

# Draft CVPIA Fiscal Year 2013 Annual Work Plan

**August 22, 2012**

*Program Title:*

**Refuge Water Supply Program - - Conveyance (Wheeling) Component  
CVPIA Section 3406(d)(1), (2) and (5)**

## ***Responsible Entities***

<b>Staff Name</b>	<b>Agency</b>	<b>Role</b>
Tim Rust	Reclamation	Lead
Dale Garrison	Service	Co-Lead
Brian Cary	CDFG	State Partner

## ***Overview of Refuge Water Supply Program***

Reclamation and the U.S. Fish & Wildlife Service (Service) have primary responsibility for the oversight and implementation of all aspects of the Refuge Water Supply Program (RWSP), which consists of three major components: water acquisition, water conveyance, and facilities construction. These agencies serve as the RWSP's primary contacts; represent the RWSP at various internal and external meetings; prepare and make presentations on the RWSP; and provide guidance and oversight to the technical support personnel on contracting, budget, and environmental issues.

The California Department of Fish and Game (CDFG), as the State partner, oversees state wildlife areas, and provides guidance and technical assistance on costs share efforts, pursuant to CVPIA. In addition, Reclamation collaborates with the Grassland Water District (GWD) in the acquisition and delivery of water supplies to the Grassland Resource Conservation District (GRCD) wetlands. Reclamation, Service, DFG, and GWD, working collaboratively together, plan and implement RWSP activities to meet wildlife refuge water supply needs, in accordance with CVPIA.

The RWSP's over arching goal is to ensure that all 19 CVPIA identified wetland habitat areas, hereinafter referred to as "refuges", annually receive water of specified quantity, of suitable flow rate and timing, and suitable quality to support their wetland and aquatic environments. These wetland areas include 13 National Wildlife Refuges (NWR), 5 State Wildlife Areas (SWA), and 1 private wetland area (GRCD).

The RWSP's two water types are defined as Level 2 (L2) water and Incremental Level 4 (IL4) water. L 2 is the amount of water required for minimum wetlands and wildlife habitat management based on historic average annual deliveries before 1989. Annually, Reclamation is required to provide 422,251 acre-feet of L2 water supplies.

IL4 water is the difference between L2 and Full Level 4 water supplies; it equals 133,264 AF. Each year, the RWSP strives to provide as much IL4 water as possible. IL4 water supplies are acquired through voluntary measures such as water conservation, conjunctive use, purchase,

lease, donation, or similar activities.

Full Level 4 is the total annual amount of water identified for each refuge in CVPIA as required for optimum wetland and wildlife habitat development and management. The Full Level 4 water delivery target for the 19 refuges is 555,515 AF and is satisfied when both L2 and IL4 water targets are met in full.

Each year between February and March, Reclamation provides the Interagency Refuge Water Management Team (IRWMT), which is comprised of representatives from Reclamation, the Service, CDFG, GWD, and the Central Valley Joint Venture, with an initial projection of anticipated Incremental Level 4 water purchases for that contract year. The IRWMT determines the allocation of the projected Incremental Level 4 supplies to the refuges. Concurrent with this process, the three refuge managing agencies (Service, CDFG, and GWD) develop their initial water delivery schedules for each refuge and submit them to Reclamation by March 1.

The RWSP strives to diversify its water sources. For example, the RWSP pursues groundwater projects in partnership with local water districts because groundwater does not require external conveyance if the source can be located at or near a refuge. The lower cost of groundwater is also an advantage, although downsides include groundwater of poorer quality in some locations, particularly in the San Joaquin Valley; the threat of aquifer depletion and land subsidence. Groundwater quality is monitored for toxins, pollutants and salinity so as not to degrade the general quality of water on the refuges. Several refuges rely at least in part on groundwater supplies, including Volta and Gray Lodge SWAs, Merced and Pixley NWRs, and the GRCD.

