

# RECLAMATION

*Managing Water in the West*

Draft Environmental Assessment

## **Central Valley Project Interim Renewal Contracts for Panoche Water District and San Luis Water District 2017-2019**

EA-16-021



U.S. Department of the Interior  
Bureau of Reclamation

January 2017

## **Mission Statements**

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

# Contents

	Page
<b>Section 1 Introduction .....</b>	<b>1</b>
1.1 Background .....	1
1.1.1 Long-Term Renewal Contracts .....	3
1.2 Need for the Proposed Action .....	5
1.3 Scope .....	5
1.4 Issues Related to CVP Water Use Not Analyzed .....	6
1.4.1 Contract Service Areas .....	6
1.4.2 Water Transfers and Exchanges .....	6
1.4.3 Contract Assignments .....	6
1.4.4 Warren Act Contracts .....	6
1.4.5 Purpose of Water Use .....	6
1.4.6 Drainage .....	6
<b>Section 2 Alternatives Including the Proposed Action .....</b>	<b>9</b>
2.1 No Action Alternative .....	9
2.2 Proposed Action .....	9
2.2.1 Environmental Commitments .....	10
2.3 Alternatives Considered but Eliminated from Further Analysis .....	10
<b>Section 3 Affected Environment and Environmental Consequences .....</b>	<b>13</b>
3.1 Resources Eliminated from Further Analysis .....	13
3.2 Air Quality .....	13
3.2.1 Affected Environment .....	14
3.2.2 Environmental Consequences .....	14
3.3 Biological Resources .....	15
3.3.1 Affected Environment .....	15
3.3.2 Environmental Consequences .....	19
3.4 Environmental Justice .....	21
3.4.1 Affected Environment .....	21
3.4.2 Environmental Consequences .....	21
3.5 Land Use .....	22
3.5.1 Affected Environment .....	22
3.5.2 Environmental Consequences .....	22
3.6 Socioeconomic Resources .....	23
3.6.1 Affected Environment .....	23
3.6.2 Environmental Consequences .....	23
3.7 Water Resources .....	24
3.7.1 Affected Environment .....	24
3.7.2 Environmental Consequences .....	32
<b>Section 4 Consultation and Coordination .....</b>	<b>35</b>
4.1 Public Review Period .....	35
4.2 List of Agencies and Persons Consulted .....	35
4.3 Endangered Species Act .....	35
4.4 Magnuson-Stevens Fishery Conservation and Management Act .....	36
<b>Section 5 Preparers and Reviewers .....</b>	<b>37</b>

5.1 Reclamation .....	37
<b>Section 6 References .....</b>	<b>39</b>
Figure 1 Proposed Action Area.....	8
Figure 2 Salts Discharged from the Grasslands Drainage Area (tons) .....	31
Figure 3 Selenium Discharge from the Grasslands Drainage Area (pounds) .....	32
Table 1 Contractors Existing Contract Amounts and Expiration Dates. ....	3
Table 2 Environmental Protection Measures and Commitments. ....	10
Table 3 Resources Eliminated from Further Analysis. ....	13
Table 4 Species List for the Proposed Action, Including Fish Downstream .....	15
Table 5 Fresno and Merced County Demographics .....	21
Table 6 South-of-Delta CVP Contract Allocations between 2005 and 2016 .....	24
Table 7 PWD Available Water Supplies for 2015.....	25
Table 8 SLWD Available Water Supplies for 2015 .....	26
Table 9 Panoche Drainage District Drainage Discharges .....	29
Table 10 Charleston Drainage District (portion of SLWD) Drainage Discharges .....	30
Appendix A Purpose and Methodology for Water Needs Assessments	
Appendix B PWD and SLWD 2016 Water Needs Assessments	
Appendix C Cultural Resources Determination	
Appendix D Concurrence Memo from the U.S. Fish and Wildlife Service	

# Section 1 Introduction

## 1.1 Background

On October 30, 1992, the President signed into law the Reclamation Projects Authorization and Adjustment Act of 1992 (Public Law 102-575) which included Title 34, the Central Valley Project Improvement Act (CVPIA). The CVPIA amended previous authorizations of the Central Valley Project (CVP) to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic water supply uses, and fish and wildlife enhancement as having an equal priority with power generation. Through the CVPIA, the Bureau of Reclamation (Reclamation) is developing policies and programs to improve the environmental conditions that were affected by the operation and maintenance (O&M) and physical facilities of the CVP. The CVPIA also includes tools to facilitate larger efforts in California to improve environmental conditions in the Central Valley and the San Francisco Bay-Delta system.

Section 3404(c) of the CVPIA directs the Secretary of the Interior to renew existing CVP water service and repayment contracts following completion of a Programmatic Environmental Impact Statement (PEIS) and other needed environmental documentation by stating that:

*... the Secretary shall, upon request, renew any existing long-term repayment or water service contract for the delivery of water ... for a period of 25 years and may renew such contracts for successive periods of up to 25 years each ... [after] appropriate environmental review, including preparation of the environmental impact statement required in section 3409 [i.e., the CVPIA PEIS] ... has been completed.*

Reclamation released a Draft PEIS on November 7, 1997. An extended comment period closed on April 17, 1998. The U.S. Fish and Wildlife Service (USFWS) became a co-lead agency in August 1999. Reclamation and the USFWS released the Final PEIS in October 1999 (Reclamation 1999) and the Record of Decision (ROD) in January 2001. The CVPIA PEIS analyzed a No Action alternative, 5 Main alternatives, including a Preferred Alternative, and 15 Supplemental Analyses. The alternatives included implementation of the following programs: Anadromous Fish Restoration Program with flow and non-flow restoration methods and fish passage improvements; Reliable Water Supply Program for refuges and wetlands identified in the 1989 Refuge Water Supply Study and the San Joaquin Basin Action Plan; Protection and restoration program for native species and associated habitats; Land Retirement Program for willing sellers of land characterized by poor drainage; and CVP Water Contract Provisions for contract renewals, water pricing, water metering/monitoring, water conservation methods, and water transfers.

The CVPIA PEIS provided a programmatic evaluation of the impacts of implementing the CVPIA including impacts to CVP operations north and south of the Sacramento-San Joaquin River Delta (Delta). The PEIS addressed the CVPIA's region-wide impacts on communities, industries, economies, and natural resources and provided a basis for selecting a decision among the alternatives.

Section 3404(c) of the CVPIA further provides for the execution of interim renewal contracts for contracts which expired prior to completion of the CVPIA PEIS by stating that:

*No such renewals shall be authorized until appropriate environmental review, including the preparation of the environmental impact statement required in section 3409 of this title, has been completed. Contracts which expire prior to the completion of the environmental impact statement required by section 3409 [i.e., the CVPIA PEIS] may be renewed for an interim period not to exceed three years in length, and for successive interim periods of not more than two years in length, until the environmental impact statement required by section 3409 has been finally completed, at which time such interim renewal contracts shall be eligible for long-term renewal as provided above.*

Interim renewal contracts have been and continue to be undertaken under the authority of the CVPIA to provide a bridge between the expiration of the original long-term water service contracts and the execution of new long-term water service contracts as required by the CVPIA. The interim renewal contracts reflect current Reclamation law, including modifications resulting from the Reclamation Reform Act and applicable CVPIA requirements. The initial interim renewal contracts were negotiated in 1994 with subsequent renewals for periods of two years or less to provide continued water service pending execution of a long-term renewal contract. Many of the provisions from the interim renewal contracts were assumed to be part of the contract renewal provisions in the description of the PEIS Preferred Alternative.

The PEIS did not analyze site specific impacts of contract renewal but rather CVP-wide impacts of execution of long-term renewal contracts. Consequently, as long-term renewal contract negotiations were completed, Reclamation prepared environmental documents that tiered from the PEIS to analyze the local effects of execution of long-term renewal contracts at the division, unit, or facility level (see Section 1.1.1). Tiering is defined as the coverage of general matters in broader environmental impact statements with site-specific environmental analyses for individual actions. Environmental analysis for the interim renewal contracts has also tiered from the PEIS to analyze site specific impacts. Consequently, the analysis in the PEIS as it relates to the implementation of the CVPIA through contract renewal and the environmental impacts of implementation of the PEIS Preferred Alternative are foundational and laid the groundwork for this document.

In accordance with and as required by Section 3404(c) of the CVPIA, Reclamation proposes to execute two San Luis Unit interim renewal contracts for Panoche Water District (PWD) and San Luis Water District (SLWD). The two interim renewal contracts listed in Table 1 would be renewed for a two-year period from March 1, 2017 through February 28, 2019. In the event a

new long-term water service contract is executed, the interim renewal contract then-in-effect would be superseded by the long-term water service contract.

Table 1 Contractors Existing Contract Amounts and Expiration Dates.

Contractor	Current Contract Number	Contract Quantity (acre-feet)	Expiration of Existing Interim Renewal Contract	Purpose Of use
Panoche Water District	14-06-200-7864A-IR4	94,000	2/28/2017	Ag &/or M&I
San Luis Water District	14-06-200-7773A-IR4	125,080	2/28/2017	Ag &/or M&I

The long-term contracts for PWD and SLWD expired December 31, 2008. In 2008, Reclamation executed the first interim renewal contracts for each of the contractors for up to two years and two months. Previous interim renewal Environmental Assessments (EAs) which tiered from the PEIS have been prepared for these contracts and approved as follows:

- EA-14-007, *Central Valley Project Interim Renewal Contracts for Panoche Water District and San Luis Water District 2015-2017* (Reclamation 2015) which covered contract years<sup>1</sup> 2015 through 2017
- EA-12-055, *Central Valley Project Interim Renewal Contracts for Panoche Water District and San Luis Water District 2013-2015* (Reclamation 2013) which covered contract years 2013 through 2015
- EA-10-070, *San Luis Water District's and Panoche Water District's Water Service Interim Renewal Contracts 2011-2013* (Reclamation 2010a) which covered contract years 2011 through 2013
- EA-07-056, *San Luis Unit Water Service Interim Renewal Contracts – 2008-2011* (Reclamation 2007) which covered the contract years 2008 through 2011

### 1.1.1 Long-Term Renewal Contracts

CVP water service contracts are between the United States and individual water users or districts and provide for an allocated supply of CVP water to be applied for beneficial use. Water service contracts are required for the receipt of CVP water under federal Reclamation law and among other things stipulates provisions under which a water supply is provided, to produce revenues sufficient to recover an appropriate share of capital investment, and to pay the annual O&M costs of the CVP.

Reclamation completed long-term renewal contract environmental documentation in early 2001 for CVP contracts in the Friant Division, Hidden Unit, and Buchanan Unit of the CVP (Reclamation 2001). Twenty-five of the 28 Friant Division long-term renewal contracts were executed between January and February 2001, and the Hidden Unit and Buchanan Unit long-term renewal contracts were executed in February 2001. The Friant Division long-term renewal contracts with the City of Lindsay, Lewis Creek Water District, and City of Fresno were executed in 2005. In accordance with Section 10010 of the Omnibus Public Land Management Act of 2009 (Public Law 111-11), Reclamation entered into 24 Friant Division 9(d) Repayment Contracts by December 2010.

<sup>1</sup> A contract year is from March 1 of a particular year through February 28/29 of the following year.

A Final Environmental Impact Statement (EIS) analyzing effects of the long-term renewal contracts for the Sacramento River Settlement Contracts and the Colusa Drain Mutual Water Company was completed in December 2004 (Reclamation 2004). The 147 Sacramento River Settlement Contracts were executed in 2005, and the Colusa Drain Mutual Water Company contract was executed on May 27, 2005. A revised EA for the long-term renewal contract for the Feather Water District water-service replacement contract was completed August 15, 2005 and the long-term renewal contract was executed on September 27, 2005 (Reclamation 2005a).

