RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Central Valley Project Interim Renewal Contracts for Cross Valley Contractors 2018-2020

EA-17-020

U.S. Department of the Interior
Bureau of Reclamation

January 2018

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

THIS PAGE LEFT INTENTIONALLY BLANK

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 provided for in 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 beginning in 1994 for contractors whose long-term renewal contracts were expiring, with an initial interim period not to exceed three years in length, and for subsequent renewals for periods of two years or less to provide continued water service. 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 are completed, Reclamation prepares environmental documents that tier 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). Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (40 CFR 1502.20). Tiering refers to 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 is 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 Section 3404(c) of the CVPIA, Reclamation proposes to execute eight interim renewal contracts beginning March 1, 2018 (Table 1). These eight interim renewal contracts would be renewed for a two-year period from March 1, 2018 through February 29, 2020. In the event a new long-term renewal contract for water service is executed, the interim renewal contract then-in-effect would be superseded by the long-term renewal contract.

Table 1 Contractors, Existing Contract, Contract Amounts, and Expiration Dates

Contractor	Contract Number	Contract Quantity (AFY)	Expiration of Existing Interim Renewal Contract
County of Fresno[1]	14-06-200-8292A-IR16	3,000	2/28/2018
County of Tulare[2]	14-06-200-8293A-IR16	5,308	2/28/2018
Hills Valley Irrigation District[3]*	14-06-200-8466A-IR16	3,346	2/28/2018
Kern-Tulare Water District*	14-06-200-8601A-IR16	40,000	2/28/2018
Kern-Tulare Water District (formerly Rag Gulch Water District)[3,4]	14-06-200-8367A-IR16	13,300	2/28/2018
Lower Tule River Irrigation District*	14-06-200-8237A-IR16	31,102	2/28/2018
Pixley Irrigation District	14-06-200-8238A-IR16	31,102	2/28/2018
Tri-Valley Water District*	14-06-200-8565A-IR16	1,142	2/28/2018

[1]County of Fresno includes Fresno County Service Area #34
[2]County of Tulare subcontractors include Alpaugh Irrigation District (100 AF), Atwell Water District (50 AF), Hills Valley ID (2,913 AF), Saucelito Irrigation District (100 AF)*, Stone Corral Irrigation District (950 AF)*, City of Lindsay (50 AF)*, Strathmore Public Utility District (400 AF), Styrotek, Inc. (45 AF), Smallwood Vineyards (400 AF), and City of Visalia (300 AF).
[3]Lower Tule River Irrigation District, Saucelito Irrigation District, Stone Corral Irrigation District, Tri-Valley Water District, Kern-Tulare Water District, Hills Valley Irrigation District, and City of Lindsay receive CVP water under more than one contract, either as Friant Division and/or Cross Valley Contractors.
[4]Kern Tulare Water District and Rag Gulch Water District consolidated on January 1, 2009.
*These contractors also receive CVP water under a Friant Division contract that is not part of the Proposed Action.

Reclamation has prepared this Environmental Assessment (EA), which tiers from the PEIS, to determine the site specific environmental effects of any actions resulting from the execution of these eight interim renewal contracts. Previous interim renewal EAs which tiered from the PEIS have been prepared for these contracts and approved as follows:

- A 2016 EA (Reclamation 2016a) which covered March 1, 2016 through February 2018
- A 2014 EA (Reclamation 2014) which covered March 1, 2014 through February 2016
- A 2012 EA (Reclamation 2012) which covered March 1, 2012 through February 2014
- A 2010 EA (Reclamation 2010) which covered March 1, 2010 through February 2012
- A 2008 EA (Reclamation 2008) which covered March 1, 2008 through February 28, 2010
- A 2006 Supplemental EA (Reclamation 2006a) which covered March 1, 2006 through February 2008
- A 2004 Supplemental EA (Reclamation 2004a) which covered March 1, 2004 through February 2006
- A 2002 Supplemental EA (Reclamation 2002a) which covered March 1, 2002 through February 2004
- A 2001 Supplemental EA (Reclamation 2001a) which covered March 1, 2001 through February 2002
- A 2000 Supplemental EA (Reclamation 2000) which covered March 1, 2000 through February 2001

- A 1998 Supplemental EA (Reclamation 1998) which covered March 1, 1998 through February 2000
- A 1994 EA (Reclamation 1994) which covered March 1, 1994 through February 1998

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 the federal government's capital investment, and to pay the annual O&M costs of the CVP.

The current status of long-term contract renewals and associated environmental documentation by CVP Division is described below.

Friant Division, Hidden Unit, Buchanan Unit

Reclamation completed a site-specific EA/Finding of No Significant Impact (FONSI) in 2001 for long-term contract renewals for the Friant Division, Hidden Unit, and Buchanan Unit of the CVP (Reclamation 2001b). 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.

Sacramento River Settlement Contracts and Colusa Drain Mutual Water Company

Reclamation completed a site-specific Environmental Impact Statement (EIS)/ROD in 2005 for long-term contract renewals for the Sacramento River Settlement Contracts and the Colusa Drain Mutual Water Company (Reclamation 2005a). 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/FONSI for the long-term renewal contract for the Feather Water District water-service replacement contract was completed August 15, 2005 (Reclamation 2005b) and the long-term renewal contract was executed on September 27, 2005.

Shasta, Trinity, and Sacramento River Divisions

Reclamation completed site-specific EA/FONSIs in 2005 for long-term contract renewals for the Shasta Division and Trinity River Divisions (Reclamation 2005c) and the Black Butte Unit, Corning Canal Unit, and the Tehama-Colusa Canal Unit of the Sacramento River Division (Reclamation 2005d). 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.

Delta Division and U.S. Department of Veterans Affairs

Reclamation completed a site-specific EA/FONSI in 2005 for long-term contract renewals for the Delta Division (Reclamation 2005e) and the U.S. Department of Veterans Affairs (Reclamation 2005f). In 2005, Reclamation executed 17 Delta Division long-term renewal contracts, including the U.S. Department of Veterans Affairs.

Regarding certain long term contract renewals related to the Sacramento River Settlement contracts and certain Delta Division contracts, 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. The complaint has since been amended 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.

Contra Costa Water District

Reclamation completed a site-specific EA/FONSI in 2005 for long-term contract renewal for the Contra Costa Water District (Reclamation 2005g) and executed a long-term renewal contract in 2005.

American River Division

Reclamation completed a site-specific EIS/ROD in 2006 for long-term contract renewals for the majority of the American River Division (Reclamation 2006b). 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 contractors.

San Felipe Division

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.

Pending Long-term Contracts

Long-term renewal contracts have not been completed for the City of Tracy, Cross Valley contractors, the San Luis Unit, 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 Distribution District #1 pending completion of appropriate environmental documents.

1.1.2 Cross Valley Contractors

Cross Valley Contractors (Table 1) are CVP contractors that are geographically located within the Friant Division but receive their CVP supplies from the Delta. Due to direct conveyance hurdles, Cross Valley Contractors obtain their CVP supplies either by direct delivery from the Cross Valley Canal or via transfers associated with for Friant Division CVP supplies and other sources pursuant to Article 5(a) of their water service contracts (Figure 1).

The Cross Valley Canal is a locally-owned canal that was constructed in the mid-1970s through a collaborative effort of several local, state, and federal water agencies. The Cross Valley Canal allows water to be conveyed between the California Aqueduct (Aqueduct) and the Friant-Kern Canal. Beginning in 1975, the first Cross Valley Contractors entered into three-party contracts with Reclamation and the California Department of Water Resources (DWR). Pursuant to these contracts, Reclamation provided long-term water service and DWR provided conveyance for the Cross Valley Contractors.

Transfers associated with exchanges pursuant to Article 5(a) of the Cross Valley Contractors water service contracts (hereafter referred to as Article 5 exchanges) were previously analyzed separately from the Cross Valley interim renewal contracts. In order to present a clearer explanation of the overall delivery of water to the Cross Valley Contractors, the environmental analysis for the approval of Article 5 exchanges and the execution of interim renewal contracts was combined for the first time in 2014 (Reclamation 2014).