Numerous biological benefits have resulted from a reliable year-round water supply that adequately meets the delivery schedule for wetland management on CVPIA refuges. Wildlife refuges are capable of providing habitat (such as swamp timothy and water grass) supporting migrant waterfowl and shorebirds; resident wildlife; and the recovery of special status species such as the giant garter snake, and tricolored blackbirds. In addition, RWSP water supplies allow refuge managers to “flush” excess salts from wetlands while improving soil quality.

### ***Goals and Objectives for FY 2013 – Refuge Water Conveyance***

The Refuge Water Conveyance (Wheeling) Component (RWCC) endeavors to meet the mandate of Section 3406(d)(1), (2), and (5) of the CVPIA, to provide long-term, firm and reliable water supplies to 19 Federal, State, and private refuges located in the Central Valley of California.

This program has two primary performance goals, specifically, starting with Water Year 2002 forward:

- Annually provide/deliver L2 water supplies by specified amounts to the refuges totaling 422,251 acre-feet;
- Annually deliver IL4 acquired water supplies by specified amounts to the refuges totaling 133,264 acre-feet.

The RWCC anticipates delivering approximately 377,503 acre-feet of L2 and 34,388 acre-feet of IL4 water supplies to CVPIA refuges during Fiscal Year 2013. These projected water deliveries represent 89% of the L2 performance goal and 36% of the IL4 performance goal, respectively, based on the current budget of \$8.5M.

The RWCC expects to negotiate two reimbursement agreements with the CDFG for the purpose of reimbursing operational costs associated with CVPIA groundwater and lift pumping activities.

All costs associated with the acquisition and delivery of IL4 water supplies are subject to a 25% State cost share under CVPIA. The RWCC will continue the coordinated development of cost share task orders to meet this requirement pursuant to the guidelines identified under the Sharing of Costs Agreement for Mitigation Projects and Improvements (SCAMPI).

### ***Source Documents to CVPIA Refuge Conveyance Program:***

- Report on Refuge Water Supply Investigations, Central Valley Hydrologic Basin, California (3/1989)
- San Joaquin Basin Action Plan/Kesterson Mitigation Plan, Merced County, California (12/1989)
- San Joaquin Basin Action Plan and North Grasslands Area – Conveyance Facilities – Final EA/IS (12/1997)
- Conveyance of Refuge Water Supply Project, East Sacramento Valley Study Area – Final EA/IS and Proposed FONSI/Negative Declaration (12/1997)
- Conveyance of Refuge Water Supply Project, West Sacramento Valley Study Area – Final EA/IS and Proposed FONSI/Negative Declaration (12/1997)
- Conveyance of Refuge Water Supply, South San Joaquin Valley Study Area (Kern and Pixley National Wildlife Refuges) – Final EA/IS (10/2003)
- Conveyance of Refuge Water Supplies to the East Bear Creek Unit of the San Luis National Wildlife Refuge – Final E.A. (2/2006)
- Refuge Water Supply Conveyance Alternatives Refinement Memorandum (East and West Sacramento Valley) (5/1995)
- Refuge Water Supply Long-Term Water Supply Agreements – Sacramento River Basin – Final EA/IS (1/2001)
- Refuge Water Supply Long-Term Water Supply Agreements – Tulare Lake Basin – Final EA (1/2001)
- Refuge Water Supply Long-Term Water Supply Agreements, San Joaquin River Basin – Final EA/IS (1/2001)
- Report of Recommended Alternatives – Refuge Water Supply and San Joaquin Basin Action Plan Lands (4/1995)

## ***Status of the Program***

The RWCC has delivered the full amounts of L2 water supplies to CVPIA refuges as scheduled by refuge managers, meeting their timing needs, since 1993, to the extent allowed by availability of external conveyance capacity. And the RWCC has delivered all IL4 water as acquired on an annual basis since 1994.