Environmental documents were completed by Reclamation in February 2005 for the long-term renewal of CVP contracts in the Shasta Division and Trinity River Divisions (Reclamation 2005b), the Black Butte Unit, Corning Canal Unit, and the Tehama-Colusa Canal Unit of the Sacramento River Division (Reclamation 2005c). All long-term renewal contracts for the Shasta, Trinity and Sacramento River Divisions covered in these environmental documents were executed between February and May 2005. As Elk Creek Community Services District's long-term contract didn't expire until 2007 they chose not to be included at that time. Reclamation continues to work on long-term renewal contract environmental documentation for Elk Creek Community Services District.

Reclamation completed long-term renewal contract environmental documents for the Delta Division (Reclamation 2005d) and the U.S. Department of Veteran Affairs (Reclamation 2005e). In 2005, Reclamation executed 17 Delta Division long-term renewal contracts.

Reclamation completed long-term renewal contract environmental documents for Contra Costa Water District (Reclamation 2005f) and executed a long-term renewal contract in 2005.

Regarding certain long term contract renewals related to the Sacramento River Settlement contracts and certain Delta Division contracts, the United States Court of Appeals for the Ninth Circuit recently held that the original Sacramento River Settlement contracts did not strip Reclamation of all discretion at contract renewal, such that Reclamation was not obligated to consult under section 7 of the Endangered Species Act (ESA). The court also held that environmental plaintiffs have standing to challenge the renewal of the Delta Division contracts under section 7 of the ESA, even though the contracts include shortage provisions that allow Reclamation to completely withhold Project water for certain legal obligations. The court additionally found that Reclamation, even though full contract deliveries were analyzed in the 2008 delta smelt biological opinion, has yet to consult on specific contract terms to benefit delta smelt. The matter has been remanded to the District Court. Since that time, Reclamation reinitiated consultation with the USFWS on execution of the Sacramento River Settlement contracts, and the USFWS concurred that the effects of executing the contracts were addressed in the 2008 delta smelt biological opinion. NRDC has amended its complaint to challenge the USFWS' concurrence and raise new claims related to the 2009 salmon biological opinion issued by the National Marine Fisheries Service (NMFS). The litigation continues, but the contracts remain effective.

Reclamation completed long-term renewal contract environmental documents for the majority of the American River Division (Reclamation 2005g). The American River Division has seven contracts that are subject to renewal. The ROD for the American River long-term renewal



contract EIS was executed for five of the seven contractors. Reclamation continues to work on long-term renewal contract environmental documentation for the other two remaining contractors.

On March 28, 2007, the San Felipe Division existing contracts were amended to incorporate some of the CVPIA requirements; however, the long-term renewal contracts for this division were not executed. The San Felipe Division contracts expire December 31, 2027. Reclamation continues to work on long-term renewal contract environmental documentation for the San Felipe Division.

Long-term renewal contracts have not been completed for the City of Tracy, Cross Valley contractors, the San Luis Unit (which includes PWD and SLWD) and the 3-way partial assignment from Mercy Springs Water District to Pajaro Valley Water Management Agency, Santa Clara Valley Water District, and Westlands Water District (Westlands) Distribution District # 1 pending completion of appropriate environmental documents.

## **1.2 Need for the Proposed Action**

Interim renewal contracts are needed to provide the mechanism for the continued beneficial use of the water developed and managed by the CVP and for the continued reimbursement to the federal government for costs related to the construction and operation of the CVP by the contractors. Additionally, CVP water is essential to continue agricultural production and municipal viability for these contractors.

As described in Section 1.1.1, execution of long-term renewal contracts for the contracts listed in Table 1 is still pending. The purpose of the Proposed Action is to execute two interim renewal contracts in order to extend the term of the contractors' existing interim renewal contracts for two years, beginning March 1, 2017 and ending February 28, 2019. Execution of these two interim renewal contracts is needed to continue delivery of CVP water to these contractors, and to further implement CVPIA Section 3404(c), until their new long-term renewal contract can be executed.

## **1.3 Scope**

Reclamation has prepared this EA, which tiers from the PEIS, to determine the site specific environmental effects of actions resulting from the proposed execution of the two interim renewal contracts listed in Table 1. The water would be delivered for agricultural and municipal and industrial (M&I) purposes within Reclamation's existing water right place of use. The water would be delivered within the contractors' existing service area boundaries using existing facilities for a period of up to two years. See Figure 1 for contractor-specific service areas.

This EA does not analyze Delta exports of CVP water, as Delta exports is an on-going action and the diversion of CVP waters for export to South-of-Delta contractors was described in the PEIS (see Chapter III of the PEIS). In addition, on January 11, 2016, Reclamation issued a ROD (Reclamation 2016) addressing the environmental effects of implementing reasonable and

prudent alternatives (RPAs) affecting the CVP/SWP LTO. As the proposed execution of interim renewal contracts is administrative in nature and does not affect the operations of the CVP or SWP, this EA only covers the site specific environmental analysis of issuing the proposed interim renewal contracts over a two year period.

## **1.4 Issues Related to CVP Water Use Not Analyzed**

### **1.4.1 Contract Service Areas**

No changes to any contractor's service area are included as a part of the alternatives or analyzed within this EA. Reclamation's approval of a request by a contractor to change its existing service area would be a separate discretionary action. Separate appropriate environmental compliance and documentation would be completed before Reclamation approves a land inclusion or exclusion to any contractor's service area.

### **1.4.2 Water Transfers and Exchanges**

No sales, transfers, or exchanges of CVP water are included as part of the alternatives or analyzed within this EA. Reclamation's approvals of water sales, transfers, and exchanges are separate discretionary actions requiring separate additional and/or supplementary environmental compliance. Approval of these actions is independent of the execution of interim renewal contracts. Pursuant to Section 3405 of the CVPIA, transfers of CVP water require appropriate site-specific environmental compliance. Appropriate site-specific environmental compliance is also required for all CVP water exchanges.

### **1.4.3 Contract Assignments**

Assignments of CVP contracts are not included as part of the alternatives or analyzed within this EA. Reclamation's approvals of any assignments of CVP contracts are separate, discretionary actions that require their own environmental compliance and documentation.

### **1.4.4 Warren Act Contracts**

Warren Act contracts between Reclamation and water contractors for the conveyance of non-federal water through federal facilities or the storage of non-federal water in federal facilities are not included as a part of the alternatives or analyzed within this EA. Reclamation decisions to enter into Warren Act contracts are separate actions and independent of the execution of interim renewal contracts. Separate environmental compliance would be completed prior to Reclamation executing Warren Act contracts.

### **1.4.5 Purpose of Water Use**

Use of contract water for M&I use under the proposed interim renewal contracts would not change from the purpose of use specified in the existing contracts. Any change in use for these contracts would be separate, discretionary actions that require their own environmental compliance and documentation.

### **1.4.6 Drainage**

This EA acknowledges ongoing trends associated with the continued application of irrigation water and production of drainage related to that water. It does not analyze the effects of Reclamation's providing agricultural drainage service to the San Luis Unit. The provision of

drainage service is a separate federal action that has been considered in a separate environmental document, the *San Luis Drainage Feature Re-Evaluation Final Environmental Impact Statement* [SLDFR FEIS] (Reclamation 2005h). The SLDFR FEIS evaluated seven Action alternatives in addition to the No Action alternative for implementing drainage service within the San Luis Unit. The ROD for the SLDFR-FEIS was signed March 9, 2007 (2007 ROD). The actions considered in this EA would not alter or affect the analysis or conclusions in the SLDFR FEIS or 2007 ROD.

The SLDFR FEIS and 2007 ROD were prepared in response to litigation known as *Firebaugh v. United States* [Cases 1:88-cv-00634-LJO/DLB, and 1:91-cv-00048-LJO/DLB (Partially Consolidated)]. On September 15, 2015 Westlands and the United States reached a settlement with regard to the above noted litigation which requires enactment of enabling legislation, and on October 26, 2015 the District Court referenced the 2007 ROD in its' Order granting joint motion for partial stay in recognition of the settlement.

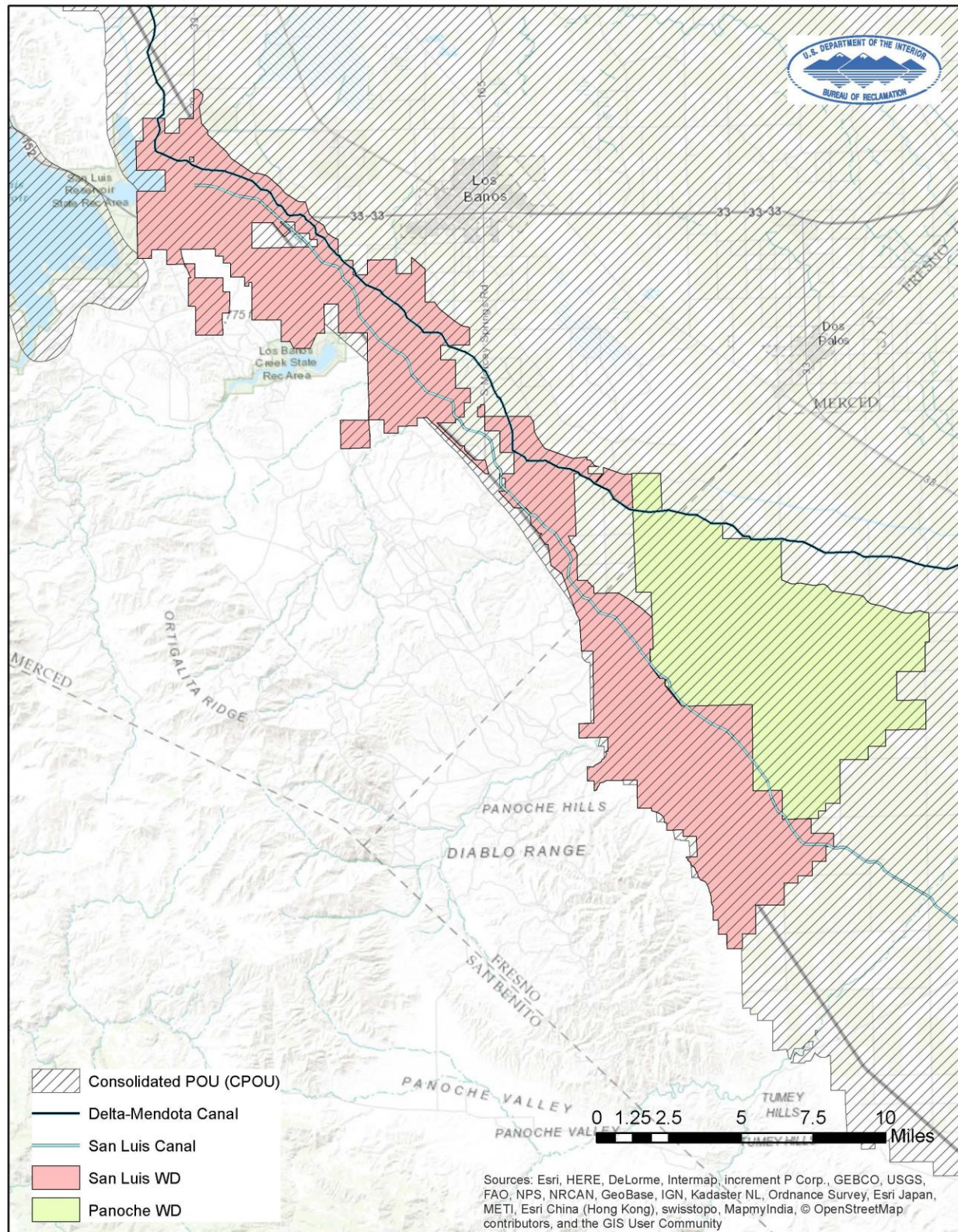


Figure 1 Proposed Action Area.



## Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

### 2.1 No Action Alternative

Under the No Action alternative, Reclamation would not renew the interim renewal contracts that are set to expire February 28, 2017. Reclamation would continue to pursue execution of long-term contract renewals for PWD and SLWD, as mandated by Section 3404(c) of the CVPIA. However, as environmental documentation has not been completed for their long-term contracts, it is likely that a contract would not be in place within the term of their existing interim renewal contract. There would be no contractual mechanism for Reclamation to deliver CVP water to PWD or SLWD once the current contract expires and the existing water supply needs of the districts customers would be unmet.