1.2 Need for the Proposed Action

Interim renewal contracts are needed to provide 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. Additionally, CVP water is essential to continue agricultural 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 Proposed Action is to execute eight interim renewal contracts in order to extend the term of the contractors' existing interim renewal contracts for two years, beginning March 1, 2018 and ending February 28, 2020. Execution of these eight 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. These long-term renewal contracts have generally been negotiated but cannot be finalized until site specific environmental review is completed.

1.3 Scope

Reclamation has prepared this EA, which tiers from the PEIS, to determine the site specific environmental effects of executing the eight interim renewal contracts listed in Table 1 for the

period March 1, 2018 through February 29, 2020. Under the Proposed Action, CVP water would be delivered for existing agricultural and municipal and industrial (M&I) purposes within the Cross Valley Contractors' existing CVP service area boundaries using existing facilities within Reclamation's water right place of use.

Transfers associated with the Article 5 exchange arrangements would be approved for a two-year period to coincide with the interim renewal contract. Up to 128,300 acre-feet (AF) per year (AF/y) of the Cross Valley Contractors' contractual CVP water supply from the Delta would be allowed to be transferred under the exchange arrangements for Friant Division CVP supplies and other sources (other sources of water include rivers, streams, creeks, previously banked surface water, and State Water Project [SWP] water). The Cross Valley Contractors and potential exchange partners (CVP contractors and non-CVP contractors) are all located within Fresno, Tulare, Kings, and Kern counties. This EA covers the broadest flexibility for Article 5 exchange arrangements known at this time. Proposals for new exchange arrangements not covered in this environmental review process would require additional, separate, or tiered environmental review to cover the site specific proposal and analysis of environmental impacts to the human environment.

Ongoing CVP operations concerning Delta exports are outside the scope of this EA. No changes to CVP operations in the Delta or upstream are part of the Proposed Action. The diversion of CVP water for export to south-of-Delta contractors, including the Cross Valley Contractors, was described in the PEIS (see Chapter III of the PEIS). These exports include up to 1,980,000 AF for agricultural contractors, up to 880,000 AF for the San Joaquin River Exchange Contractors and certain other prior rights settlement contractors, and up to 160,000 AF for municipal and industrial (M&I) contractors. In addition, on January 11, 2016, Reclamation issued a ROD (Reclamation 2016b) addressing the environmental effects of implementing reasonable and prudent alternatives (RPAs) affecting the CVP/ SWP long-term operations (LTOps). Because the proposed execution of interim renewal contracts is administrative in nature and does not affect the operations of the CVP or SWP, this EA covers the site specific environmental analysis of issuing the proposed interim renewal contracts over a two year period, with CVP operations continuing as assumed in the PEIS.

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 CVP service area.

1.4.2 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.

1.4.3 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.

1.4.4 Purpose of Water Use

Use of contract water for agricultural and/or 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.

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions in detail: 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. A reduced-quantity alternative was excluded from detailed analysis based on the results of the updated Water Needs Assessment.

2.1 No Action Alternative

Under the No Action alternative, the Cross Valley Contractors would no longer be able to collectively receive up to 128,300 AF/y of CVP water pursuant to the contracts listed in Table 1. Reclamation would continue to pursue execution of long-term renewal contracts with the Cross Valley Contractors, as mandated by Section 3404(c) of the CVPIA. However, until such time as the environmental documentation was completed for these long-term contracts, there would be no contractual mechanism for Reclamation to deliver up to 128,300 AF/y of CVP water to the Cross Valley Contractors and in the interim the existing water supply needs for the majority of the Districts' customers would be unmet.

City of Lindsay, Hills Valley Irrigation District (Hills Valley), Kern-Tulare Water District (Kern-Tulare), Lower Tule River Irrigation District (Lower Tule), Saucelito Irrigation District (Saucelito), Stone Corral Irrigation District (Stone Corral)and Tri-Valley Water District (Tri-Valley) have Friant Division CVP contracts that would continue under the No Action alternative as described below:

- City of Lindsay has an existing Friant Division CVP contract (Contract No. 5-07-20-W0428) with a Class 1 allocation for up to 2,500 AF/y.
- Hills Valley has two existing Friant Division CVP contracts (Contract No. 14-06-200-1911E and I75r-4309E) with Class 1 allocations for up to 250 AF/y and 100 AF/y, respectively.
- Kern-Tulare has an existing Friant Division CVP contract (Contract No. I1r-1460A) with a Class 2 allocation for up to 5,000 AF/y.
- Lower Tule has an existing Friant Division CVP contract (Contract No. I75r-2771D) with a Class 1 and Class 2 allocation for up to 61,200 AF/y and 238,000 AF/y, respectively.
- Tri-Valley has an existing Friant Division CVP contract (Contract No. I75r-2508E) with a Class 1 allocation for up to 400 AF/y.
- Saucelito has two existing Friant Division CVP contracts (Contract No. I75r-2604D and 14-06-200-7430E) with Class 1 and Class 2 allocations for up to 21,500 AF/y and 32,800 AF/y, respectively.

- Stone Corral has an existing Friant Division CVP contract (Contract No. I75r-2555D) with a Class 1 allocation for up to 10,000 AF/y.

Under the No Action alternative, Reclamation would continue to deliver full CVP water contract amounts to other south-of-Delta CVP contractors consistent with CVP operations as analyzed in the PEIS, accounting for hydrologic conditions and regulatory and environmental requirements.

In general, for most water year types, Reclamation does not anticipate a change in CVP pumping in the Delta or operations under the No Action alternative, as water would continue to be diverted and stored upstream of the Delta consistent with CVP operations described in the PEIS. However, it is possible that in wetter years the up to 128,300 AF that otherwise would have been made available to the Cross Valley Contractors would be re-apportioned either by (1) re-allocating to other south-of-Delta CVP contractors including wildlife refuges, (2) retained in upstream CVP storage, (3) released for use by other water rights diverters, and/or (4) passed through the Delta un-diverted by Reclamation. The method by which Reclamation would determine this re-apportionment is outside the scope of this EA. The actual re-apportionment would be dependent on specific hydrologic conditions, as well as legal, regulatory, and environmental requirements at issue.

The amount of water that would actually be available for re-apportionment would depend on the amount that otherwise would have been allocated to the Cross Valley Contractors. For example, as shown in Table 7 in Section 3.7.1 below, during the drought in 2012 and 2013, the Cross Valley Contractors received allocations of only 40% or 20% of their maximum contract amount, respectively. Therefore, the amount available for re-apportionment under the No Action alternative would have been 40% and 20% of the Cross Valley Contractors maximum contract amount in those years.

By contrast, in 2014 and 2015, the amount of CVP water made available to the Contractors was 0%. As such, no water would have been available for re-apportionment under the No Action alternative. The 2014-15 conditions under an allocation of 0% provide a benchmark for analyzing the environmental effects of the No Action alternative for the Cross Valley Contractors in this EA.

2.2 Proposed Action

The Proposed Action includes two components: 1) execution of up to eight interim renewal contracts with the Cross Valley Contractors listed in Table 1, and 2) transfer approvals associated with the Cross Valley Contractors' Article 5 exchange arrangements with individually proposed exchange partners that coincide with the interim renewal contracts.

2.2.1 Proposed Execution of Interim Renewal Contracts

Under the Proposed Action, Reclamation would execute interim renewal contracts for the contracts listed in Table 1 for a two year period (March 1, 2018 through February 29, 2020). The Cross Valley Contractors would continue to receive up to 128,300 AF/y of CVP water pursuant to the new two-year interim renewal contracts.

For purposes of this EA, the following assumptions are included in the Proposed Action:

- Execution of each interim renewal contract is considered to be a separate action;
- The contracts would be renewed with the existing maximum contract quantities shown in Table 1; and
- 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.

All of the Cross Valley Contractors are currently on their sixteenth interim renewal contract. The Proposed Action would be their seventeenth. Drafts of the interim renewal contracts were released for public review on November 21, 2017 at the following website: https://www.usbr.gov/mp/cvpia/3404c/lt_contracts/2018-int-cts/index.html.

The Proposed Action contains only minor, administrative changes to the contract provisions to update the new contract period from the previous interim renewal contracts. 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 contractor service areas or water deliveries are part of the Proposed Action. CVP water deliveries under the eight proposed interim renewal contracts can only be used within each designated contract service area. 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 eight 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 eight 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 imposed under the federal ESA or other applicable environmental laws.