The RWCC continues to assure that full L2 water supplies are delivered to all CVPIA refuges with sufficient external conveyance capacity based on individual refuge delivery schedules. The RWCC also strives to deliver as much L2 water as possible, when feasible, to those refuges still without sufficient external conveyance capacity. And the RWCC continues to deliver the full amount of acquired IL4 on an annual basis to CVPIA refuges.

Reclamation has entered into five long-term water supply contracts with GWD, the Service, and CDFG which established Reclamation's commitment to the CVPIA delivery mandates. The contracts are: two with CDFG covering Gray Lodge, Los Banos, Volta, Mendota and North Grasslands WAs; two with the Service covering Sacramento, Delevan, Colusa, Sutter, San Luis, Merced, Kern and Pixley NWRs; and one with GWD for the Grassland Resource Conservation District (GRCD) which is comprised of privately-owned and managed wetlands.

Currently, nine long-term conveyance agreements (15-50 years) are utilized to convey CVPIA surface water supplies to the refuges. Reclamation administers 8 of these agreements, and the Service administers one of these agreements. The Program utilizes cooperative agreements to reimburse delivering entities for costs of conveying L2 and IL4 water supplies through Federal, State, and private water distribution systems to the refuges. These long-term agreements are with Henry Miller Reclamation District (aka the San Luis Canal Company) (two agreements), Central California Irrigation District, GWD, San Luis Delta-Mendota Water Authority, Buena Vista Water Storage District, California State Department of Water Resources, BWGWD, and Glenn-Colusa Irrigation District. The RWCC directly manages and administers six south-of-Delta conveyance agreements, and the Northern California Area Office administers two conveyance agreements for north-of-Delta, with oversight by the RWCC. The Service Region 8 administers one of the two SLCC conveyance agreements with the service area located south-of-Delta.

Lack of sufficient external conveyance capacity for some refuges impacts the ability of the RWCC to deliver full L2 and IL4 water supplies to all CVPIA refuges. Currently, four external conveyance facility capacity improvement construction projects remain to be completed affecting water deliveries to four CVPIA refuges.

## ***Adaptive Management***

CVPIA identifies a number of methods to utilize in the implementation of the Refuge Water Supply Program. In addition to these methods, the the RWCC continues to explore opportunities to employ adaptive management techniques in order to meet those refuge conveyance obligations that, to date, have not been fulfilled due to constraints beyond the RWCC's control and also to meet unexpected or emergency situations.

One such idea under the convention of adaptive management currently being investigated is to

utilize a local groundwater recharge basin in order to efficiently and effectively satisfy the full L4 water supply needs of Pixley NWR. The Pixley NWR is one of four refuges awaiting completion of planned external conveyance capacity improvement projects. Since the passage of CVPIA, Pixley NWR has been completely dependent upon a single groundwater well on the refuge, providing its only reliable water supplies, averaging 12% of Pixley NWR's CVPIA allocation since 2002. The RWCC completed construction of two additional groundwater wells at Pixley NWR in FY2012 with American Recovery and Reinvestment Act funding. Production from the new wells will begin in FY2013. Groundwater from these wells will provide the full L2 supplies on an annual basis for this refuge for the first time, and potentially some of the IL4 water allocation. However, there is local concern about using groundwater for the full L4 allocation at Pixley NWR, that it may result in a potential overdraft of the regional aquifer.

The Preferred Alternative for conveying full L4 water to Pixley NWR, as identified in the RWSP planning document, is the construction of several miles of new underground pipeline linking the Friant-Kern Canal and the refuge, at a current estimated construction cost of \$25,000,000. This pipeline was deemed necessary because of the high water losses that would be incurred if Deer Creek, with its highly sandy soils, were used for conveyance purposes.