If the two existing interim renewal contracts for PWD and SLWD are not renewed, there would be no change to CVP pumping or operations as the same amount of water would continue to be pumped for south-of-Delta demands. However, PWD and SLWD would no longer receive the portion of CVP water that they would have received under the Proposed Action.

### 2.2 Proposed Action

The Proposed Action evaluated in this document is the execution of two interim renewal water service contracts between the United States and the contractors listed in Table 1. Both PWD and SLWD are currently on their fourth interim renewal contract and this Proposed Action would be their fifth. Drafts of the interim renewal contracts were released for public review on November 11, 2016 at the following website: [https://www.usbr.gov/mp/cvpia/3404c/lt\\_contracts/2017-int-cts/index.html](https://www.usbr.gov/mp/cvpia/3404c/lt_contracts/2017-int-cts/index.html).

For purposes of this EA, the following assumptions are made under the Proposed Action:

- Execution of each interim renewal contract is considered to be a separate action;
- A two year interim renewal period is considered in the analysis, though contracts may be renewed for a shorter period.
- The contracts would be renewed with existing contract quantities as reflected in Table 1;
- Reclamation would continue to comply with commitments made or requirements imposed by applicable environmental documents, such as existing biological opinions including any obligations imposed on Reclamation resulting from re-consultations; and

The Proposed Action would continue these existing interim renewal contracts, with only minor, administrative changes to the contract provisions to update the previous interim renewal contracts for the new contract period. In the event a new long-term water service contract is executed, the interim renewal contract then-in-effect would be superseded by the long-term water service contract.

No changes to the contractors' service areas or water deliveries are part of the Proposed Action. CVP water deliveries under the two proposed interim renewal contracts can only be used within each designated contract service area (see Figure 1). The contract service area for the proposed interim renewal contracts have not changed from the existing interim renewal contracts. If the contractor proposes to change the designated contract service area separate environmental documentation and approval will be required. CVP water can be delivered under the interim renewal contracts in quantities up to the contract total as provided in Article 3 of the Interim Renewal Contract.

The two interim renewal contracts contain provisions that allow for adjustments resulting from court decisions, new laws, and from changes in regulatory requirements imposed through re-consultations. Accordingly, to the extent that additional restrictions are imposed on CVP operations to protect threatened or endangered species, those restrictions would be implemented in the administration of the two interim renewal contracts considered in this EA, to the extent allowed by law. As a result, by their express terms, the interim renewal contracts analyzed herein would conform to any applicable requirements lawfully imposed under the federal ESA or other applicable environmental laws.

### 2.2.1 Environmental Commitments

Reclamation and the proponents shall implement the environmental protection measures included in Table 2. Environmental consequences for resource areas assume the measures specified would be fully implemented.

Table 2 Environmental Protection Measures and Commitments.

Resource	Protection Measure
Biological Resources	No CVP water would be applied to native lands or land untilled for three consecutive years or more without additional environmental analysis and approval.
Water Resources	CVP water may only be served within areas that are within the CVP Place of Use.
Various	No new construction or modification of existing facilities would take place as part of the Proposed Action.

## 2.3 Alternatives Considered but Eliminated from Further Analysis

Water Needs Assessments were completed by Reclamation between 2000 and 2004 for each CVP contractor eligible to participate in the CVP long-term contract renewal process. The purpose of the Water Needs Assessments and methodology used by Reclamation for the assessments is included in Appendix A.

Reclamation reviewed the previous Water Needs Assessments completed for PWD and SLWD in 2000 and determined that updates to the assessments were warranted. New Water Needs

Assessments have been prepared for PWD and SLWD (Appendix B). Reclamation followed the same methodology used in the initial Water Needs Assessments with the following modifications:

- Reclamation applied the maximum productive acreage for irrigation calculations as representative of the total volume of water needed by the contractor in the benchmark year 2050.
- Reclamation applied the year 2050 as a convenient future benchmark since some CVP M&I contracts are eligible for a term of up to 40 years.
- Reclamation also applied the gallons per capita per day (GPCD) from the 2013 California Water Plan Update (e.g., Volume 1 page 3-79) to calculate M&I contractor needs in the benchmark year 2050.

As part of the Water Needs Assessment process, Reclamation reviewed the PWD and SLWD most recent Water Conservation Plans (PWD 2012, SLWD 2010), conferred with the contractors to verify current water use, and determined that the numbers in the updated Water Needs Assessments (Appendix B) are a reasonable projection of water use for the benchmark year 2050.

The contractors' water demands were compared to their overall water supplies to determine the need for CVP water. As shown in Column 39 of Appendix B, the updated Water Needs Assessments indicate that PWD and SLWD had unmet demands in 2012 and 2010 of 25,241 acre-feet (AF) and 18,045 AF, respectively and will have unmet demands in the future of 6,790 AF and 9,518 AF, respectively (see the second bullet above regarding the year 2050). Based on the updated Water Needs Assessments, Reclamation has determined that PWD and SLWD have put their full contract quantity to beneficial use and will continue to do so in the future. As such, a reduction in contract quantity is not warranted for these contractors and Reclamation has eliminated a contract reduction alternative from further review.

THIS PAGE LEFT INTENTIONALLY BLANK



## Section 3 Affected Environment and Environmental Consequences

This section describes the service area for PWD and SLWD which receive CVP water from the Delta via the Delta-Mendota Canal and the San Luis Canal. The Proposed Action area includes the contractors' service area as shown in Figure 1. However, the assessment of effects on anadromous fish includes areas downstream of drainage from the contractors' service area.

### 3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action would not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 3.

Table 3 Resources Eliminated from Further Analysis.

Resource	Reason Eliminated
Cultural Resources	There would be no impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. The pumping, conveyance, and storage of water would be confined to existing CVP facilities. Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). See Appendix B for Reclamation's determination.
Global Climate Change	The Proposed Action does not include construction of new facilities or modification to existing facilities. While pumping would be necessary to deliver CVP water, no additional electrical production beyond baseline conditions would occur. In addition, the generating power plant that produces electricity for the electric pumps operates under permits that are regulated for greenhouse gas emissions. As such, there would be no additional impacts to global climate change. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. Current data are not yet clear on the hydrologic changes and how they will affect the San Joaquin Valley. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility under either alternative.
Indian Sacred Sites	The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area.

### 3.2 Air Quality

Section 176 (C) of the Clean Air Act (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C.

7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with State Implementation Plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable State Implementation Plan before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

### **3.2.1 Affected Environment**

The Proposed Action area lies within the San Joaquin Valley Air Basin under the jurisdiction of the San Joaquin Valley Air Pollution Control District. The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide, ozone, ozone precursors such as volatile organic compounds or reactive organic gases, inhalable particulate matter between 2.5 and 10 microns in diameter (PM<sub>10</sub>), and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). The Air Basin has reached Federal and State attainment status for carbon monoxide, nitrogen dioxide, and sulfur dioxide. Federal attainment status has been reached for PM<sub>10</sub> but is in non-attainment for ozone and PM<sub>2.5</sub> (San Joaquin Valley Air Pollution Control District 2016).

### **3.2.2 Environmental Consequences**

#### ***No Action***

Implementation of the No Action Alternative would mean the existing interim renewal contracts would expire in February 2017. PWD estimates that one third (approximately 12,500 acres) of its irrigable acres would be unable to sustain agriculture (PWD 2016). SLWD estimates that an additional 19,000 acres of its 31,000 irrigated acres would end up fallowed (SLWD 2016). The effects of increased fallowing include an increased risk of windblown sand and dust, which would contribute to elevated particulate matter concentrations adversely impacting air quality in an area that is already in non-attainment for PM<sub>2.5</sub>.

#### ***Proposed Action***

Under the Proposed Action, CVP water would continue to be conveyed through existing facilities either via gravity or electric pumps which would not produce air pollutant emissions that impact air quality.

#### ***Cumulative Impacts***

The Proposed Action would not result in cumulative air quality impacts as there are no direct or indirect air quality impacts.

### 3.3 Biological Resources

#### 3.3.1 Affected Environment

PWD's and SLWD's service areas are dominated by agricultural land that includes field crops, orchards, and pasture (California Department of Conservation 2014). The ongoing intensive management of agricultural lands, including repetitive activities such as soil preparation, planting, irrigation, applying various chemicals, and harvesting disturbs the land surface and reduces the value of these habitat for wildlife.

The effects of agricultural drainage management to species under USFWS' jurisdiction have been addressed in other consultations (e.g., the USFWS' consultation on the Grassland Bypass Project [GBP] (USFWS 2009), SLDFR (USFWS 2006), and the SLDFR Demonstration Treatment Facility at Panoche Drainage District (USFWS 2012). The GBP biological opinion provided reasonable and prudent measures, and terms and conditions to address project effects for San Joaquin kit fox and giant garter snake. The execution of interim renewal contracts for PWD and SLWD are, and will remain, subjected to those terms and conditions to the extent applicable within their respective service areas. Consequently, Reclamation has requested and received concurrence from the USFWS that affects to listed species and their critical habitat have already been addressed. In contrast, the management of agricultural drainage impacts to listed anadromous fish species and fish habitat under NMFS' jurisdiction, however, is considered in this analysis and was not analyzed in the GBP (NMFS 2009a).

Reclamation requested an official species list for the entire Action area from the USFWS on August 3, 2016, by accessing their database: <https://ecos.fws.gov/ipac/> (Consultation Code: 08ESMF00-2016-SLI-1953). Reclamation further queried the California Department of Fish and Wildlife, California Natural Diversity Database (CNDDDB) for records of protected species within 10 miles of the project location as well as protected species records present downstream of the contractors' service area (CNDDDB 2016). The two lists, in addition to other information within Reclamation's files were combined to create the following list (Table 4).

Table 4 Species List for the Proposed Action, Including Fish Downstream

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
<b>Amphibians</b>			
California red-legged frog ( <i>Rana draytonii</i> )	T, X	NE	<b>Absent.</b> No CNDDDB <sup>4</sup> -recorded occurrences and designated critical habitat is absent from Proposed Action area. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
California tiger salamander ( <i>Ambystoma californiense</i> )	T, X	NE	<b>Absent.</b> No CNDDDB <sup>4</sup> -recorded occurrences and designated critical habitat is absent from Proposed Action area. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
<b>Birds</b>			
California condor ( <i>Gymnogyps californianus</i> )	E	NE	<b>Absent.</b> No CNDDDB-recorded occurrences in Proposed Action area. The Proposed Action would not alter or convert any areas of suitable habitat which may be occupied by this species, and would not involve any ground disturbance or construction. There would be No Effect to this species.

