and taking advantage of *waters of opportunity*, i.e., water which is typically unregulated and unscheduled.
 - The necessary approvals to move the different flavors of water around within the Region as required maximizing the utility of the Region’s assets and thereby maximizing water supply and reliability benefits to the Region.
 - A means of maintaining equity as between districts within the Region, in terms of water and/or dollars.
- (16) *Structural measures* involving conveyance improvements include canals, pipelines, and pumping plants.
- (17) Water supply operations studies indicate that water will be available from time to time in excess of the absorptive capability of the contracting districts. This observation creates both the potential and the need to regulate these supplies within the absorptive capability of other districts in the Region. Most of this need is projected to involve CVP-Friant supplies.

All referenced pages are excerpts from the Poso Creek IRWM Plan, Executive Summary.

Reflecting on the statements made in the 2007 adopted Poso Creek IRWM Plan indicates that a lot of progress has occurred and has led to this point in time where the next component to add in the *regional* operations is west to east conveyance to allow delivery of CVP Recirculation Water to the CVP Contracting Districts; the Recirculation Water is water contributed to environmental water needs outside of the Poso Creek IRWM Plan Region. The Madera Avenue Intertie fulfills a key need in the State and region to better manage the balance among environmental, agricultural, and DAC water needs.

13.2 Poso Creek IRWMP - Update

The Poso Creek Region has demonstrated a commitment to more effective *regional* management of available supplies which is an essential step to better manage a less reliable water supply from the Delta during critical periods. The Poso Creek RWMG has begun revision of the 2007 Poso Creek IRWM Plan to conform to present guidelines by the required time agreed to under the Round 1, Implementation Grant Award contract, June 30th, 2014. Because the economy of the Region is dependent on reliable water supplies, the updated Plan will continue to emphasize projects which reduce dependence on supplies from the Delta and will incorporate changes in regional water management occurring in the State of California.