An adaptive alternative to this idea would be to actually take advantage of these sandy soils, working in concert with regional irrigation districts, to flow water into the local recharge basin situated near the refuge in amounts equivalent to offset groundwater pumped on this refuge. This would allow the construction of two additional groundwater wells. Five groundwater wells have the capability to provide full L4 water supplies to meet Pixley NWR's CVPIA allocation. Potential benefits would be provided both to the RWSP by significantly reducing the capital cost of constructing the pipeline alternative, and to the local participating districts, who would have the local aquifer enhanced in an area historically prone to overdraft and land subsidence.

The RWCC also engages adaptive management practices to provide partial water delivery reliability in situations where full L4 reliability is either not yet attainable or reduced due to unforeseen circumstances. A recent example is the unfortunate incident of extreme wire copper vandalism that occurred at the China Island Unit Pumping Plant during the latter part of FY2011, where all copper wire was stripped out of the three lift pumps, the electrical control panels and the electrical meters, completely disabling the pumping plant facility. CDFG is responsible for operating this pumping plant, yet the RWSP is responsible for providing annual reliable water deliveries to the refuges. Reclamation and CDFG collaborated through a partnership effort to provide both short-term and long-term solutions.

The short-term remedy (Reclamation's responsibility) was completed in the fall of 2011 to meet the immediate need to provide water deliveries on the Plains Area of the China Island Unit for fall flood-up. The RWSP- Construction Component contracted to restore permanent electrical power back to the pumping plant site. And the RWCC funded the contract to provide temporary lift pumps for the needed water delivery. Permanent repairs of the pumping plant operation, including construction of a security cage around the pumps and a security bar on the meter box to deter possible future vandalism are expected to be completed in 2012 by DFG under the partnership agreement. It needs to be noted that solutions to these types of operational issues do not set precedence, but are developed on a case by case basis.

Table 1. FY2013 Proposed Activities and Costs

CVPIA Section 3406 (d)(1), Refuge Water Supply Program- Level 2 Water

	3406 (d)(1) Requested Funding for Fiscal Year 2013				
	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
<b>Total Funding</b>	\$8,500,000	\$0	\$0	\$325,080	\$8,825,080
Reclamation	\$7,694,854	\$0			\$7,694,854
Service	\$805,146	\$0			\$805,146
CA DFG			\$0	\$325,080	\$325,080
CA DWR			\$0	\$0	\$0

1.1 Program Management			3406 (d)(1) Requested Funding for Fiscal Year 2013								
AWP Activity Number	Activity Name	Activity Description	Agency		Program Performance Goal	FY2013 Projected Performance	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
			Name	Fractional FTE							
1.1.1	Program Manager	Provide Reclamation administrative oversight for all aspects of the Conveyance Component of the Refuge Water Supply Program (RWSP). Serves as a primary contact and coordinator; represents the Conveyance Component at various internal and external meetings. Prepares and makes presentations on the RWSP. Provides guidance and oversight to technical support personnel on contracting, budget, and environmental issues. Has primary responsibility for RWSP long and short-term strategy. Participates in Interagency Refuge Water Management Team (IRWMT) meetings, CVPIA stakeholder public meetings, and Sharing of Costs Agreement for Mitigation Projects and Improvements (SCAMPI). (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.15			\$33,795				\$33,795
1.1.2	Program Co-Lead	Provide biological oversight as Program Co-Lead for all aspects of the Conveyance Component of the RWSP. Serves as a Service primary contact and coordinator; represents the Conveyance Component at various internal and external meetings. Prepares and makes presentations on the RWSP. Provides guidance and oversight to technical support personnel on contracting, budget, and environmental issues. Has primary responsibility for RWSP long and short-term strategy. Participates in IRWMT meetings, CVPIA stakeholder public meetings, and SCAMPI. (FRFR4833-0832LR0)	FWS	0.50			\$109,332				\$109,332
							<b>Sub-Total for Program Management, FY2013</b>				
							<b>Restoration Fund</b>	<b>Water and Related Resources</b>	<b>State Cash</b>	<b>State In-Kind</b>	<b>Total All Sources</b>
<b>Subtotal Funding</b>							\$143,127	\$0	\$0	\$0	\$143,127
<b>Reclamation</b>							\$33,795	\$0			\$33,795
<b>Service</b>							\$109,332	\$0			\$109,332
<b>CA DFG</b>									\$0	\$0	\$0
<b>CA DWR</b>									\$0	\$0	\$0