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
<b>Fish</b>			
Central Valley spring-run Chinook salmon, Evolutionarily Significant Unit (ESU) ( <i>Oncorhynchus tshawytscha</i> )	T, NEP NMFS	MA	<b>Present.</b> Suitable habitat and species are present downstream of the contractors service area and could be affected by agricultural drainage.
Central Valley steelhead, distinct population segment (DPS) ( <i>Oncorhynchus mykiss</i> )	T, X NMFS	MA	<b>Present.</b> San Joaquin River is designated critical habitat. Suitable habitat and species are present downstream of the contractors service area and could be affected by agricultural drainage.
Delta smelt ( <i>Hypomesus transpacificus</i> )	T, X	NE	<b>Present.</b> Suitable habitat and species are present downstream of the contractors service area and could be affected by agricultural drainage. Natural waterways within the species' range and designated critical habitat have been addressed in CVP/SWP Coordinated Operations biological opinion <sup>5</sup> and all Terms and Conditions will be followed. No additional effects that are unaccounted for would occur from the Proposed Action.
Sacramento River winter-run Chinook salmon, ESU ( <i>Oncorhynchus tshawytscha</i> )	E NMFS	MA	<b>Present.</b> Suitable habitat and species are present downstream of the contractors service area and could be affected by agricultural drainage.
Southern DPS of North American green sturgeon ( <i>Acipenser medirostris</i> )	T, X NMFS	MA	<b>Present.</b> Portion of San Joaquin River is designated critical habitat. Suitable habitat and species are present downstream of the contractors service area and could be affected by agricultural drainage.
<b>Invertebrates</b>			
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	T	NE	<b>Absent.</b> No records or vernal pools in area of effect.
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	E	NE	<b>Absent.</b> No records or vernal pools in area of effect.
<b>Mammals</b>			
Fresno kangaroo rat ( <i>Dipodomys nitratoides exilis</i> )	E	NE	<b>Unlikely.</b> No CNDDDB-recorded occurrences and managed agricultural lands are not expected to provide suitable habitat. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Giant kangaroo rat ( <i>Dipodomys ingens</i> )	E	NE	<b>Unlikely.</b> No CNDDDB-recorded occurrences and managed agricultural lands are not expected to provide suitable habitat. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	E	NLAA	<b>Present.</b> Several CNDDDB-occurrence records exist within portions of the Proposed Action area and this species could rarely move through or forage in this area. Potential impacts have been addressed in GBP biological opinion <sup>6</sup> and all terms and conditions will be followed. No land use changes would occur because of this action, no conversion of habitat, and no new facilities. Any potential impacts associated with development of the Santa Nella Community would be addressed by the lead agency, Merced County.
<b>Plant</b>			
San Joaquin woolly-threads ( <i>Monolopia congdonii</i> )	E	NE	<b>Absent.</b> No CNDDDB-recorded occurrences in Proposed Action area.
<b>Reptiles</b>			

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
Blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	E	NLAA	<b>Possible.</b> CNDDDB-occurrence records exist in SLWD primarily west of Interstate-5 where grazing land remains once existed pre-CVPIA. Agricultural lands in the District do not provide suitable habitat. No land use changes would occur as a result of this action, there would be no conversion of habitat, and no new facilities developed.
Giant garter snake ( <i>Thamnophis gigas</i> )	T	NLAA	<b>Possible.</b> Occurrence records from CNDDDB are approximately 4 miles east of San Luis WD and east of the Delta-Mendota Canal; suitable habitat virtually lacking in the Proposed Action Area. Potential impacts downstream of Mud Slough are currently accounted for under the GBP biological opinion; water quality objectives in San Joaquin River provide protection to other downstream habitats.

1 Status = Status of federally protected species protected under the Endangered Species Act (ESA).

E: Listed as Endangered

NEP: Listed as a nonessential experimental population

NMFS: Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service

T: Listed as Threatened

X: Critical Habitat designated for this species

2 Effects = ESA Effect determination

MA: Proposed Action may Adversely Affect federally listed species and/or designated critical habitat

NE: No Effect anticipated from the Proposed Action to federally listed species or designated critical habitat

NLAA: Proposed Action Not Likely to Adversely Affect federally listed species

3 Definition Of Occurrence Indicators

Present: Species recorded in area and suitable habitat present.

Possible: Species recorded in area and habitat suboptimal.

Unlikely: Species recorded in area but habitat marginal or lacking entirely.

Absent: Species not recorded in study area and suitable habitat absent.

4 CNDDDB = California Natural Diversity Database, Department 2016

5 CVP/SWP Coordinated Operations biological opinion = USFWS 2008

6 GBP biological opinion = USFWS 2009

### **Special-Status Species**

Federally protected species that may occur in the Proposed Action area include: San Joaquin kit fox, blunt-nosed leopard lizard, giant garter snake; and federally protected species that may occur downstream of the contractors service area including: Delta smelt, Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and Southern DPS of North American green sturgeon (Table 4). Critical habitat for fish species is also designated downstream of PWD and SLWD (Table 4). In addition to compliance with ESA, Reclamation complies with the Magnuson-Stevens Fishery Conservation and Management Act if activities may adversely impact the essential fish habitat (EFH). EFH for Pacific salmon occurs downstream of the contractors service area.

**Listed Anadromous Fish Species and Fish Habitat** Waterways downstream from the contractors service area (San Joaquin River from convergence with Merced River to the Delta) function as a migratory corridor for Central Valley steelhead (NMFS 2005). All adult Central Valley steelhead originating in the San Joaquin River watershed will have to migrate through at least a portion of this corridor in order to reach their spawning grounds and to return to the ocean following spawning. Likewise, all Central Valley steelhead smolts from the San Joaquin River watershed will have to pass through at least a portion of this corridor during their emigration to the ocean. The waterways in this corridor also are expected to provide some rearing benefit to emigrating steelhead smolts as they move downstream (NMFS 2005).

In addition, the San Joaquin River corridor downstream of the Merced River functions as a migratory corridor and rearing habitat for juvenile Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon, as well as Central Valley steelhead from the Sacramento River watershed, that are drawn into the Central and south Delta by the actions of the CVP and SWP water diversion facilities, and must therefore emigrate towards the ocean through the lower San Joaquin River system (NMFS 2011). The Delta and lower San Joaquin River also function as migratory, holding, and rearing habitat for adult and juvenile green sturgeon (NMFS 2009b).

***Documents Addressing Potential Impacts of Actions of the CVP (Excluding the Proposed Action) to Listed Species***

**Biological Opinions for Coordinated Operation of the CVP and SWP** In December 2008, USFWS issued a biological opinion analyzing the effects of the coordinated long-term operation of the CVP and SWP in California (USFWS 2008). The USFWS biological opinion concluded that “the coordinated operation of the CVP and SWP, as proposed, was likely to jeopardize the continued existence of the Delta smelt” and “adversely modify Delta smelt critical habitat.” The USFWS biological opinion included RPAs for CVP and SWP operations designed to allow the projects to continue operating without causing jeopardy or adverse modification. On December 15, 2008, Reclamation provisionally accepted and then implemented the USFWS RPA.

NMFS issued its biological opinion analyzing the effects of the coordinated long-term operation of the CVP and SWP on listed salmonids, Southern DPS North American green sturgeon, and Southern Resident killer whale in June 2009 (NMFS 2009c). The NMFS biological opinion concluded that the long-term operation of the CVP and SWP, as proposed, was likely to jeopardize the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern DPS of North American green sturgeon, and Southern Resident killer whales. Also the NMFS biological opinion concluded that the CVP/SWP Coordinated Operations, as proposed, was likely to destroy or adversely modify critical habitat for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead and the Southern DPS of North American green sturgeon. The NMFS biological opinion included an RPA designed to allow the projects to continue operating without causing jeopardy or adverse modification. On June 4, 2009, Reclamation provisionally accepted and then implemented the NMFS RPA.

However, following their provisional acceptance, both biological opinions were subsequently challenged in Court, and following lengthy proceedings, the United States District Court for the Eastern District of California remanded the biological opinions, and Reclamation was ordered by the Court to comply with the National Environmental Policy Act (NEPA) before accepting the RPAs. In March and December 2014, the biological opinions issued by the USFWS and NMFS, respectively, were upheld by the Ninth Circuit Court of Appeals, although certain requirements (such as an obligation for Reclamation to follow a NEPA process) were left in place. Reclamation completed NEPA on the CVP/SWP Coordinated Operations biological opinions and issued a ROD on January 11, 2016. Since then, Reclamation has re-initiated consultation on the CVP/SWP Coordinated Operations. That process is ongoing.

### **Operation and Maintenance Program for the South-Central California Area Office**

Reclamation has consulted under the ESA on the *Operation and Maintenance Program Occurring on Bureau of Reclamation Lands within the South-Central California Area Office*, resulting in a biological opinion issued by USFWS on February 17, 2005 (USFWS 2005). The opinion considers the effects of routine O&M of Reclamation's facilities used to deliver water to the study area, as well as certain other facilities within the jurisdiction of the South-Central California Area Office, on California tiger salamander, vernal pool fairy shrimp, valley elderberry longhorn beetle, blunt-nosed leopard lizard, vernal pool tadpole shrimp, San Joaquin wooly-threads, California red-legged frog, giant garter snake, San Joaquin kit fox, and on proposed critical habitat for the California red-legged frog and California tiger salamander.

### **3.3.2 Environmental Consequences**

#### **No Action**

Under the No Action alternative, the loss of CVP water supplies from the interim renewal contracts may cause short-term adverse impacts to any wildlife that utilize agricultural lands for foraging and nesting; such as blackbirds, doves, and various species of hawks due to increased fallowing. However, agricultural lands typically do not provide suitable habitat for special-status species. Any fallowed lands would continue to be maintained (disced or tilled) for future agricultural use. Therefore, conditions of special status species and habitats would be similar to current conditions.

Reclamation's existing and future environmental commitments addressed in biological opinions, including the CVPIA biological opinion (USFWS 2000) would continue to be met under the No Action Alternative, including continuation of ongoing species conservation programs.

To the extent irrigation would continue within PWD and the drainage-impacted portion of SLWD under the No Action alternative, impacts resulting from drainage leaving the Districts' service areas and entering the San Joaquin River under the GBP would be of the same type as in the past. The amount of discharge from PWD and SLWD's drainage area may be reduced due to the loss of available CVP water supplies for irrigation. However, at present it is speculative whether or not those reductions would be greater than otherwise would be implemented by the Districts to meet GBP permit requirements in 2017 through 2019. While it is expected that drainage resulting from the contractors' service area would continue to be managed through the GBP as the Districts' work towards fully meeting zero discharge selenium objectives by 2019, many costs of operating the GBP, including the SJRIP, are fixed, and loss of funding support from fallowed lands in PWD and SLWD would likely impair drainage management, creating the potential for increased on-site or downstream effects.

#### **Proposed Action**

Under the Proposed Action, conditions of special status species and habitats would remain the same as current conditions described in the Affected Environment. The proposed execution of interim renewal contracts with PWD and SLWD would provide for the delivery of CVP water up to their specific contract totals for use on the same lands that have previously received CVP water. No native lands would be converted or cultivated with CVP water. The water would be delivered to existing homes or farmlands, through existing facilities, as has been done under existing contracts, and would not be used for land conversion. The Proposed Action does not

require the construction of any new facilities, the installation of any new structures, or the modification of existing facilities.

Existing and future environmental commitments addressed in biological opinions, including the CVPIA biological opinion (USFWS 2000), the continuation of ongoing species conservation programs, and compliance with permits for the GBP would continue to be met under the Proposed Action.

On November 30, 2016, Reclamation received a memorandum from the USFWS Sacramento Field Office concurring with Reclamation's determination that effects of the Proposed Action are not likely to adversely affect San Joaquin kit fox, giant garter snake, and blunt-nosed leopard lizard and habitat (see Appendix C). Reclamation will comply with all measures contained within the concurrence memorandum.

**Effects to Listed Anadromous Fish Species and Fish Habitat** Federally listed anadromous fish species pass through waters in the San Joaquin River corridor between the Delta and the mouth of the Merced River or reside in portions of the Delta. These include Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and green sturgeon. Potential effects to listed anadromous fish species and their habitat may result from changes in water quality due to agricultural drainage originating from within PWD and SLWD as a consequence of receiving CVP water supplies. However, PWD and SLWD would continue to manage drainage from their respective service areas under the GBP. Although the GBP continues to provide environmental benefits in addition to the overall decrease in selenium and salts, selenium from the contractors' service area still reaches downstream potentially affecting listed salmonids and sturgeon. Therefore, Reclamation is consulting with NMFS on potential impacts from the Proposed Action to Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and green sturgeon, designated critical habitat, and EFH. This EA will not be finalized until consultation is complete.

### ***Cumulative Impacts***

The Proposed Action, when added to other past, present, and reasonably foreseeable future actions, represent a continuation of existing conditions which are unlikely to result in cumulative impacts on biological resources in the Action area. The Proposed Action would continue the delivery of the same contractual amount of water to the same lands without the need for additional facility modifications or construction. As discussed in Section 3.7.1, Reclamation expects that drainage production within the study area would continue to be reduced, and discharges to the San Joaquin River through the GBP would continue to decrease pursuant to the GBP Waste Discharge Requirements (see Tables 9 and 10 and Figures 2 and 3 in Section 3.7.1).