2.2.2 Proposed Approval of Article 5 Exchanges

The Proposed Action also includes Reclamation's transfer approvals associated with the Cross Valley Contractors exchange arrangements with individually proposed exchange partners for the same time period as the interim renewal contracts for up to the full Cross Valley Contractors' CVP contract supply (up to128,300 AF/y). In addition, the Proposed Action would include the continued transfers associated with the historical exchanges between the Cross Valley Contractors and Arvin-Edison Water Storage District (Arvin-Edison). See Appendix A for a summery of available water supplies. Reclamation will review each transfer associated with an exchange proposal for compliance with the conditions listed in Table 2 to determine that the

action is consistent with the criteria described within this analysis prior to approval and execution of the action.

Due to varying hydrological conditions, loss due to evaporation and/or seepage, differences in the value of water, and/or timing, imbalanced exchanges could occur. Consistent with historical practices, imbalanced exchange arrangements (meaning that the volumes of water transferred between the exchange partners are not equal) would be permitted up to a maximum ratio of 2:1. Proposed exchange arrangements exceeding this volume ratio would require additional environmental review and approval. See Appendix B for more information on potential imbalanced exchange scenarios.

Article 55 of SWP contracts allows DWR to convey non-SWP water for SWP contractors within available capacity in the Aqueduct. Under this scenario, a SWP contractor could request DWR to convey a Cross Valley Contractor's CVP water, if capacity exists, in the Aqueduct.

CVP water is tracked from its origin to its final disposition (end use) and does not lose its Federal characteristics under California water rights permits. Water supplies would be used in compliance with the applicable water rights permits and would conform to the applicable purpose and place-of-use of the associated water rights permit.

2.2.3 Environmental Commitments

Reclamation and the proponents shall implement the environmental protection measures included in Table 2.

Table 2 Environmental Protection Measures and Commitments

Resource	Protection Measure
Water Resources	Water transferred between the Cross Valley Contractors and the exchange participants may only be applied to lands located within the Friant Division Consolidated Place of Use for Agricultural and M&I water deliveries.
Water Resources	No changes in the point of diversion or places-of-use would be allowed without prior approvals from the State Water Resources Control Board, Reclamation, and/or DWR as applicable.
Water Resources	Transfers associated with the exchange arrangements must not alter the quality of water, or the hydrological regime of natural waterways or natural watercourses such as rivers, streams, creeks, lakes, ponds, pools, or wetlands, etc., in a way that may have a detrimental effect on fish or wildlife or their habitat.
Water Resources	All transfers associated with the exchange arrangements must comply with all applicable Federal, state and local laws, regulations, permits and policies.
Water Resources	Imbalanced exchanges shall not exceed a 2:1 ratio by water volume.
Biological Resources	No native or untilled land (fallow for three consecutive years or more) may be cultivated with the water transferred between the Cross Valley Contractors and the exchange participants.
Various	No new construction or modification of existing facilities would take place as part of the Proposed Action.

Environmental consequences for resource areas assume the measures specified would be fully implemented.

2.3 Alternatives Considered but Eliminated from Further Analysis

The United States Court of Appeals for the Ninth Circuit in *Pacific Coast Federation of Fishermen's Associations v. United States Department of the Interior*, Case No. 14-15514, 655 F. Appx. 595 (2016), stated that "In satisfying the duty [of considering a reduced contract alternative], Reclamation may rely upon any water needs assessment for which the data remain accurate" (Case: 14-15514, 07/25/2016, pg 11).

Following the directions provided in the Ninth Circuit's decision, Reclamation reviewed the previous Water Needs Assessments completed for the Cross Valley Contractors listed in Table 1 and determined that updates were warranted. Reclamation has applied the Ninth Circuit's direction in the preparation of the updated Water Needs Assessments and has used the updated assessment in deciding whether or not to consider analyzing a reduced contract quantity alternative in detail.

Water Needs Assessments were prepared by Reclamation between 2000 and 2004 for each CVP contractor eligible to participate in the CVP long-term contract renewal process, including the Cross Valley Contractors. A description of those Water Needs Assessments and the methodology used by Reclamation are included in Appendix C.

Water Needs Assessments are used to show what quantity of CVP water could be beneficially used by a particular contractor given a constant reliable source of water, growing seasons, crop prices, and other ideal water delivery conditions. The Water Needs Assessments serve three purposes:

1. Confirm past beneficial use of CVP water.
2. Provide water demand and supply information under current and future conditions for the environmental documents.
3. Provide an estimate of contractor-specific needs for CVP water by the year 2050 to serve as a starting point for discussions regarding contract quantities in the negotiation process.

2.3.1 Cross Valley Contractors Water Needs Assessments

Following the Ninth Circuit's decision noted above, Reclamation prepared updated Water Needs Assessments for the Cross Valley Contractors in 2017 (Appendix D) following the same methodology used in the previous Water Needs Assessments (Appendix C) with the following modifications:

Benchmark Years

As Reclamation is required to provide long-term contract renewals for these contractors (pending site-specific environmental review), and the interim contracts are intended to be the bridge to the long-term contract renewals, Reclamation prepared updated Water Needs Assessments where warranted to cover the long-term contract renewal time period. Reclamation used the year 2050 as a convenient future benchmark since some CVP M&I contracts are eligible for a term of up to 40 years (e.g., the City of Tracy's Interim Renewal Contract as described in Section 1.1.1), and using the same (or nearly same) benchmark period will better enable Reclamation to apply consistent comparisons in its overall environmental analyses as well as affording Reclamation

the opportunity to rely on the same updated Water Needs Assessments for a broad range of interim and/or long-term contract renewals that falls within the time period covered.

Water Supply Calculations

Water supply for the Cross Valley Contractors, including applicable groundwater supply, is discussed more fully in Section 3.7.1 and Appendix A of this EA. In the updated Water Needs Assessments, Reclamation included groundwater as a source of supply for previous years (Column 9 or 10 in Appendix D) for those contractors that had reported available groundwater supplies but did not include a safe yield reference or groundwater supply for 2050 due to ongoing concerns with subsidence and the uncertainty of sustainability of groundwater pumping at current rates.

As noted previously, City of Lindsay, Hills Valley, Kern-Tulare, Lower Tule, Saucelito, Stone Corral, and Tri-Valley have Friant Division CVP contracts in addition to the Cross Valley contracts included in Table 1. The Friant Division contracts are not part of the Proposed Action and are not undergoing an updated Water Needs Assessments. Some of these contractors have Class 1 and/or Class 2 allocations pursuant to their Friant Division contracts[1]. As Class 1 allocations are considered a dependable water supply as opposed to Class 2 allocations, they have been included in the updated Water Needs Assessments as "transfers-in" (Column 7 in Appendix D), as they involve additional water supply without additional acreage (i.e., using the same acreage and CVP service area provided for under the respective Cross Valley contract. For the purposes of the Water Needs Assessments, Reclamation included the maximum CVP contract quantity amounts in the sources of CVP water supply for 2050 (Column 3 and 7 in Appendix D, respectively).

Water Demand

To determine the volume of water needed by the contractors in 2050, Reclamation assumed the maximum productive acreage for irrigation based on 2011 Reclamation Mid-Pacific Region GIS data that classified irrigable acres for each of the Cross Valley Contractors (see Appendix D).

Reclamation 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 (State of California 2013).

As described in Appendix C (methodology), the Water Needs Assessment compares the contractor's water demand to the contractor's water supply (all sources, including CVP maximum contract amounts). The demand in excess of supply is identified as Unmet Demand. If Unmet Demand is "positive or only slightly negative" (meaning that the contractor's need is determined to be above or only slightly below the contract maximum) then the CVP water contractor is deemed to have full future need of the maximum annual CVP supply currently under contract for all year types. Further, "[i]f the negative amount is within 10% for contracts

[1] Class 1 water is considered as the first 800,000 AF supply of CVP water stored in Millerton Lake, which would be available for delivery from the Friant-Kern Canal and/or Madera Canals as a dependable water supply during each Contract Year. Class 2 water is considered as the next approximate 1,400,000 AF supply of non-storable CVP water which becomes available in addition to the Class 1 supply and, due to the uncertainty of its availability, is considered to be undependable in character and is furnished only if and when it can be made available as determined by Reclamation per Contract Year.

in excess of 15,000 acre-feet, or within 25% for contracts equal to, or less than, 15,000 acre-feet; the test of full future need of CVP supplies under contract is deemed to be met." If an assessment shows that a contractor has full future need of the maximum contract amount, the contractor is deemed to be able to put the maximum contract amount to beneficial use.