1.2		Program Support		3406 (d)(1) Requested Funding for Fiscal Year 2013							
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (d)(1) Requested Funding for Fiscal Year 2013				
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
1.2.1	Refuge Water Conveyance Component Manager	Manage, provide oversight, and administer the Refuge Water Conveyance Component. Negotiate agreements and contracts for the conveyance of water supplies and other conveyance-related actions. Lead the Interagency Refuge Water Management Team (IRWMT). Participate in CVPIA stakeholder public meetings and SCAMPI. Administer refuge water supply and conveyance contracts. Identify and develop projects to further progress towards performance goals. Provide direction and oversight for conveyance budget development and for technical support personnel on conveyance-related actions and projects. Coordinate actions and projects with multiple government agencies, Reclamation offices, NGOs, and stakeholders. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	1.00			\$169,528				\$169,528
1.2.2	FWS Supervision Support	Provide coordination support for CVPIA planning, implementation and reporting requirements. (FRFR4833-0832LR)	FWS	0.05			\$10,933				\$10,933
1.2.3	RWSP Support Specialist	Develop conveyance component budget and provides support services for conveyance component -- reconciles invoices, enters conveyance data, assists with annual work plan preparation.(H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.50			\$67,027				\$67,027
1.2.4	DFG State Coordinator	Represent the Department of Fish and Game (DFG) at various meetings and provides guidance and input to the water conveyance component related to DFG on contracting, budget, operations and environmental issues.	CDFG	0.00						\$69,534	\$69,534
1.2.5	Supervisory Support	Supervise MP-410 Program Management Branch which includes the Refuge Water Conveyance Program. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.15			\$32,015				\$32,015
1.2.6	Clerical Support	Provide administrative support to the MP-410 Program Mgmt Branch, including Refuge Water Conveyance Program. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.15			\$9,428				\$9,428
							<b>Sub-Total for Program Support, FY2013</b>				
							<b>Restoration Fund</b>	<b>Water and Related Resources</b>	<b>State Cash</b>	<b>State In-Kind</b>	<b>Total All Sources</b>
<b>Subtotal Funding</b>							\$288,931	\$0	\$0	\$69,534	\$358,465
<b>Reclamation Service</b>							\$277,998	\$0			\$277,998
<b>CA DFG</b>							\$10,933	\$0			\$10,933
<b>CA DWR</b>									\$0	\$69,534	\$69,534
									\$0	\$0	\$0