Finally, the Proposed Action would be subject to regulatory constraints imposed pursuant to the ESA, regardless of whether those constraints exist today. As such, there would be no cumulative adverse impacts as a result of the Proposed Action.



### 3.4 Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

#### 3.4.1 Affected Environment

PWD and SLWD are primarily agricultural districts located within Fresno and Merced counties. As shown in Table 5, the minority population within Fresno and Merced Counties is greater than the California average and the percent of the population below the poverty level is nearly double that of the State's.

Table 5 Fresno and Merced County Demographics

<b>Demographics</b>	<b>Fresno County</b>	<b>Merced County</b>	<b>California</b>
Total Population (2015 estimate)	974,861	268,455	39,144,818
White, non-Hispanic	30.4%	28.9%	38.0%
Black or African American	5.9%	4.1%	6.5%
American Indian or Alaska Native	3.0%	2.5%	1.7%
Asian	10.7%	8.1%	14.7%
Native Hawaiian/Pacific Islander	0.3%	0.4%	0.5%
Hispanic or Latino	52.4%	58.2%	38.8%
June 2015 Unemployment rate	9.7%	10.8%	6.2%
% Total Population Identified as Minority	68.8%	70.0%	61.3%
% Total Population Below Poverty Level (2011-2015)	26.8%	26.1%	16.3

Source: U.S. Census Bureau 2017, State of California Employment Development Department 2017, U.S. Census Bureau 2011-2015.

#### 3.4.2 Environmental Consequences

##### **No Action**

Under the No Action Alternative, PWD and SLWD would not receive a CVP contract. As neither district has a reliable groundwater supply that would offset the loss of CVP water or sufficient alternative water supplies, additional fallowing will occur resulting in the loss of available agricultural jobs for economically disadvantaged communities. In addition, small communities within SLWD rely on CVP water as their sole source of water for M&I purposes as groundwater is not of suitable quality to meet their needs. These communities would end up abandoning homes and businesses if they do not have access to CVP water supplies. The decrease in employment opportunities for low-income wage earners and minority population groups would have a substantially adverse impact to minority and disadvantaged populations due to additional financial burdens placed on an already economically impacted area.

##### **Proposed Action**

As the Proposed Action would be a continuation of current conditions, it would not cause dislocation, changes in employment, or increase flood, drought, or disease. The Proposed Action would not disproportionately impact economically disadvantaged or minority populations as there would be no changes to existing conditions.

### ***Cumulative Impacts***

The Proposed Action would not differ from current or historical conditions, and would not disproportionately affect minority or low income populations in the future; therefore, there would be no cumulative impacts as a result of the Proposed Action.

## **3.5 Land Use**

### **3.5.1 Affected Environment**

The dominate land use in Fresno and Merced Counties are agriculture, grazing land, and urban development (California Department of Conservation 2014). In recent years, land use changes within the San Joaquin Valley have involved the urbanization of agricultural lands. These types of changes are typically driven by economic pressures (California Department of Conservation 2014) that happen regardless of whether the Proposed Action occurs.

#### ***Panoche Water District***

There are no organized communities within the boundaries of PWD, but the District employs approximately 500 permanent farmworkers (PWD 2016). During row crop operations, District growers provide approximately 6,000 seasonal jobs for people living in the surrounding communities of Firebaugh, Mendota, Dos Palos, and Los Banos. The majority of the crops grown within the PWD consist of pistachios, tomatoes, almonds, grapes, melons, cotton, wheat, alfalfa, pomegranates, asparagus and other crops (PWD 2016).

#### ***San Luis Water District***

SLWD supplies M&I water to approximately 2,000 people living in rural and residential communities within their boundaries, including the unincorporated communities of Santa Nella and San Luis Hills (SLWD 2016). The top 10 major crops grown in SLWD are almonds, pistachios, alfalfa, cotton, wheat, tomatoes, melons, corn, wine grapes and citrus (SLWD 2016).

### **3.5.2 Environmental Consequences**

#### ***No Action***

Under the No Action alternative, PWD estimates that one third (approximately 12,500 acres) of its irrigable acres would be unable to sustain agriculture (PWD 2016). SLWD estimates that an additional 19,000 acres of its 31,000 irrigated acres would be fallowed (SLWD 2016). As a result, land use changes in both Districts could be substantial.

#### ***Proposed Action***

The proposed execution of interim renewal contracts would not result in a change in contract water quantities or a change in water use and would continue water deliveries within the contractors' respective service areas. Both districts are primarily agricultural and intend to remain so. In addition, the two year period of the Proposed Action does not provide any additional water supplies that could act as an incentive for conversion of native habitat or increased agricultural production acreage. Therefore, land use within each district would continue as it has in the past and there would be no impacts compared to the No Action alternative.

### ***Cumulative Impacts***

The Proposed Action would maintain the status quo of delivering the same contractual amount of CVP water for existing purposes within each district without the need for additional facility modification or construction. As such, there would be no cumulative adverse impacts to land use.

## **3.6 Socioeconomic Resources**

### **3.6.1 Affected Environment**

The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. PWD's and SLWD's service areas are predominately rural and agricultural with numerous small cities and a few large communities, such as Santa Nella and San Luis Hills. Demographic information for Fresno and Merced County are summarized in Table 5. In June 2015, unemployment rates for Fresno and Merced County were four to five percent higher than the State, respectively.

### **3.6.2 Environmental Consequences**

#### ***No Action***

The loss of CVP contract supplies would have substantial adverse impacts on socioeconomics within both Districts and California as a whole due to the loss in agricultural revenue. The lack of dependable water would result in increased fallowing beyond what is done normally and would severely impact the availability of seasonal and fulltime jobs. Most of these jobs are filled by economically disadvantaged people living in surrounding communities in Fresno and Merced Counties. The loss of jobs and revenue would also have direct and indirect impacts on related businesses. PWD estimates that approximately one third of its district would not be able to sustain agriculture resulting in estimated annual losses of net farm income between \$14,974,400 and 18,718,000 (PWD 2016), with a much greater loss of overall economic activity. SLWD estimates that annual gross revenue losses due to additional fallowing would be approximately \$49,873,000 not including other associated types of businesses that would also be impacted such as dairy, ornamental landscaping, golf courses, homes, and local businesses (SLWD 2016).

#### ***Proposed Action***

The proposed execution of interim renewal contracts would not result in a change in contract water quantities or a change in water use and would continue water deliveries within the contractors' respective service areas. As a result, the viability of farming practices would be maintained and there would be beneficial impacts to socioeconomics under the Proposed Action compared to the No Action alternative.

### ***Cumulative Impacts***

The Proposed Action would maintain the status quo of delivering the same contractual amount of CVP water for existing purposes within each district without the need for additional facility modification or construction. As such, there would be no cumulative adverse impacts to socioeconomics.

## 3.7 Water Resources

### 3.7.1 Affected Environment

The Proposed Action area includes the CVP service areas of PWD and SLWD as well south-of-Delta CVP facilities.

#### **Central Valley Project**

Reclamation makes CVP water available to contractors for reasonable and beneficial uses, but this water is generally insufficient to meet all of the contractors' water supply needs due to hydrologic conditions and/or regulatory constraints. As shown in Table 6, south-of-Delta CVP agricultural allocations averaged 40 percent between 2005 and 2016. A 100 percent agricultural allocation was only received once by these contractors since 2005. Municipal allocations averaged 72 percent over the same time period with 100 percent allocations only received in 2011, 2006 and 2005.

Table 6 South-of-Delta CVP Contract Allocations between 2005 and 2016

Contract Year	Agricultural Allocations (%) <sup>2</sup>	M&I Allocations (%)
2016	5	55 <sup>2</sup>
2015	0	25 <sup>3</sup>
2014	0	50
2013	20	70
2012	40	75
2011	80	100
2010	45	75
2009	10	60
2008	40	75
2007	50	75
2006	100	100
2005	85	100
<b>Average</b>	<b>40</b>	<b>72</b>

Source: [http://www.usbr.gov/mp/cvo/vungvari/water\\_allocations\\_historical.pdf](http://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf)

**CVP Water Delivery Criteria** The amount of CVP water available each year for CVP contractors is based, among other considerations, on the storage of winter precipitation and the control of spring runoff in the Sacramento and San Joaquin River basins. Reclamation's delivery of CVP water diverted from these rivers is determined by state water right permits, judicial decisions, and state and federal obligations to maintain water quality, enhance environmental conditions, and prevent flooding. The CVPIA PEIS considered the effects of those obligations on CVP contractual water deliveries. Experience since completion of the CVPIA PEIS has indicated even more severe contractual shortages applicable to south-of-Delta water deliveries (Reclamation 1999), and this information has been incorporated into the modeling for the current CVP/SWP Coordinated Operations of the Delta (Reclamation 2004).

#### **Contractor Water Needs Assessment**

As discussed in Section 2.3.1, an updated Water Needs Assessment (Appendix A) was developed for PWD and SLWD. Both contractors show an unmet demand for the year 2050 and are

<sup>2</sup> As percentage of Water Service Contract total.

deemed to have full future need of the maximum annual CVP water supply currently under contract for all year types.

### ***Panoche Water District***

PWD is a San Luis Unit CVP contractor that receives its CVP water supplies south of the Delta via the Delta-Mendota Canal and the San Luis Canal. PWD's internal conveyance system is composed of approximately 45 miles of canals and pipelines. This includes approximately 15 miles of unlined canals, 22 miles of lined canals, and almost 8 miles of pipeline. PWD obtains CVP water through two diversion points on the Delta-Mendota Canal and five diversion points on the San Luis Canal.

**CVP Contracts** On August 16, 1955, PWD entered into a long-term contract (Contract 14-06-200-7864) with Reclamation for 93,988 AFY of CVP supply from the Delta-Mendota Canal (Reclamation 1955). This contract was amended on August 30, 1974 (Contract 14-06-200-7684A) to allow a maximum delivery of 94,000 AF of CVP supply from the Delta-Mendota Canal or San Luis Canal. This contract was further revised on January 13, 1986 and November 14, 1988 in amendatory contracts that revised some contract terms but did not revise the maximum quantity of CVP water to be supplied. The long-term contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was the fourth interim renewal contract (Contract 14-06-200-7864A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

**Other Available Water Supplies** In addition to its CVP water, PWD has entered into a long-term water supply contract with the Central California Irrigation District and Firebaugh Canal Water District. This agreement provides 3,000 AFY in supplemental water to PWD through 2033. PWD has also entered into an agreement with San Luis Canal Company. This agreement provides up to 5,000 AFY of supplemental water to PWD through December 31, 2021. Both sources supplement anticipated ongoing shortages in PWD's CVP contract supply; however, the total amount of water provided under these agreements along with PWD's CVP contract supply cannot exceed PWD's total CVP contract quantity. The District also acquires other water supplies, when available, through transfers with other contractors during years of shortages of their CVP contract allocation. Some groundwater (up to 10,000 AFY) is also used within PWD. There are 42 privately owned and operated groundwater wells in the district service area in addition to one district owned well. Because of its poor quality, groundwater is primarily used as a water shortage contingency water supply source. PWD's available water supplies for 2015 are shown in Table 7 (PWD 2016).