As part of the Water Needs Assessment for the Cross Valley Contractors, Reclamation reviewed the contractors' most recent Water Management Plans, where available, conferred with the contractors to verify current water use, and determined that the new and updated Water Needs Assessments (Appendix D) are a reasonable projection of water use for the benchmark year 2050.

Each year displayed within the updated Water Needs Assessments represents a snapshot in time showing either (1) the risk-based assumptions coming into the year and what actually occurred (e.g. 2008, 2010, 2014, and 2016), or (2) what is projected to reasonably occur for a given set of assumptions (e.g. benchmark year 2050).

In the updated Water Needs Assessments, the Cross Valley Contractors' water demands were compared to their sources of water supply to determine the need for CVP water. The difference is shown in Column 39 (Unmet Demand).[2] As shown in Column 39 of Appendix D, the updated Water Needs Assessments indicate that all but one of the Cross Valley Contractors (County of Fresno) had fulfilled demands (i.e demand was 0) or unmet demands in the past and have estimated met or unmet demands in the benchmark year 2050.

In 2016, the County of Fresno had a surplus of 2,439 AF. In the year 2050, the County of Fresno is projected to have a surplus of 142 AF, well within the 25% criteria for contracts equal to, or less than, 15,000 AF (see Appendix C).

As the Cross Valley Contractors are projected to be within the established criteria or to have met or unmet demands in 2050, even after receiving maximum contract amounts, Reclamation has determined that the Cross Valley Contractors have the capability to put their maximum contract quantities to beneficial use and will continue to have that capability in the future. As such, Reclamation has determined that detailed analysis of a reduced contract quantity alternative for the Cross Valley Contractors is not warranted.

[2] Numbers in this column are positive (e.g., 100 AF) if there is an unmet demand and negative (e.g., -100 AF) if there is surplus beyond demand.

THIS PAGE LEFT INTENTIONALLY BLANK

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did 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. 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 E for Reclamation's determination.
Global Climate Change	Recently, the U.S. Global Research Program (USGRP) concluded in its Climate Science Special Report (2017) that "Many lines of evidence demonstrate that it is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century." The USGRP also concludes that "Global climate is projected to continue to change over this century and beyond. The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse (heat trapping) gases emitted globally and on the remaining uncertainty in the sensitivity of the Earth's climate to those emissions (*very high confidence*)." Reclamation developed a global climate model in 2016 for the Sacramento and San Joaquin Basins. The model predicts increased temperatures, increased precipitation, increased runoff, and reduced snowpack at higher latitudes during the 21st century. 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. It is anticipated that climate change would result in more short-duration high-rainfall events and less snowpack runoff in the winter and early spring months by 2030 compared to recent historical conditions (Reclamation 2016a, pg 16-26). However, the effects of this are long-term and are not expected to impact CVP operations within the two-year window of this action. Further, 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.
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.

Resource	Reason Eliminated
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 Cross Valley Contractors lie within the San Joaquin Valley Air Basin under the jurisdiction of the San Joaquin Valley Air Pollution Control District. The Air Basin has been designated under Federal standards in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter under 10 microns in diameter (PM_{10}). The Air Basin is in non-attainment for ozone (8-hour criteria) and particulate matter under 2.5 microns in diameter [$PM_{2.5}$] (San Joaquin Valley Air Pollution Control District 2017).

3.2.2 Environmental Consequences

No Action

Implementation of the No Action Alternative would mean the existing interim renewal contracts listed in Table 1 would expire on February 28, 2018 and the Cross Valley Contractors would no longer receive the CVP water allocated pursuant to these contracts.

Kern-Tulare estimates that 68% (approximately 13,600 acres) of its irrigable acres would be unable to sustain agriculture due to reduction in available surface water supplies should groundwater pumping be unavailable to offset demands (Kern-Tulare 2017). Similarly, Lower Tule and Pixley anticipate fallowing 10,000 acres above normal fallowing practices within both of their districts if landowners cannot pump groundwater to offset the loss of these surface water

supplies (Lower Tule 2017, Pixley 2017). For Hills Valley, groundwater supplies have never been sufficient to meet crop demands and their landowners rely on the Cross Valley Contract to sustain their permanent crops. Without this water supply, Hills Valley anticipates that the majority of lands within their district would be fallowed (Hills Valley 2017). Similar impacts are anticipated for the other Cross Valley Contractors that irrigate. 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 $PM_{2.5}$.

These adverse air quality effects may be offset by a corresponding reduction of fallowed areas where other south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractors' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

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 additional 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

A list of endangered, threatened and sensitive species that may occur within Fresno, Kings, Tulare and Kern (San Joaquin Valley portion) Counties which underlie the Action area, was obtained from the USFWS at http://ecos.fws.gov/ipac/ on August 18, 2017. Additional data was obtained from the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB 2017).

Table 4 below contains the above list and includes common and scientific names, current federal listing status, and critical habitats. The list also includes species addressed in the Cross Valley Contractors long-term contract renewal biological opinion (USFWS 2001) such as the riparian brush rabbit and riparian woodrat. Critical habitat exists in the affected environment for the following species: Buena Vista Lake shrew, California condor, California tiger salamander, Hoover's spurge, San Joaquin Valley Orcutt grass, succulent owl's-clover, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

Table 4 Federally Listed Threatened and Endangered Species

Species	Status[1]	Effects
AMPHIBIANS		
Arroyo toad (*Anaxyrus californicus*)	E, X	No effect determination; Proposed Action area is outside species' range.

Species	Status[1]	Effects
California red-legged frog (*Rana draytonii*)	T, X	No effect determination; Proposed Action area is outside species' current range.
California tiger salamander, central population (*Ambystoma californiense*)	T, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Mountain yellow-legged frog (*Rana muscosa*)	E, PX	No effect determination; Proposed Action area is outside species' range.
Sierra Nevada yellow-legged frog (*Rana sierrae*)	E, PX	No effect determination; Proposed Action area is outside species' range.
Yosemite toad (*Anaxyrus canorus*)	T, PX	No effect determination; Proposed Action area is outside species' range.
BIRDS		
California Clapper Rail (*Rallus longirostris obsoletus*)	E	No effect determination; Proposed Action area is outside species' range.
California Condor (*Gymnogyps californianus*)	E	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Least Bell's Vireo (*Vireo bellii pusillus*)	E, X	This species could fly over during migration but nesting habitat is absent.
Southwestern Willow Flycatcher (*Empidonax trailli extimus*)	E, X	This species could fly over during migration but nesting habitat is absent.
Western Snowy Plover (*Charadrius alexandrinus nivosus*)	T, X	This species could fly over during migration but nesting habitat is absent.
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	T, PX	This species could fly over during migration but nesting habitat is absent.
FISH		
Central Valley steelhead (*Oncorhynchus mykiss*)	T, X	Effects of pumping in the San Joaquin-Sacramento Delta have been/are being addressed separately.
Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha*)	T, X	Effects of pumping in the San Joaquin-Sacramento Delta have been/are being addressed separately.
delta smelt (*Hypomesus transpacificus*)	T, X	Effects of pumping in the San Joaquin-Sacramento Delta have been/are being addressed separately.
Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*)	T	No effect determination; Proposed Action area is outside species' range.
Little Kern golden trout (*Oncorhynchus mykiss whitei*)	T, X	No effect determination; Proposed Action area is outside species' range.
Mojave tui chub (Gila *bicolor* ssp. *mohavensis*)	E	No effect determination; Proposed Action area is outside species' range.
North American green sturgeon (*Acipenser medirostris*)	T, X	Effects of pumping in the San Joaquin-Sacramento Delta have been/are being addressed separately.
Owens pupfish (*Cyprinodon radiosus*)	E	No effect determination; Proposed Action area is outside species' range.
Owens tui chub (*Gila bicolor snyderi*)	E, X	No effect determination; Proposed Action area is outside species' range.
Paiute cutthroat trout (*Oncorhynchus clarki seleniris*)	T	No effect determination; Proposed Action area is outside species' range.
Sacramento River winter-run chinook salmon (*Oncorhynchus tshawytscha*)	E, X	Effects of pumping in the San Joaquin-Sacramento Delta have been/are being addressed separately.