1.3		Technical Support			3406 (d)(1) Requested Funding for Fiscal Year 2013						
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (d)(1) Requested Funding for Fiscal Year 2013				
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
1.3.1	Environmental Compliance	Develop environmental compliance for the North Grasslands WD Water Conservation and Water Quality Control Project.(H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.20			\$37,995				\$37,995
1.3.2	Environmental Compliance	Develop environmental compliance for refuge water conveyance projects.(H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.10			\$15,997				\$15,997
1.3.3	Water Quality Monitoring at Gray Lodge Wildlife Area, Management	Implement and oversee L2 water quality monitoring at 12 sampling sites on Gray Lodge Wildlife Area (GLWA) to assure that groundwater combined with surface water continues to meet regional water quality standards. (H37-0214-2047-000-00-0-2)	BOR	0.25			\$44,000				\$44,000
1.3.4	Web site IT Support	Provide IT support to the GLWA Flow Data Web site, which provides real-time information about surface water deliveries. In FY13, 74% of this labor is for L2 purposes; 26% is for IL4. (H37-0214-2047-000-00-0-2)	BOR	0.06			\$5,000				\$5,000
1.3.5	Contracts/Agreements Processing & Support	Process contract and conveyance agreement obligations, payments, and modifications. In FY13, 74% of this labor is for L2 purposes; 26% is for IL4. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.13			\$15,000				\$15,000
1.3.6	BOR WORKS - SOD Data	Enter south-of-Delta (SOD) refuge delivery data into BOR WORKS database. BOR WORKS is Mid-Pacific Region's database to document delivery of CVP water. This labor is not subject to Cost Share. (H37-0214-2047-000-00-0-2)	BOR	0.03			\$4,793				\$4,793
1.3.7	Agreement Administration (NCAO)	Administer north-of-Delta (NOD) CVPIA refuge water conveyance agreements. In FY13, 94% of this labor is for L2 purposes and 6% is for IL4. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.05			\$10,807				\$10,807
1.3.8	Flow Meter Management	Collect water delivery data from flow meters at Gray Lodge WA, perform QA/QC on flow data, and coordinate data with other Reclamation staff. Perform maintenance and calibrations on flow meters and groundwater pump meters. Collect, perform QA/QC, and analyze flow data from Bear Creek. (H37-0214-2047-000-00-0-2)	BOR	0.15			\$32,420				\$32,420
1.3.9	Cultural Resources (MP-153)	Provide cultural resources support for North Grasslands WD Water Conservation and Water Quality Control Project. In FY13, 74% of this labor is for L2 purposes; 26% is for IL4. (H37-0214-2047-000-00-0-2 and H37-0214-2048-000-00-0-4)	BOR	0.03			\$5,000				\$5,000



1.3		Technical Support				3406 (d)(1) Requested Funding for Fiscal Year 2013						
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
			Name	Fractional FTE								
1.3.10	GIS Map Printing	Print Geographic Information Systems (GIS) maps as requested by Refuge Conveyance Component. (H37-0214-2047-000-00-0-2)	BOR	0.04			\$5,000				\$5,000	
1.3.11	FWS Finance Support	FWS Regional contracting, budget and finance support (P2O). (FRFR4833-0832LR0)	FWS	0.00			\$2,926				\$2,926	
							<b>Sub-Total for Technical Support, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$178,938	\$0	\$0	\$0	\$178,938
							<i>Reclamation</i>	\$176,012	\$0			\$176,012
							<i>Service</i>	\$2,926	\$0			\$2,926
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0

2.8		Post-Project Monitoring				3406 (d)(1) Requested Funding for Fiscal Year 2013						
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
			Name	Fractional FTE								
2.8.1	GLWA Water Quality Monitoring	Reclamation, Reg Ofc -- Contract laboratory water sampling analysis costs for Gray Lodge Wildlife Area (GLWA) water quality monitoring program. Water samples taken from 12 sites locations 3 x year. (H37-0214-2047-000-00-0-2)	BOR	0.00	0	0	\$30,000				\$30,000	
							<b>Sub-Total for Post-Project Monitoring, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$30,000	\$0	\$0	\$0	\$30,000
							<i>Reclamation</i>	\$30,000	\$0			\$30,000
							<i>Service</i>	\$0	\$0			\$0
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0