Table 7 PWD Available Water Supplies for 2015

Source of Water Supply	Amount (acre-feet)
Federal urban water	0
Federal agricultural water	7688
Local surface water	0
District groundwater	5422
Banked water	0
Transferred water	15542
Recycled drainwater, operational spills, and seepage gains	10020
<b>Total</b>	<b>38,672</b>

Source: PWD 2017

### **San Luis Water District**

SLWD is a San Luis Unit CVP contractor that receives its CVP water supplies south of the Delta via the Delta-Mendota Canal and the San Luis Canal. SLWD's current distribution system consists of 52 miles of pipelines, 10 miles of lined canals, and 7.5 miles of unlined canals. About 20,000 acres within the district, referred to as the Direct Service Area, receives CVP water from 25 turnouts on the Delta-Mendota Canal and 35 turnouts on the San Luis Canal. SLWD has three improvement districts served through distribution systems branching off the San Luis Canal. Both Improvement Districts 1 and 2 are primarily located within Fresno County; Improvement District 3 is located primarily in Merced County.

**CVP Contracts** On February 25, 1959, SLWD entered into a long-term contract (Contract 14-06-200-7563) with Reclamation for 93,300 AF of CVP supply from the Delta-Mendota Canal (Reclamation 1959). This contract was superseded by a contract executed on June 19, 1974 (Contract 14-06-200-7773A) for a maximum of 125,080 AF of CVP supply from the Delta-Mendota Canal and San Luis Canal which was further amended on January 13, 1986 to modify certain contract terms but did not revise the maximum amount of CVP water to be supplied. This contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was a fourth interim renewal contract (Contract 14-06-200-7773A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

**Other Available Water Supplies** CVP water is SLWD's only long-term water supply. The district does not own any groundwater wells and has no long-term contracts for surface water or groundwater supplies. Private groundwater sources are limited; there are approximately 20 privately owned and operated groundwater wells that provide approximately 10,000 AF of groundwater to about 13,000 acres in SLWD, or only about 20 percent of the acreage within SLWD. The vast majority of SLWD's water users do not have meaningful access to groundwater that can be used for irrigation, and therefore, supplementation of the CVP supply is nominal.

SLWD acquires other water supplies through transfers with other parties, including other CVP contractors during years of shortages when available; however, frequent water supply shortages have led to widespread fallowing in SLWD. On average, almost half the irrigable acreage in SLWD is fallowed. Available water supplies are applied to permanent crops and high value row crops. SLWD's available water supplies for 2015 are shown in Table 8 (SLWD 2017).

Table 8 SLWD Available Water Supplies for 2015

<b>Source of Water Supply</b>	<b>Amount (acre-feet)</b>
Federal urban water	511
Federal agricultural water	23,219
Transferred water	35,886
<b>Total</b>	<b>59,616</b>

Source: SLWD 2017.

Although water deliveries by the SLWD historically have been almost exclusively used for agricultural use, in the mid 1990's development around the unincorporated community of Santa Nella and San Luis Hills resulted in a shift of some water supplies to M&I use. SLWD currently supplies approximately 800 AFY as a wholesaler (but not to end users) and approximately 40

AFY to end users as treated water. It is possible that M&I demands could increase over time, but not during the term of the proposed interim renewal contracts.

### ***South-of-Delta Facilities***

Facilities proposed for use under the Proposed Action include: San Luis Reservoir and Gianelli Pumping and Generating Plant, O'Neill Forebay and Pumping and Generating Plant, the San Luis Canal, and the Delta-Mendota Canal in the San Luis Unit of the West San Joaquin Division.

### ***Groundwater Resources***

The San Joaquin River Hydrologic Region covers approximately 9.7 million acres (15,200 square miles) and includes all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus counties, most of Merced and Amador counties, and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito counties (California Department of Water Resources 2003). Tulare Lake Hydrologic Region covers approximately 10.9 million acres (17,000 square miles) and includes all of Kings and Tulare Counties and most of Fresno and Kern Counties (California Department of Water Resources 2003). Groundwater conditions within each of the regions vary significantly from location to location. PWD and SLWD fall within the Delta-Mendota Subbasin.

The California Department of Water Resources (DWR) has estimated an annual overdraft of approximately 205,000 AF of groundwater within the San Joaquin Valley. This over-drafting of groundwater has caused ground subsidence since the mid-1920s. By 1970, 5,200 square miles of the valley were affected and maximum subsidence exceeded 28 feet in an area west of Mendota. Much of this area is now served by the CVP's San Luis Unit (California Department of Water Resources 2003; Reclamation 2005h). During the past 40 years, recharge increased dramatically as a result of imported irrigation water. Increased rates of recharge resulting from percolation of irrigation water, combined with the rapid post-1967 decrease in pumping, caused a rise in the height of the water table over much of the western valley (Belitz and Heimes 1990). However, given increased groundwater pumping under CVP shortages and extended drought conditions over the past several years and given new groundwater pumping for permanent crop development outside the CVP service area, U.S. Geological Survey now is documenting the return of overdraft and land subsidence within portions of the Delta Mendota Sub-Basin in which these contractors are located.

The large-scale groundwater use during the 1960s and 1970s, combined with the introduction of imported surface water supplies, has modified the natural groundwater flow pattern in some areas. Flow largely occurs from areas of recharge toward areas of lower groundwater levels due to groundwater pumping (Bertoldi et al. 1991). The vertical movement of water in the aquifer has also been altered in this region as a result of thousands of wells constructed with perforations above and below the Corcoran clay layer, which, where present, provide a direct hydraulic connection (Bertoldi et al. 1991).

Both PWD and SLWD have approved groundwater management plans.

**General Impacts of Agriculture on Groundwater** In 1989, Dubrovsky and Deverel concluded that percolation of irrigation water past crop roots, pumping of groundwater from deep wells, and imported surface water used for irrigation have combined to create large

downward hydraulic-head gradients. The salts in the irrigation water, and soil salts leached from the unsaturated zone led to increased salt and selenium concentrations in groundwater. In low-lying areas of the valley, and where the water table is within seven feet of land surface, evaporation from the shallow water table has further increased salt and selenium concentrations. A U.S. Geological Survey report indicated that irrigation had affected the upper 20 to 200 feet of the saturated groundwater zone (Dubrovsky and Deverel 1989). In some locations, this poor quality groundwater zone is moving downward in response to recharge from above the water table and pumping from deep wells.

**Groundwater Quality** Groundwater quality conditions vary throughout the San Joaquin Valley. Significant portions of the groundwater in the San Luis Unit exceed the California Regional Water Quality Control Board's recommended Total Dissolved Solids (TDS) criteria. Calcium, magnesium, sodium, bicarbonates, selenium, sulfates, and chlorides are all present in significant quantities as well (Reclamation 2005h). Groundwater zones commonly used along a portion of the western margin of the San Joaquin Valley have high concentrations of TDS, ranging from 500 milligrams per liter (mg/L) to greater than 2,000 mg/L (Bertoldi et al. 1991). The concentrations in excess of 2,000 mg/L commonly occur above the Corcoran clay layer. These high levels have impaired groundwater for irrigation and municipal uses in the western portion of the San Joaquin Valley.

The high TDS content of west side groundwater is due to recharge of stream flow originating from marine sediments in the Coast Range (California Department of Water Resources 2003) and the result of salt concentration due to evaporation and poor drainage from naturally saline and drainage restricting high clay content soils.

Contractors in the San Luis Unit with drainage-impacted lands have developed aggressive programs to manage salts in the root zone and to minimize deep percolation through the use of high-efficiency irrigation techniques, such as sprinklers and advanced drip technologies, shortened rows, and the installation of groundwater monitoring wells. While PWD and the drainage-affected portions of SLWD have continued to have a drainage outlet, lack of a drainage outlet in some areas of the San Luis Unit has led to an increase in saline groundwater beneath some portions of the region.

**Production of Drainage Water within PWD and SLWD** The drainage impacted Northern Area of the San Luis Unit includes approximately 38,000 acres in PWD, 4,100 acres in Pacheco Water District and 3,882 acres of SLWD land located within Charleston Drainage District (Pacheco Water District is not included in the current interim renewal contract process as their contract does not expire until 2024). Approximately 30,000 acres within the Northern Area are presently improved with subsurface drainage systems (SLDFR Final EIS Table C1-4 in Appendix C) including approximately 24,000 acres between PWD and SLWD. Drainage water from irrigation within the Northern Area of the San Luis Unit is captured primarily through subsurface tile and deep drain collector systems which remove subsurface water from the plant root zones. Drainage produced within the Northern Area may also result from uncontrolled groundwater intrusion from upslope irrigation, subterranean flows from the Coastal Range, and seepage from the California Aqueduct. Such inputs may be diffused or highly localized, and the quantities and effects within particular areas have not been fully documented. Drainage captured



in open drains or through the subsurface drainage system is reused for irrigation within the drainage service areas. Each of the districts in the Northern Area encourage on-farm drainage management through policies to control surface water discharges, programs to support on-farm irrigation efficiency improvements, and mandatory water conservation planning. For example, as of 2016, approximately 75 percent of PWD farmed acres were improved with drip irrigation. Drainage is further managed through blending into the irrigation supply and through irrigation of salt-tolerant crops.

PWD and a portion of the SLWD are within the Grassland Drainage Area and participate in the GBP, which includes a total of 97,000 acres. At present, drainage water from each of the districts are disposed of by reuse on the 6,000-acre San Joaquin River Water Quality Improvement Project (SJRIIP; a closed collection system) and/or discharged through the GBP into the San Luis Drain, Mud Slough North and ultimately, the San Joaquin River. This is the only route for disposal of drainage water that leaves the service district's boundaries.

Load reduction requirements for selenium and salts for the GBP are established in the 2009 Agreement for Use and Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board (Regional Board) in 2015 (Reclamation and Authority 2009, Regional Board 2015). The GBP has been successful in meeting current water quality objectives for selenium in the San Joaquin River (San Luis & Delta-Mendota Water Authority 2015, San Francisco Estuary Institute 2016). Farmers have effectively reduced the volume of drainage water that reaches Mud Slough North and ultimately the San Joaquin River through on-farm water conservation, more efficient irrigation practices, and displacing drainage waters by irrigating a variety of salt tolerant crops (San Francisco Estuary Institute 2016). This reuse of drainage waters for irrigation occurs within the SJRIIP and has been a crucial tool for farmers to reduce drainage water (including selenium and salts), as specified in the 2009 Agreement for Use and Waste Discharge Requirements issued by the Regional Board. The Waste Discharge Requirements specify the conditions for discharging drainage water into the San Joaquin River and specified channels within the Grassland watershed by certain dates (Regional Board 2015). Discharge requirements for the GBP account for the type of water year (Wet, Above Normal, Dry/Below Normal, and Critical) and include maximum annual loads of selenium. Measures continue to be taken to assess and monitor selenium concentrations within the waters, sediment, fish, invertebrates, and plants.

Table 9 and 10 below list the amount of drainage discharged between 1986 and 2015 by Panoche Drainage District (which includes both PWD and an additional 4,000 acres) and a portion of SLWD (SLWD lands contained within Charleston Drainage District), respectively. As shown in Figures 2 and 3, there has been, and continues to be, a substantial reduction in salt and selenium discharges from the Grassland Drainage Area.