Species	Status[1]	Effects
INVERTEBRATES		
Conservancy fairy shrimp (*Branchinecta conservatio*)	E	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Kern primrose sphinx moth (*Euproserpinus euterpe*)	T	No effect determination; Proposed Action area is outside species' range.
longhorn fairy shrimp (Branchinecta longiantenna)	E	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T, X	No effect determination; although suitable habitat may be present in Fresno County (Kings, Kern, and Tulare Counties are outside the species' range), no land use change, conversion of habitat, construction or modification of existing facilities would occur as a result of the Proposed Action.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	E, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
MAMMALS		
Buena Vista Lake shrew (*Sorex ornatus relictus*)	E, X	May affect, not likely to adversely affect. Potentially present within the action area. May be subject to minor impacts due to routine farming activities.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	E, X	No effect determination; Proposed Action area is outside species' range.
Giant kangaroo rat (*Dipodomys ingens*)	E	No effect determination; suitable habitat not present.
North American wolverine (*Gulo gulo luscus*)	PT	No effect determination; Proposed Action area is outside species' range.
Riparian brush rabbit (*Sylvilagus bachmani riparius*)	E	No effect determination; Proposed Action area is outside species' range.
Riparian woodrat (*Neotoma fuscipes riparia*)	E	No effect determination; Proposed Action area is outside species' range.
San Joaquin kit fox (*Vulpes macrotis mutica*)	E	May affect, not likely to adversely affect. Potentially present within the action area. May be subject to minor impacts due to routine farming activities.
Sierra Nevada bighorn sheep (*Ovis canadensis californiana*)	E, X	No effect determination; Proposed Action area is outside species' range.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	E	May affect, not likely to adversely affect. Potentially present within the action area. May be subject to minor impacts due to routine farming activities.
PLANTS		
Bakersfield cactus (*Opuntia treleasei*)	E	No effect determination; suitable habitat not present.

Species	Status[1]	Effects
California jewelflower (*Caulanthus californicus*)	E	No effect determination; suitable habitat not present.
Hairy Orcutt grass (*Orcuttia pilosa*)	E, X	No effect determination; suitable habitat not present.
Hartweg's golden sunburst (*Pseudobahia bahiifolia*)	E	No effect determination; suitable habitat not present.
Hoover's spurge (*Chamaesyce hooveri*)	T, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
Keck's checker-mallow (*Sidalcea keckii*)	E, X	No effect determination; suitable habitat not present.
Kern mallow (*Eremalche kernensis*)	E	May affect, not likely to adversely affect. Potentially present within the action area. May be subject to minor impacts due to routine farming activities.
Mariposa pussy-paws (*Calyptridium pulchellum*)	T	No effect determination; Proposed Action area is outside species' range.
marsh sandwort (*Arenaria paludicola*)	E	No effect determination; Proposed Action area is outside species' range.
palmate-bracted bird's-beak (*Cordylanthus palmatus*)	E	No effect determination; suitable habitat not present.
San Benito evening-primrose (*Camissonia benitensis*)	T	No effect determination; Proposed Action area is outside species' range.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	T	No effect determination; suitable habitat not present.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	T, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
San Joaquin woolly-threads (*Monolopia congdonii*)	E	May affect, not likely to adversely affect. Potentially present within the Action area. May be subject to minor impacts due to routine farming activities.
San Mateo thornmint (*San Mateo thornmint*)	E	No effect determination; Proposed Action area is outside species' range.
Springville clarkia (*Clarkia springvillensis*)	T	No effect determination; Proposed Action area is outside species' range.
Succulent owl's-clover (*Castilleja campestris* ssp. *succulenta*)	T, X	No effect determination; native lands and lands fallowed and untilled for three or more years would not be brought into production as part of the Proposed Action.
REPTILES		
Blunt-nosed leopard lizard (*Gambelia sila*)	E	No effect determination; suitable habitat not present.
Desert tortoise (*Gopherus agassizii*)	T, X	No effect determination; Proposed Action area is outside species' range.
Giant garter snake (*Thamnophis gigas*)	T	No effect determination; suitable habitat not present.

[1] Status= Listing of Federally special status species. Note that lists were for the entire county or counties that encompass the districts.

E: Listed as Endangered
T: Listed as Threatened
X: Critical Habitat designated for this species

PX: Critical Habitat proposed for this species.

Most of the lands in the affected environment are agricultural lands. Of the federally listed species included in Table 4, only a few can use this type of land. Agricultural lands are generally not suitable for long-term occupation by kit foxes, although lands adjacent to natural habitats may be used for occasional foraging (Warrick et al. 2007). It may be possible for Tipton kangaroo rats to colonize fallowed lands within as little as eight months when they occur on adjacent habitat. The Fresno kangaroo rat has been reported as being able to colonize fallowed agricultural lands (Culbertson 1946) and Stephens' kangaroo rats have been observed to recolonize land after discing was stopped (Thomas 1975), even within as little as eight months (Moore-Craig 1984). Buena Vista Lake ornate shrews may reside on actively farmed ground, and/or may have a relatively good ability to disperse (Williams and Harpster 2001). There are two instances in which San Joaquin woolly-threads were found in low densities in areas that had been previously disced, which were adjacent to undisturbed populations (Lewis 1993); the species' primary dispersal method is probably by wind. The Kern mallow has been known to occasionally reinvade disturbed sites, when the species is found on adjacent land (Mitchell 1989 as cited in Service 1998). Kern mallow seeds may be carried by dust devils, which do not seem to necessarily move in the direction of the prevailing wind (E. Cypher, pers. comm.). In 2005, Kern mallow was seen at the edges of fallow agricultural fields at the northern edge of Lokern, approximately a meter into the fields, north of occupied habitat; the interiors of the fields were not surveyed (E. Cypher, pers. comm.).

The delta smelt, Sacramento River winter run Chinook salmon, Central Valley spring run Chinook salmon, and their critical habitats are relevant due to their occurrence in the Delta. Also relevant is Essential Fish Habitat for fall run and late fall run Chinook salmon. All of these species and habitats are addressed by the biological opinions on coordinated long-term operations of the CVP and SWP and associated documents. Listed salmonids are not expected to return to the upper San Joaquin during this interim renewal period and thus don't require consultation.

Within the Action Area the existing critical habitat consists of undeveloped lands. Reclamation has determined that no delivery of CVP water to these lands would be allowed unless and until the landowner demonstrates existing compliance with the ESA, including consultation with the USFWS for critical habitat.

The biological opinions described below contain more detailed descriptions of biological resources in the contractors' service areas and boundaries. The CVP contractors associated with this Action have already undergone consultation with the USFWS and NMFS and are implementing the measures in the applicable biological opinions. In addition, Kern County has an existing Habitat Conservation Plan for portions of its service area (specifically for the Kern Water Bank and the Metropolitan Bakersfield area).

Documents Addressing Potential Impacts of Actions of the CVP (Other than the Proposed Action) to Listed Species

Programmatic Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP The USFWS issued a Programmatic Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the

CVP (Programmatic BO) (File Number 1-1-98-F-0124) in November 2000 (USFWS 2000). The Programmatic BO presumed the renewal of all existing CVP contracts, and documented nine major areas of commitment covering such considerations such as facility operations, water conveyance, habitat augmentation and others. These commitments and other considerations were the basis of a Programmatic BO finding of "No Jeopardy" to protected species. In addition, the Programmatic BO outlined processes to streamline ESA compliance and manage circumstances where insufficient information is available to estimate take or make an impact determination.

Biological Opinion on Bureau of Reclamation Long-Term Contract Renewal of Friant Division and Cross Valley Unit Contractors USFWS issued a biological opinion in October 1991, amended in May 1992, which stated that renewal of the 28 long-term Friant Division CVP contracts would not likely jeopardize the continued existence of 15 threatened and endangered species in the affected portions of the Friant service area (USFWS 1991, 1992). This determination was predicated on Reclamation implementing short- and long-term conservation programs to mitigate the adverse impacts of continued CVP water delivery to the Friant Division. The program also committed the USFWS to participate by providing technical assistance and developing the revised recovery plans needed for the timely resolution of listed species concerns.