3.1		Land or Water Acquisition or Water Conveyance	3406 (d)(1) Requested Funding for Fiscal Year 2013								
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (d)(1) Requested Funding for Fiscal Year 2013				
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources
3.1.1	Water Conveyance (Level 2 to 14 CVPIA Refuges)	Conveyance agreement costs to convey L2 refuge surface water supplies (294,363 ac-ft) to boundaries of CVPIA refuges with sufficient external conveyance capacity, excluding the two SOD refuges served by the FWS surface water conveyance agreement. The target number includes those L2 supplies provided from diverse sources or delivered at no cost to the Refuge Conveyance Program. It is anticipated some prior-year funding may be available to meet some of this need. (H37-0214-2047-000-00-0-2)	BOR	0.00	0	294,363AF	\$6,052,653				\$6,052,653
3.1.2	Water Conveyance (Power costs for Pumping L2 water)	Reclamation -- L2 costs based on PG&E and O&M costs for groundwater pumping, pumping plant operation, and lift pumping required to elevate surface water supplies delivered at refuge boundaries up to refuge unit distribution system elevation level. Target acre feet only applies to groundwater pumping (GLWA). Pumping plant and lift pumping activities apply to surface water acre feet already counted in 3.1.1. (H37-0214-2047-000-00-0-2)	BOR	0.00	0	5,000 AF	\$650,000				\$650,000
3.1.3	Water Conveyance (L2 to San Luis and West Bear Units)	Costs to convey 100% L2 refuge surface water supplies to boundaries of two SOD refuges (San Luis and West Bear Creek Units). Costs include 6% FWS contract administration (\$35,018) (FRFR4833-0832LR0)	FWS	0.00	0	29,810 AF	\$618,648				\$618,648
3.1.4	Water Conveyance (Power costs for Pumping L2 water)	FWS - L2 Power costs for groundwater pumping, pumping plant operation, and lift pumping required to elevate surface water supplies delivered at refuge boundaries up to refuge unit distribution system elevation level. Target acre feet only applies to groundwater pumping and pumping plant. Lift pumping activity applies to surface water acre feet already counted in 3.1.1. Costs include 22% FWS (non-contract) overhead (\$9,332). (FRFR4833-0832LR0)	FWS	0.00	0	4,000 AF	\$63,307				\$63,307
3.1.5	Water Conveyance (L2 from Diverse Sources)	L2 surface water supplies provided from diverse sources with no conveyance cost or power cost to Refuge Water Conveyance Component (Sutter NWR - riparian rights; Gray Lodge WA - entitlement water; and Merced NWR - mitigation water from Merced I.D. under FERC license).	BOR	0.00	0	44,330 AF	\$0				\$0
3.1.6	Water Conveyance (Permanent IL4 NOD)	IL4 - delivery of purchased permanent water-rights surface water supplies to NOD. (H37-0214-2048-000-00-0-4)	BOR	0.00	0	5,600 AF	\$107,077				\$107,077
3.1.7	Water Conveyance (IL4 from Volta Wells)	IL4 groundwater pumped from Volta wells. (H37-0214-2048-000-00-0-4)	BOR	0.00	0	2,500 AF	\$132,500				\$132,500

3.1		Land or Water Acquisition or Water Conveyance			3406 (d)(1) Requested Funding for Fiscal Year 2013							
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	3406 (d)(1) Requested Funding for Fiscal Year 2013					
			Name	Fractional FTE			Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
3.1.8	Water Conveyance (Power costs for Lift Pumps)	CDFG Power- Power costs are those used for initial lift pumps at Volta, Los Banos, Mendota, China Island, and Salt Slough Wildlife Area boundaries to raise CVP water delivered by the BOR to an elevation suitable for use within CVPIA Wildlife Areas.	CDFG	0.00	0	0			\$0	\$255,546	\$255,546	
3.1.9	Water Conveyance (IL4 at Kern NWR)	IL4 - Delivery of 11,288 af of Kern NWR's IL4 allocation (75% of 15,050). (H37-0214-2048-000-00-0-4)	BOR	0.00	0	11,288 AF	\$206,819				\$206,819	
3.1.10	Water Conveyance (IL4)	IL4 - Delivery of water with no cost to Refuge Water Conveyance Program (Grassland Water District Pilot Agreement and Merced Irrigation District water for East Bear Creek Unit).	BOR	0.00	0	14,000 AF					\$0	
3.1.11	Water Conveyance (IL4 at Pixley NWR)	IL4 - Pixley NWR groundwater pumping (funding covered in 3.1.2)	BOR	0.00	0	1,000 AF	\$28,000				\$28,000	
							<b>Sub-Total for Acquisition or Conveyance, FY2013</b>					
							<b>Restoration Fund</b>	<b>Water and Related Resources</b>	<b>State Cash</b>	<b>State In-Kind</b>	<b>Total All Sources</b>	
							<i>Subtotal Funding</i>	\$7,859,004	\$0	\$0	\$255,546	\$8,114,550
							<i>Reclamation Service</i>	\$7,177,049	\$0			\$7,177,049
							<i>CA DFG</i>	\$681,955	\$0			\$681,955
							<i>CA DWR</i>			\$0	\$255,546	\$255,546
									\$0	\$0	\$0	