Table 9 Panoche Drainage District Drainage Discharges

Year	Discharge (AF)	Salt Load (tons)	Selenium Load (pounds)
1986	31,573	102,699	4,480
1987	35,229	111,435	4,990
1988	31,575	114,989	4,930
1989	24,075	92,633	4,032
1990	21,462	88,117	4,009

<b>Year</b>	<b>Discharge (AF)</b>	<b>Salt Load (tons)</b>	<b>Selenium Load (pounds)</b>
1991	14,092	60,414	2,558
1992	12,658	58,766	2,824
1993	19,774	90,696	4,779
1994	19,265	85,959	4,083
1995	28,533	121,128	5,942
1996	24,538	103,384	5,276
1997	17,028	76,824	3,250
1998	19,268	82,142	3,662
1999	12,823	55,483	1,771
2000	13,047	53,487	1,790
2001	11,436	51,484	1,882
2002	9,351	42,097*	1,548
2003	9,928	44,694*	1,504
2004	9,003	40,531*	3,216
2005	13,825	62,236*	2,020
2006	8,189	36,868*	1,007
2007	6,583	29,638*	1,285
2008	6,298	28,353*	848
2009	6,615	29,780*	735
2010	6,829	31,468	806
2011	8,345	40,276	1,003
2012	3,633	18,390	289
2013	3,066	21,675	283
2014	2,834	28,246	422
2015	4,047	42,606	495
<b>Maximum (1987)</b>	<b>35,229</b>	<b>121,128</b>	<b>5,942</b>
<b>Minimum (2014)</b>	<b>2,834</b>	<b>18,390</b>	<b>289</b>

Information provided by PWD in 2016

\*Amounts based on estimated values

Table 10 Charleston Drainage District (portion of SLWD) Drainage Discharges

<b>Year</b>	<b>Discharge (AF)</b>	<b>Salt Load (tons)</b>	<b>Selenium Load (pounds)</b>
1986	3,186	10,699	474
1987	4,769	19,023	946
1988	5,015	20,062	906
1989	2,799	12,068	519
1990	2,126	8,592	387
1991	781	3,161	227
1992	730	3,279	153
1993	1,858	8,412	425
1994	3,199	14,330	808
1995	4,316	19,376	971
1996	3,897	14,771	609
1997	1,509	6,676	349
1998	1,674	8,100	456
1999	983	4,787	233
2000	869	4,210	256
2001	533	3,370	205
2002	1,179	6,653	327
2003	943	5,172	271

Year	Discharge (AF)	Salt Load (tons)	Selenium Load (pounds)
2004	1,180	6,111	399
2005	2,056	10,890	554
2006	1,748	8,381	330
2007	1,482	8,218	423
2008	213	372	45
2009	310	1,123	69
2010	171	908	43
2011	111	504	21
2012	54	268	10
2013	33	164	6
2014	265	670	74
2015	760	4,010	173
<b>Maximum (1988)</b>	<b>5,015</b>	<b>20,062</b>	<b>971</b>
<b>Minimum (2013)</b>	<b>33</b>	<b>164</b>	<b>6</b>

Information provided by SLWD in 2016

\*Amounts based on estimated values

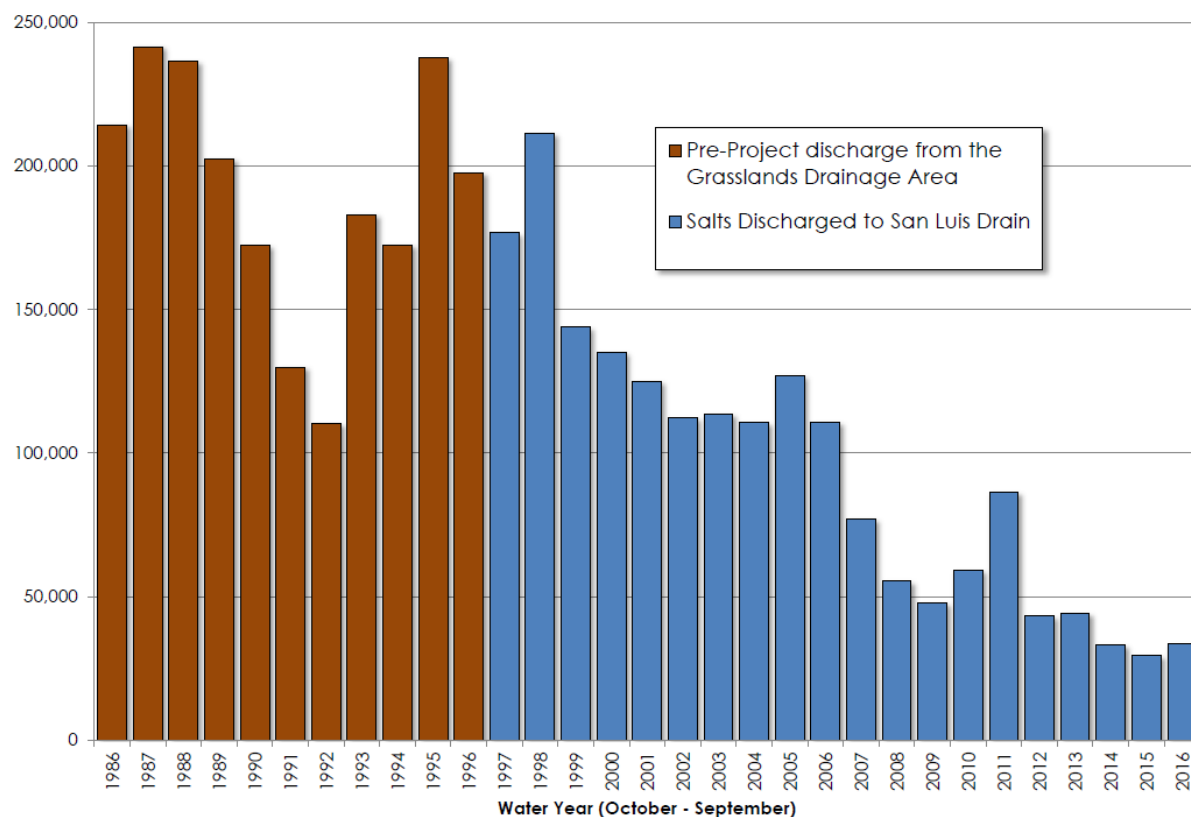


Figure 2 Salts Discharged from the Grasslands Drainage Area (tons)

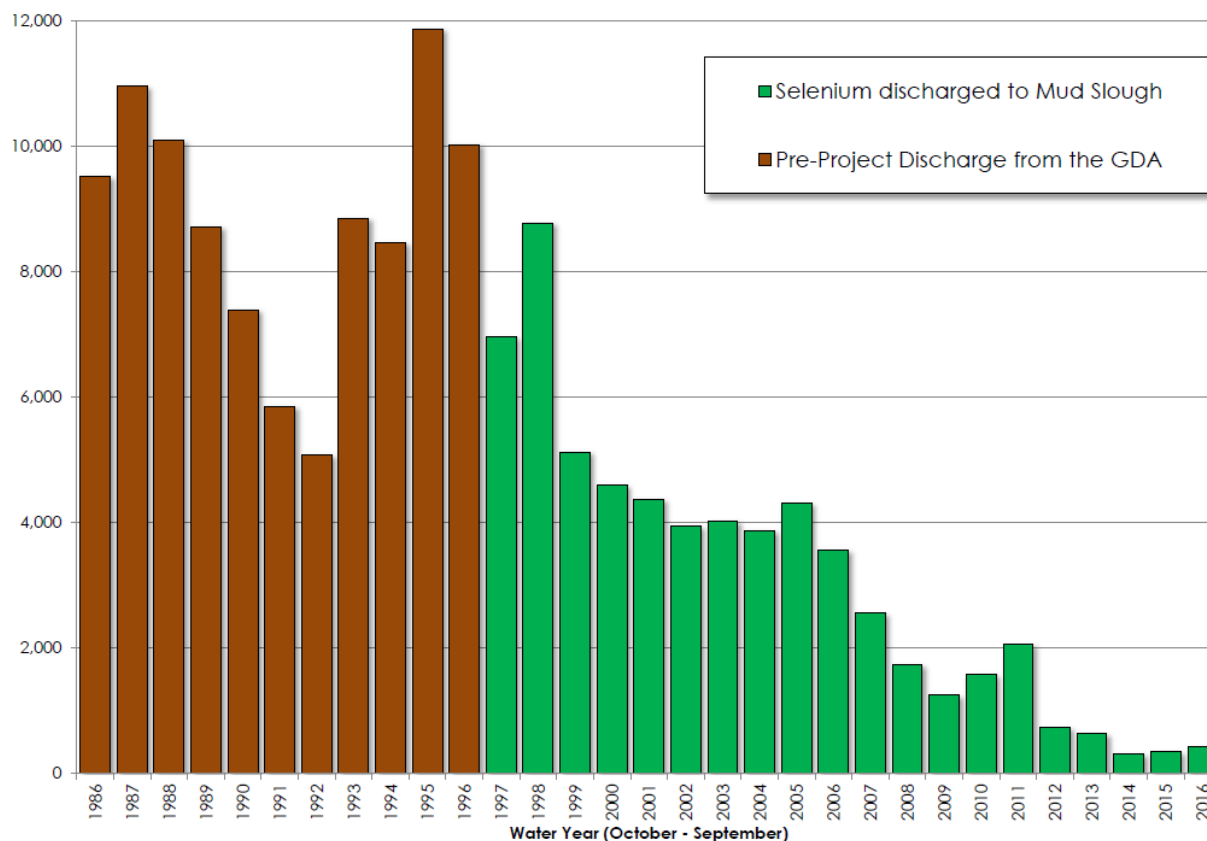


Figure 3 Selenium Discharge from the Grasslands Drainage Area (pounds)

### 3.7.2 Environmental Consequences

#### **No Action**

Under the No Action alternative, PWD and SLWD would not have a CVP contract in place in order to receive a CVP contract water allocation (up to 94,000 AFY for PWD and up to 125,080 AFY for SLWD). This would have substantially adverse impacts to available water supplies for agricultural and M&I users within both Districts.

Although groundwater pumping (up to 10,000 AFY in each district) could occur over the next two years, groundwater quality is insufficient to meet M&I demands or to sustain agriculture in either district.

Both districts have received supplemental water supplies through existing long-term and short-term agreements and/or Warren Act contracts as described in Section 3.7.1. Without new interim renewal contracts, the Districts would need to renegotiate their existing agreements and/or Warren Act contracts as non-CVP contractors in order to continue to receive these supplies including completing additional environmental review. It is very unlikely that these would be completed within the two-year time frame of the Proposed Action. In addition, as non-CVP contractors, any water supplies that could be received would have a lower priority in a system that often does not have capacity for non-CVP contractors.

These could continue to be received by the Districts under the No Action alternative if the water supplies were available; however, none of the existing agreements are sufficient to make up for the loss of CVP contract supplies. Further, the cost of purchasing additional water, if available, on the open market would make water supply rates for the Districts' customers unsustainable as the rates tend to be more than 10 times greater than the rates for CVP water supplies.

***Proposed Action***

Under the Proposed Action, Reclamation would execute a two-year interim renewal contract with PWD and SLWD to provide CVP water. There would be no change from conditions under the existing interim renewal contract as CVP water would be placed to beneficial use within the authorized CVP place of use as it has in the past. Water delivery during the interim renewal contract period would be up to the respective contract total and would not exceed historic quantities. Execution of the interim renewal contracts would continue to provide needed CVP water to meet M&I and agricultural demands in both Districts. As the delivery of CVP water would be done through existing infrastructure for existing uses within both Districts, the Proposed Action would not result in impacts to water resources.

***Cumulative Impacts***

The CVPIA PEIS included full contract deliveries in the assumptions regarding future use. By including full deliveries, the impact assessments were able to adequately address the hydrologic, operational, and system-wide cumulative conditions expected under future conditions. In addition, Reclamation's Proposed Action is the execution of interim renewal water service contracts between the United States and the contractors listed in Table 1. These contractors have existing interim renewal contracts, and therefore, the Proposed Action would be a continuation of existing conditions. As such, the Proposed Action, when added to other past, present, and reasonably foreseeable future actions, would not result in cumulative effects to water resources.

THIS PAGE LEFT INTENTIONALLY BLANK

## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA during a 30-day review period.

### **4.2 List of Agencies and Persons Consulted**

Reclamation has consulted with the following regarding the Proposed Action:

- Panoche Water District
- San Luis Water District
- National Marine Fisheries Service
- U.S. Fish and Wildlife Service

### **4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)**

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has consulted with the USFWS and NMFS pursuant to section 7 of the ESA on the issuance of interim renewal contracts since issuance of the first interim renewal contract in 2007.

Species impacts under the USFWS' jurisdiction due to discharge of drainage water containing more than 2 parts per billion selenium from PWD and SLWD were addressed in the GBP biological opinion (USFWS 2009) and SLDFR biological opinion (USFWS 2006). The GBP biological opinion concluded that the GBP was likely to adversely affect, but not jeopardize the continued existence of the giant garter snake and the San Joaquin kit fox, and not likely to adversely affect the Delta smelt and their critical habitat. The GBP biological opinion provided RPAs, and execution of interim renewal contracts for PWD and SLWD are subject to the terms and conditions as specified in the GBP biological opinion.