In 2001, the USFWS issued a biological opinion (File Number 1-1-01-F-0027; Long-Term Contract Renewal BO), which concluded that the 25-year renewal of water service contracts for Friant Division and Cross Valley Units of the CVP by Reclamation was not likely to jeopardize 34 listed species (USFWS 2001). However, transfers and/or exchanges involving Friant Division or Cross Valley Contractors were not addressed by the Long-Term Contract Renewal BO. In addition, the Long-Term Contract Renewal BO did not address some of the species and critical habitats covered in this EA, because their listings/designations occurred after the biological opinion was issued. These species and critical habitats include: vernal pool fairy shrimp, vernal pool tadpole shrimp, all critical habitats for vernal pool species, and critical habitat for the California tiger salamander.

Coordinated Operations of the CVP and SWP The effects of CVP and SWP pumping on federally listed fishes and their critical habitat have been addressed by Biological Opinions issued to Reclamation for the Coordinated Long-Term Operations of the CVP and SWP (NMFS 2009, USFWS 2008). The biological opinion issued by the USFWS to Reclamation for the Coordinated Long-Term Operations of the CVP and SWP found that operations as proposed were likely to jeopardize the continued existence of delta smelt and adversely modify its critical habitat. The USFWS provided a Reasonable and Prudent Alternative (RPA) with five components. On December 15, 2008, Reclamation submitted a memo provisionally accepting the RPA. The memo also indicated that Reclamation would immediately begin implementing the RPA. The provisional acceptance of the RPA was conditioned upon the further development and evaluation of the two RPA components directed at aquatic habitats. Reclamation stated that the two RPA components, RPA Component 3 – the fall action, and RPA Component 4 – the tidal habitat restoration action, both need additional review and refinement before Reclamation would be able to determine whether implementation of these actions by the CVP and SWP is reasonable and prudent.

The biological opinion issued by NMFS determined that long term SWP and CVP operations were likely to jeopardize several species and result in adverse modification of their critical habitat. NMFS also developed an RPA and included it in the Biological Opinion. On June 4, 2009, Reclamation sent a provisional acceptance letter to NMFS, citing the need to further evaluate and develop many of the longer-term actions, but also stating that Reclamation would immediately begin implementing the near-term elements of the RPA.

Reclamation also consulted under the Magnusson-Stevens Fishery Conservation and Management Act with NMFS on the impacts to Essential Fish Habitat for Chinook salmon as a result of the pumping (NMFS 2009).

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 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 with USFWS and NMFS on the CVP/SWP Coordinated Operations. That process is ongoing.

O&M Program for the South-Central California Area Office Reclamation consulted with the USFWS under the ESA for O&M activities occurring on Reclamation lands under the jurisdiction of the South-Central California Area Office. The USFWS issued a biological opinion 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, Reclamation's existing and future environmental commitments addressed in biological opinions, including the CVPIA biological opinion (USFWS 2000) would continue to be met, including continuation of ongoing species conservation programs.

The Cross Valley Contractors are primarily agricultural and anticipate increased fallowing without the availability of CVP water supplies. The loss of CVP water supplies 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 the increased fallowing.

These adverse effects to foraging and nesting habitat for birds, including migratory birds, may be offset by a subsequent reduction of fallowed areas where other south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractors' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

It is possible that beneficial effects to biological resources, including listed species and/or their associated habitat, could occur if water that would have been made available to the Cross Valley Contractors is instead re-allocated to wildlife refuges or re-apportioned to pass through the Delta un-diverted by Reclamation; however, these effects would also be dependent on how much of the Cross Valley Contractors' otherwise available water supply is available for re-apportionment.

Proposed Action

CVP-wide impacts to biological resources were evaluated in the PEIS, and a USFWS biological opinion addressing potential CVP-wide impacts of the CVPIA was completed on November 21, 2000. In addition, the programmatic biological opinion and Essential Fish Habitat Conservation Recommendations prepared by NMFS for the CVPIA were completed on November 14, 2000. The Proposed Action would meet environmental commitments in existence as a result of existing biological opinions, including those for the CVPIA and the coordinated long-term operations of the CVP and SWP.

As described previously, interim renewal contracts contain provisions that allow for adjustments resulting from court decisions, new laws, and from changes in regulatory requirements that may be 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 interim water service contracts considered in this EA. As such, the Proposed Action would not impact the efforts of the San Joaquin River Restoration Program and would conform to any applicable requirements imposed under the federal ESA or other applicable environmental laws.

Under the Proposed Action, only minor indirect impacts would occur to biological resources. The species detailed in the Affected Environment may be subject to minor impacts due to routine farming activities. Critical habitat and other native lands would not be affected due to restrictions on land use, or because in some cases, the critical habitat lies outside the Proposed Action area.

Renewal of the existing interim renewal contracts would not provide long-term water supply reliability required for conversion from agriculture to M&I uses as it only covers a two-year time period. The Proposed Action would not result in any change in existing water diversions from the Delta nor would it require construction of new facilities or modification of existing facilities for water deliveries. The CVP water supply for the Cross Valley Contractors pursuant to the interim renewal contracts listed in Table 1 would continue to be used for agricultural and M&I purposes within their respective CVP service areas as it has in the past. In addition, as described in Table 2, no native or untilled land (fallow for three consecutive years or more) may be cultivated with CVP water without additional environmental analysis and approval. Therefore, conditions of special status species and habitats are assumed to remain the same as current

conditions described in the Affected Environment over the two-year period of the Proposed Action.

Cumulative Impacts

The Proposed Action, when added to other past, present, and reasonably foreseeable future actions, represents a continuation of existing conditions which are unlikely to result in cumulative impacts on the biological resources of the study area. The Proposed Action provides for the delivery of the same contractual amount of water to the same lands for existing purposes without the need for facility modification or construction. In addition, 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

The Cross Valley Contractors service areas are located within portions of Fresno, Kern, Tulare, and a small portion of southeastern Kings County (i.e. Atwell Island Water District).

As shown in Table 5, minority populations in these four primarily agricultural-based counties is generally much higher than the State of California as a whole. For example, in each of the counties Hispanic or Latino populations are greater than 50% whereas for the State it is 38.9%. In addition, unemployment rates and percentage of persons living in poverty are much higher and annual per capita income and median household income are much lower in Fresno, Kern, Kings, and Tulare Counties as opposed to the State (Table 5).

Table 5 Fresno, Kern, Kings, and Tulare County Demographics

Demographics	Fresno County	Kern County	Kings County	Tulare County	California
Total Population (2016 estimate)	979,915	884,788	149,785	460,437	39,250,017
White, non-Hispanic	30.0%	34.8%	32.7%	29.2%	37.7%
Black or African American	5.8%	6.2%	7.2%	2.2%	6.5%
American Indian or Alaska Native	3.0%	2.6%	3.1%	2.8%	1.7%
Asian	10.8%	5.2%	4.5%	4.0%	14.8%
Native Hawaiian/Pacific Islander	0.3%	0.3%	0.3%	0.2%	0.5%
Hispanic or Latino	52.8%	52.8%	54.2%	64.1%	38.9%
Median Household Income, 2012-2016	$45,963	$49,788	$47,241	$42,789	$63,783
Annual per capita income, 2012-2016	$21,057	$21,094	$19,123	$18,257	$31,458
Persons in poverty	25.5%	22.4%	17.4%	24.7%	14.3%
December 2016 Unemployment rate (not seasonally adjusted)	9.4%	10.2%	10.2%	11.4%	5.0%
November 2017 Unemployment rate (not seasonally adjusted)	7.6%	7.4	7.5%	8.9%	4.0%

Source: U.S. Census Bureau 2018, State of California Employment Development Department 2017, 2016

3.4.2 Environmental Consequences

No Action

The Cross Valley Contractors are primarily agricultural districts with a large economically disadvantaged and minority population (Table 5). Some of the contractors would continue to receive CVP water supplies under their Friant Division contracts; however, the remaining contrators do not have alternative water supplies available. As described in Section 3.2.2, the contractors anticipate substantial fallowing under the No Action alternative. The increased fallowing would severely impact the availability of seasonal jobs. 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 disadvantaged area.