4.2		Research (Evaluations, Studies, Investigations)				3406 (d)(1) Requested Funding for Fiscal Year 2013						
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
			Name	Fractional FTE								
4.2.1	Bear Creek Water Losses Study and Evaluation	Collect and evaluate flow data to determine water losses on the East Bear Creek Unit of the San Luis NWR Complex. Project funded in FY2010. Reclamation labor in FY13 included in 1.2.1 and 1.3.7; no cost for FWS labor.	BOR	0.00	0	0	\$0				\$0	
							<b>Sub-Total for Research, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$0	\$0	\$0	\$0	\$0
							<i>Reclamation Service</i>	\$0	\$0			\$0
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0

5.1		Other				3406 (d)(1) Requested Funding for Fiscal Year 2013						
AWP Activity Number	Activity	Activity Name & Description	Agency		Program Performance Goal	FY2013 Projected Performance	Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
			Name	Fractional FTE								
5.1.1	Agreement Negotiation	Refuge Water Conveyance Component Lead to negotiate two reimbursement agreements with DFG (Gray Lodge and South-of-Delta) for groundwater and lift pumping of L2 and IL4 water.	BOR	0.00	0	0					\$0	
							<b>Sub-Total for Other, FY2013</b>					
							Restoration Fund	Water and Related Resources	State Cash	State In-Kind	Total All Sources	
							<i>Subtotal Funding</i>	\$0	\$0	\$0	\$0	\$0
							<i>Reclamation Service</i>	\$0	\$0			\$0
							<i>CA DFG</i>			\$0	\$0	\$0
							<i>CA DWR</i>			\$0	\$0	\$0

Table 2 – Intentionally left blank

**Table 3 – Proposed Monitoring Activity**

<b>Project Description:</b>	Monitor groundwater and surface water quality at Gray Lodge Wildlife Area pursuant to provision in the Agreement for the Reimbursement of Deep Well Pumping Costs on the Gray Lodge Wildlife Area Between the United States and the State of California, #05-WC-20-2903 (Agreement
<b>FY 2012 Project Complete?</b>	On-going project through term of agreement. FY2011 samplings complete
<b>CVPIA annual work plan subtask number:</b>	Monitoring 1.12.1 and Technical Support 1.3.1
<b>Scope of the monitoring effort:</b>	Gray Lodge Wildlife Area (GLWA)
<b>Product/deliverable:</b>	Annual report providing analysis of collected data
<b>Cost:</b>	\$74,000 annually
<b>Questions posed:</b>	Does the quality of groundwater supplies affect the overall quality of total water supplies provided to the GLWA?
<b>Objectives:</b>	Establish a baseline for water quality for use in future environmental documentation required for renewal of Agreement.
<b>Results – expected or actual:</b>	Establish baseline data for water quality at the GLWA
<b>Data collection methods:</b>	Manual physical water sampling collection for organic compounds and automatic data collection for physical parameters via multi-parameter sonde
<b>Data management:</b>	Digital files with raw data are archived by the MP-150 Environmental Division. Annual analysis report is produced.
<b>Assessment:</b>	To date, collective water supplies at the GLWA meet the agricultural water quality limits and ambient water quality criteria.
<b>Use of information in future decision making:</b>	Water quality data will be used in future environmental documentation required for renewal of Agreement.