Reclamation consulted with the USFWS on the Proposed Action and received concurrence on December 5, 2016 (Appendix C). The execution of interim renewal contracts for PWD and SLWD continue to be subject to the terms and conditions as specified in the 2009 GBP biological opinion (USFWS 2009).

Reclamation initiated consultation with NMFS in August 2016 for the Proposed Action. As consultation is still ongoing with NMFS, finalization of the EA and subsequent execution of the contracts will not occur until after consultation is complete.

#### **4.4 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.)**

The Magnuson-Stevens Fishery Conservation and Management Act established a management system for national marine and estuarine fishery resources. This legislation requires that federal agencies consult with NMFS regarding actions or proposed actions permitted, funded, or undertaken that may adversely affect EFH. EFH is defined as “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The Magnuson-Stevens Fishery Conservation and Management Act states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase “adversely affect” refers to the creation of any impact that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH but may have an impact on EFH must be considered in the consultation process. The Magnuson-Stevens Fishery Conservation and Management Act apply to Pacific salmon, groundfish, and several pelagic species found in the Pacific.

EFH for Pacific salmon occurs within waterways downstream of the contractors’ service area. Reclamation is consulting with NMFS on effects to EFH from the Proposed Action. As consultation is still ongoing with NMFS, finalization of the EA and subsequent execution of the contracts will not occur until after consultation is complete.



## **Section 5 Preparers and Reviewers**

### **5.1 Reclamation**

Jennifer L. Lewis, Natural Resources Specialist, SCCAO

Joanne Goodsell, Archaeologist, MP-153

Erma Leal, Repayment Specialist, SCCAO – reviewer

Rain L. Emerson, M.S., Supervisory Natural Res. Specialist, SCCAO

David E. Hyatt, Resources Management Division Chief, SCCAO – reviewer

THIS PAGE LEFT INTENTIONALLY BLANK

## Section 6 References

Belitz, K., and F.J. Heimes. 1990. Character and Evolution of the Ground-Water Flow System in the Central Part of the Western San Joaquin Valley, California. U.S. Geological Survey Water-Supply Paper 2348.

Bertoldi, G.L., R. H. Johnston, and K.D. Evenson. 1991. Ground water in the Central Valley, California – a summary report. U. S. Geological Survey Professional Paper. 1401-A.

California Department of Conservation. 2014. Farmland Mapping and Monitoring Program (FMMP). Division of Land Resource Protection, Fresno and Merced Counties 2014 field reports covering 2012-2014 changes. Available at <http://www.conservacion.ca.gov/dlrp/fmmp/Pages/Index.aspx>.

[http://www.water.ca.gov/waterplan/docs/cwpu2013/Final/04\\_Vol1\\_Ch03\\_Ca\\_Water\\_Today.pdf](http://www.water.ca.gov/waterplan/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf)

California Department of Water Resources. 2003. California's Groundwater. Bulletin 118. Update 2003. Available at [http://www.groundwater.water.ca.gov/bulletin\\_118/index.cfm](http://www.groundwater.water.ca.gov/bulletin_118/index.cfm)  
Accessed: September 17, 2009.

CNDDDB (California Natural Diversity Database). 2016. CNDDDB personal computer program updated August 1, 2016. Sacramento, CA. From web at [http://www.dfg.ca.gov/biogeodata/cnddb/rf\\_ftpinf.asp](http://www.dfg.ca.gov/biogeodata/cnddb/rf_ftpinf.asp).

Dahl, T.E., and Johnson, C.E. 1991. Status and trends of Wetlands in the conterminous United States, mid-1970's to mid-1980's: Washington, D.C., U.S. Fish and Wildlife Service, 28 p.

Dubrovsky, N.M., and S.J. Deverel. 1989. Selenium in ground water of the central part of the western Valley. In Preliminary Assessment of Sources, Distribution, and Mobility of Selenium in the San Joaquin Valley, California, R.J. Gilliom, ed. U.S. Geological Survey Water-Resources Investigations Report 88-4186.

NMFS (National Marine Fisheries Service). 2005. Endangered and Threatened Species: Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule. Federal Register 70:52488-52627.

NMFS (National Marine Fisheries Service). 2009a. Letter Response to Section 7 Consultation for the Proposed Execution of the Third Use Agreement for the Grasslands Bypass Project (2009/04097). Southwest Region, Long Beach, California.

NMFS (National Marine Fisheries Service). 2009b. Endangered and Threatened Wildlife and Plants: Final Rulemaking to Designate Critical Habitat for the Threatened Southern Distinct Population Segment of North American green sturgeon; Final Rule, Federal Register 74(195):52300-52351.

NMFS (National Marine Fisheries Service). 2009c. Biological Opinion and Conference Opinion on the long-term operations of the Central Valley Project and State Water Project (2008/09022). Southwest Region, Long Beach, California.

NMFS (National Marine Fisheries Service). 2011. Biological Opinion San Luis Water District's and Panoche Water District's Water Service Interim Renewal Contracts 2011-2013 (2010/04827). Southwest Region, Long Beach, California.

PWD (Panoche Water District). 2016. Letter to Bureau of Reclamation, South-Central California Area Office. October 14.

Reclamation (Bureau of Reclamation). 1955. Contract Between the United States and Panoche Water District Providing for Water Service. Contract 14-06-200-7864. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 1959. Contract Between the United States and San Luis Water District for Providing Water Service. Contract No. 14-06-200-7563. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 1999. Central Valley Project Improvement Act, Final Programmatic Environmental Impact Statement and Record of Decision. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2001. Final Environmental Assessment for the Friant Division Long-term Contract Renewal. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2004. Long-Term Central Valley Project Operations Criteria and Plan, CVP-OCAP, Final Environmental Impact Statement and Record of Decision. Sacramento, California. Website: [http://www.usbr.gov/mp/cvo/ocap/OCAP\\_6\\_30\\_04.pdf](http://www.usbr.gov/mp/cvo/ocap/OCAP_6_30_04.pdf).

Reclamation (Bureau of Reclamation). 2005a. Revised Environmental Assessment for Renewal of the Long-term Contract for the Feather Water District, Central Valley Project, California. Mid-Pacific Region Northern California Area Office. Shasta Lake, California.

Reclamation (Bureau of Reclamation). 2005b. Final Environmental Assessment for the Long term Contract Renewal Shasta Division and Trinity River Divisions. Mid-Pacific Region Northern California Area Office. Shasta Lake, California.

Reclamation (Bureau of Reclamation). 2005c. Final Environmental Assessment for Long-term Renewal of Water Service Contracts in the Black Butte Unit, Corning Canal Unit, and Tehama-Colusa Canal Unit of the Sacramento River Division, Central Valley Project. Mid-Pacific Region Northern California Area Office. Shasta Lake, California.

Reclamation (Bureau of Reclamation). 2005d. Final Environmental Assessment for the Delta-Mendota Canal Unit Environmental Assessment for Long-term Contract Renewal. Mid-Pacific Region South Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2005e. Final Environmental Assessment for U.S. Department of Veterans affairs, San Joaquin Valley National Cemetery, Central Valley Project, Long-term Water Service Contract Renewal. Mid-Pacific Region South Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2005f. Final Environmental Assessment for Long-term Renewal Contract, Contra Costa Water District, Contra Costa Unit, Central Valley Project. Mid-Pacific Region South Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2005g. Long-term Central Valley Project Water Service Contract Renewals, American River Division Environmental Impact Statement. Mid-Pacific Region Central California Area Office. Folsom, California.

Reclamation (Bureau of Reclamation). 2005h. San Luis Drainage Feature Re-evaluation Draft Environmental Impact Statement and Record of Decision. Mid-Pacific Region South-Central California Area Office. Fresno, California. Website:  
<http://www.usbr.gov/mp/sccao/sld/docs/index.html>.

Reclamation (Bureau of Reclamation). 2007. Final Environmental Assessment for the San Luis Unit Water Service Interim Renewal Contracts (EA-07-56). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2013. Central Valley Project Interim Renewal Contracts for Panoche Water District and San Luis Water District 2013-2015 (EA-12-055). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation (Bureau of Reclamation). 2015. Central Valley Project Interim Renewal Contracts for Panoche Water District and San Luis Water District 2015-2017 (EA-14-007). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Reclamation and Authority (Bureau of Reclamation and San Luis Delta-Mendota Water Authority). 2009. Agreement for Continued Use of the San Luis Drain. Agreement No. 10-WC-20-3975. December 22.

Regional Board (Central Valley Regional Water Quality Control Board). 2015. Order R5-2015-0094 Waste Discharge Requirements for San Luis & Delta-Mendota Water Authority and United States Department of the Interior Bureau of reclamation surface water discharges from the Grassland Bypass Project. California Regional Water Quality Control Board, Central Valley Region. Sacramento, CA. Available at: [http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/fresno/r5-2015-0094.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/fresno/r5-2015-0094.pdf). Accessed July 1, 2016.

San Francisco Estuary Institute. 2016. Grassland Bypass Project Annual Report 2012-2014. Oakland, CA. <http://www.sfei.org/gbp/reports/annual-reports#sthash.yyG7kjbF.dpbs>. Accessed June 2016.

San Joaquin Valley Air Pollution Control District. 2016. CEQA Air Quality Thresholds of Significance - Criteria Pollutants. Available at <http://www.valleyair.org/Home.htm>. Accessed: January 5.

SLWD (San Luis Water District). 2016. Letter to Bureau of Reclamation, South-Central California Area Office. November 22.

SLWD (San Luis Water District). 2017. Letter to Bureau of Reclamation, South-Central California Area Office. January 11.

San Luis & Delta-Mendota Water Authority. 2015. Waste Discharge Requirement Order No. 5-01-234, update of long term drainage management plant and submittal of monitoring results. Letter to Central Valley Regional Water Quality Control Board. December.

State of California Employment Development Department. 2017. Labor Force and Unemployment Rates for Cities and Census Designated Places. Website: <http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html>. Accessed: January 2017.

U.S. Census Bureau. 2017. State and County QuickFacts. Website: <https://www.census.gov/en.html>. Accessed: January 2017.

U.S. Census Bureau. 2011-2015. American Community Survey 5-Year Estimates. Website: [https://factfinder.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml#](https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#). Accessed: January 2017.

USFWS (U.S. Fish and Wildlife Service). 2000. Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP (1-1-01-1-0311). Sacramento Fish and Wildlife Office, California.

USFWS (U.S. Fish and Wildlife Service). 2005. Formal Endangered Species Consultation on the Operations and Maintenance Program Occurring on Bureau of Reclamation Lands within the South-Central California Area Office (1-1-04-0368). Sacramento Fish and Wildlife Office, California.

USFWS (U.S. Fish and Wildlife Service). 2006. Formal Consultation on the Proposed San Luis Drainage Feature Re-evaluation (SLDFR); California Least Tern, Giant Garter Snake, and San Joaquin Kit Fox; Fresno, Kings, and Merced Counties, California (1-1-06-F- 0027). Sacramento Fish and Wildlife Office, California.

USFWS (U.S. Fish and Wildlife Service). 2008. Biological Opinion on the Coordinated Operations of the Central Valley Project (CVP) and State Water Project (SWP) (81420-2008-F-1481-5). Sacramento Fish and Wildlife Office, California.

USFWS (U.S. Fish and Wildlife Service). 2009. Endangered Species Consultation on the Proposed Continuation of the Grassland Bypass Project (81420-2009-F-1036). Sacramento Fish and Wildlife Office, California.

USFWS (U.S. Fish and Wildlife Service). 2012. Consultation on the San Luis Drainage Feature Re-evaluation Demonstration Treatment Facility at Panoche Drainage District (81420-2011-I-0855). Sacramento Fish and Wildlife Office, California.