The adverse effects to low-income wage earners and/or minority population groups may be offset by a subsequent reduction of fallowed areas where other south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractors' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

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 Affected environment includes the Cross Valley Contractors' CVP service areas within portions of Fresno, Kern, Tulare, and a small portion of southeastern Kings County (i.e. Atwell Island Water District). The majority of the Cross Valley Contractors are agricultural, with a few that are solely M&I. A description of the contractors and their service areas are included in Appendix A. A summary of 2016 crop data for the Cross Valley Contractors is included in Table 6.

Table 6 Summary of 2016 Crop Data Provided by the Contractors

Contractor	Total Acres	2016 Irrigated Acres	2016 Fallowed Acres	Crops Grown	Permanent Crops (%)
Alpaugh Irrigation	11,971	?	?	Not reported	Unknown

Contractor	Total Acres	2016 Irrigated Acres	2016 Fallowed Acres	Crops Grown	Permanent Crops (%)
District*					
Atwell Island Water District	7,059	?	?	Not reported	Unknown
Hills Valley Irrigation District	4,326	3,456	455	Almonds, lemon, limes, olives, oranges, peaches, pistachios. prunes/plums, tangerines	100
Kern-Tulare Water District	26,312	17,874	2,385	Almonds, blueberries, cherries, grapefruit, grapes, lemons, oranges, persimmons, pistachios, tangelos	100
Lower Tule River Irrigation District	103,086	75,176	Unknown per District	Alfalfa, barley, cherries, cotton, grapes, hay,oats, oranges, pecans, persimmons, pistachios, pomegranates, prunes/plums, silage, sorghums, tangerines, tomatoes, walnuts, wheat	14
Pixley Irrigation District	69,500	50,474	Unknown per District	Alfalfa, almonds, barley, beans, cotton, grapes, pecans, pistachios, silage, sorghums, wheat	24
Saucelito Irrigation District	19,673	18,425	768	Alfalfa, almonds, cherries, cotton, corn, silage, grapes, kiwi, nectarines, olives, oranges, pistachios, prunes, tangerines, walnuts, wheat, corn	87
Stone Corral Irrigation District	6,600	5,160	1,255	Almonds, avacados, cherries, grapefruit, grapes, lemons, limes, kiwis, olives, oranges, pears, persimmons, pistachios, pomegranates, prunes/plums, tangerines, wheat,	100
Tri-Valley Water District	2,416	995	53	Lemons, limes, oranges, pasture, tangerines	98

3.5.2 Environmental Consequences

No Action

As noted previously, Kern-Tulare estimates that approximately 68% of its irrigable acres would be fallowed under the No Action alternative (Kern-Tulare 2017). In addition, Lower Tule and Pixley estimate that 10,000 acres would be fallowed in each of their districts without this water supply (Lower Tule 2017, Pixley 2017). Hills valley estimates that the majority of permanent crops within its district would no longer be farmed (Hills Valley 2017). It is anticipated that similar fallowing would be required in the other districts.

Changes in land use due to fallowing may be offset by a subsequent reduction of fallowed acres in other areas where south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractors' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

Proposed Action

The continuation of the interim renewal contracts listed in Table 1 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. 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

Demographic information for Fresno, Kern, Kings, and Tulare Counties is summarized in Table 5 and described in Section 3.4. The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. Agricultural production by the Cross Valley Contractors in 2016 is summarized in Table 6.

3.6.2 Environmental Consequences

No Action

Lower Tule and Pixley estimate that the fallowing of 10,000 acres in each of their districts would result in approximately $27,066,00 in lost crop revenue each, not accounting for revenue lost by buisnesses that rely on agriculture (Lower Tule 2017, Pixley 2017). Hills Valley anticipates that they would be unable to supply water to its landowners without the Cross Valley Contract and the majority of lands within the district, which is planted exclusively in permanent crops, would no longer be able to be farmed (Hills Valley 2017). Similar impacts are anticipated to occur in the other agricultural districts. The loss of the Cross Valley Contractors' CVP water supplies would have substantial adverse impacts on socioeconomics within the San Joaquin Valley due to the loss in agricultural revenue.

The County of Fresno anticipates that without this contract, the exchange agreement that they have with Arvin-Edison would expire, and CSA 34 would be unable to supply water to the residents they currently serve. CSA 34 would be obligated to provide M&I water supplies to these residents and would either have to purchase water on the open market or provide bottled water until a supply could be found both of which would be highly costly (County of Fresno 2017). Similar impacts are anticipated for the other M&I contractors.

These adverse socioeconomic effects may be offset by a subsequent reduction of fallowed areas where other south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractors' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

Proposed Action

The continuation of the interim renewal contracts listed in Table 1 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 Cross Valley Contractors CVP service areas as well south-of-Delta conveyance facilities and waterways. Appendix A includes a description of the Cross Valley Contractors and a list of their potential exchange parnters. Appendix B includes a a summary of conveyance facilities and waterways that may be used for conveyance and exchange of available water supplies between the Cross Valley Contractors and their potential exchange partners.

Central Valley Project

Reclamation makes CVP water available to contractors for reasonable and beneficial uses, but CVP water supply varies widely from year to year and sometimes even within a given year due to hydrologic conditions and/or regulatory constraints, and is often insufficient to meet all of the irrigation water service contractors' water needs. As shown in Table 7 below, the south-of-Delta CVP agricultural allocations ranged from 0% and 100% of contract amounts and averaged 44% of contract amounts between 2005 and 2017. For 8 out of the last 13 years, the south-of-Delta CVP agricultural allocation was less than 50% due to drought conditions and regulatory requirements. Consequently, CVP contractors, including the Cross Valley Contractors, adaptively manage water supplies based on current and projected hydrologic conditions (as well as regulatory and environmental requirements) in order to proactively assess their risk in making business, economic, cropping, planting, and irrigation decisions.

Table 7 South-of-Delta CVP Contract Allocations between 2005 and 2016

Contract Year	Agricultural Allocations (%)	M&I Allocations (%)
2017	100	100
2016	5	55
2015	0	25
2014	0	50
2013	20	70
2012	40	75
2011	80	100
2010	45	75
2009	10	60

Contract Year	Agricultural Allocations (%)	M&I Allocations (%)
2017	100	100
2008	40	75
2007	50	75
2006	100	100
2005	85	100
Average	**44**	**74**

Source: 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 that there are more instances of severe contractual shortages applicable to south-of-Delta water deliveries (Reclamation 1999a) than was estimated in the period of review, and this information has been incorporated into the modeling for the current CVP/SWP Coordinated Operations of the Delta (Reclamation 2004b, 2016b).

Contractors' Water Needs Assessments

As discussed in Section 2.3, updated Water Needs Assessments (Appendix D) were developed for the Cross Valley Contractors. As shown in Appendix D, the Cross Valley Contractors are projected to be within the established criteria or to have met or unmet demands in 2050; therefore, Reclamation has determined that the Cross Valley Contractors are deemed to have full future need of the maximum annual CVP water supply currently under contract for all year types.

Cross Valley Contractors

Annual Cross Valley Contractors' supply allocations are based on Reclamation's south-of-Delta CVP allocations, which are a percentage of each CVP contractors' respective contract total. Water deliveries to the Cross Valley Contractors are made available by Reclamation in the Delta, and are diverted through the Banks Pumping Plant of the SWP or the Jones Pumping Plant of the CVP. These deliveries can be unpredictable due to operational constraints in the Delta.

The Cross Valley Contractors' Delta CVP water supply was designed to be delivered to Arvin-Edison in exchange for a portion of Arvin-Edison's Friant Division CVP water supply from Millerton Lake. However, in order for the Cross Valley Contractors to obtain their Delta supplies through an exchange with Friant Division contractors, including Arvin-Edison, the runoff on the San Joaquin River must be sufficient to declare a full Class 1 allocation and a minimum percent of Class 2 water supply. If these conditions are not met, the Cross Valley Contractors do not have the ability to exchange their Delta water supplies. These conditions result in higher overall costs of water for the Cross Valley Contractors compared to neighboring Friant Division contractors.

Table 8 includes a summary of Cross Valley Contractor CVP water supplies delivered between 2010 and 2017. It should be noted that several transfers of the Cross Valley Contractor CVP

water supplies included in Table 8 are direct transfers under the South-of-Delta Accelerated Water Transfer Program (AWTP) and are not a part of the Proposed Action.

Table 8 Annual Acre-Foot Cross Valley CVP Water Supplies Delivered 2010-2017

Cross Valley Contractors	2017	2016	2015	2014	2013	2012	2011	2010
Kern-Tulare WD (8601R)								
Transfer for IRC exchange to Kern County Water Agency					4,000	21,000		
AWTP transfer to Westlands WD					4,000	1,000		
Transfer for IRC exchange to Rosedale Rio Bravo WSD								23,985
County of Fresno								
Transfer for IRC exchange to Arvin-Edison WSD			120			1,200		1,350
Hills Valley ID (8466)							641	
Transfer for IRC exchange to Arvin-Edison WSD					630	1,338		1,506
Pixley ID								
AWTP transfer to Del Puerto WD				1,097	5,123			
AWTP transfer to Westlands WD						12,441		7,350
Transfer for IRC exchange to Tulare Lake Basin WSD								4,528
Lower Tule River ID								
AWTP Transfer out to Del Puerto WD				1,097	5,123			
AWTP Transfer to Westlands WD						12,441		7,350
Transfer for IRC exchange to Tulare Lake Basin WSD								4,528
Tri-Valley WD	300							
Transfer for IRC exchange to Arvin-Edison WSD						457		
AWTP Transfer to San Luis WD								514
County of Tulare								
Transfer for IRC exchange to Arvin-Edison WSD			1,062					
Delivery to subcontractor: Alpaugh ID	100							
Delivery to subcontractor: Atwell Island WD	50							
Delivery to subcontractor: Strathmore PUD	300							
Delivery to subcontractor: Styro-Tek, Inc.	45							
Delivery to subcontractor: City of Visalia	300							
Annual Total (AF)	**1,095**	**0**	**1,182**	**2,194**	**18,876**	**49,877**	**641**	**51,111**

Groundwater Resources

Usable groundwater storage capacity has been estimated to be approximately 24 million AF for the San Joaquin River Hydrologic Region and 28 million AF for the Tulare Lake Hydrologic Region, the two hydrologic regions overlain by the Cross Valley Contractors and most of the potential exchange partners.

Recharge of the area's aquifers is primarily derived from streams and canals, infiltration of applied water, subsurface inflow and, to a limited extent, precipitation in the valley floor. In wetter years the groundwater stores are recharged, and in dry years groundwater levels drop. Groundwater levels, available supplies and safe yield are difficult to quantify due to variances in soil types, geography and subsurface groundwater gradients. Generally the groundwater safe yield is estimated to be approximately 1 AF per acre of land, but under certain conditions, some locations may have a safe yield as low as 0 AF. Over the long term, DWR has estimated the total safe perennial yield to be approximately 3.3 million AF for the San Joaquin River Hydrologic Region and 4.6 million AF for the Tulare Lake Hydrologic Region (DWR 2003). Overdraft of groundwater is a region-wide problem throughout the lower San Joaquin Valley and although ameliorated to some extent by the import of surface water, all hydrologic basins in the San Joaquin Valley continue to be overdrafted.

In 2014, the Sustainable Groundwater Management Act (SGMA) was signed into law. SGMA requires local and regional authorities in medium and high priority groundwater basins to form Groundwater Sustainability Agencies (GSA) to oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). These GSAs have until 2020 or 2022 to develop, prepare and begin implementation of a GSP, and the GPA will have until 2040 to achieve groundwater sustainability.

3.7.2 Environmental Consequences

No Action

Under the No Action alternative, the Cross Valley Contractors would no longer have contracts that could provide up to 128,300 AF/y of surface water supplies. Although some of the contractors would continue to receive CVP water under their Friant contracts, the majority would not have enough water to meet M&I and agricultural demands in their respective districts. This would have substantially adverse impacts to available water supplies for agricultural and M&I users and would impact the ability of groundwater recharge in the area. Groundwater pumping would likely continue to occur over the next two years in those areas that have available groundwater supplies; however, groundwater resources are insufficient to meet M&I demands or to sustain agriculture. Further, increased groundwater pumping in the Valley due to the recent drought has substantially increased the rate of subsidence within the San Joaquin Valley, including along portions of the Friant-Kern Canal. These trends would continue under the No Action alternative, potentially causing severe impacts to existing water conveyance infrastructure and impacting other water users.

Adverse impacts to agricultural production, decrease in groundwater levels, and increase in rates of subsidence may be offset by a subsequent reduction of fallowed areas and groundwater pumping where other south-of-Delta CVP contractors irrigate; however, this would be dependent on how much of the Cross Valley Contractor' otherwise available water supply is re-allocated to other contractors for irrigation purposes. This would not address the impacts within the Friant Division service area where these contractors are located.

It is also possible that beneficial effects to overall water supply availability and water quality in the Delta could occur if water that would have been made available to the Cross Valley

Contractors is instead re-allocated to south-of-Delta CVP contractors and wildlife refuges or remains un-diverted in the Delta; however, these effects would also be dependent on how much of their otherwise available water supply is re-apportioned for these purposes.

Proposed Action

Based in part on the updated Water Needs Assessments for the Cross Valley Contractors, there would be no change from conditions under the existing interim renewal contracts 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 totals and would not exceed historic quantities. Continuation of the interim renewal contracts would provide needed CVP water to help meet M&I and agricultural demandss. As the delivery of CVP water would be done through existing infrastructure for existing uses within the Cross Valley Contractors service areas, 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. 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 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 Environmental Assessment during a 30-day public review period.

4.2 List of Agencies and Persons Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- Alpaugh Irrigation District
- Atwell Island Water Distric
- City of Lindsay
- City of Visalia
- County of Fresno
- County of Tulare
- Hills Valley Irrigation District
- Kern-Tulare Water District
- Lower Tule River Irrigation District
- Pixley Irrigation District
- Saucelito Irrigation District
- Stone Corral Irrigation District
- Strathmore Public Utility District
- Styrotek Inc.
- Tri-Valley Water District
- 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.

The Proposed Action would support existing uses and conditions. 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.

Effects to Delta species and critical habitats, such as the Delta smelt, salmonids, and green sturgeon which are the result of CVP operations, are addressed in the CVP/SWP Coordinated Operations consultation. As such, Reclamation has determined that there would be no effects to species and critical habitats for the Proposed Action under the jurisdiction of NMFS that have not already been addressed.

Reclamation has initiated section 7 consultation with the USFWS for the Proposed Action. This EA will not be finalized until consultation is complete.

Section 5 References

Bureau of Reclamation (Reclamation). 1994. Interim Renewal Contracts Final Environmental Assessment. Mid-Pacific Region Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 1998. Finding Of No Significant Impact And Supplemental Environmental Assessment for the Renewal of 54 Interim Water Service Contracts through February 29, 2000. Mid-Pacific Region Regional Office. Sacramento, California.

Bureau of Reclamation (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.

Bureau of Reclamation (Reclamation). 2000. Final Supplemental Environmental Assessment for the Renewal of 54 Interim Water Service Contracts through February 28, 2001, Central Valley Project, California. Mid-Pacific Region Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 2001a. Supplemental Environmental Assessment for the 2001 Renewal of Interim Water Service Contracts Through February 29, 2002, Central Valley Project. Mid-Pacific Region Regional Office. Sacramento, California.

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

Bureau of Reclamation (Reclamation). 2002a. Supplemental Environmental Assessment for the 2002 Renewal of Interim Water Service Contracts Through February 29, 2004, Central Valley Project, California. Mid-Pacific Region Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 2002b. Central Valley Project Improvement Act: 10 Years of Progress. Mid-Pacific Region Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 2004a. Supplemental Environmental Assessment for the 2004 Renewal of Interim Water Service Contracts Through February 28, 2006, Central Valley Project, California. Mid-Pacific Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 2004b. Long-Term Central Valley Project Operations Criteria and Plan, CVP-OCAP. Sacramento, California. Website: http://www.usbr.gov/mp/cvo/ocap/OCAP_6_30_04.pdf.

Bureau of Reclamation (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.

Bureau of Reclamation (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.

Bureau of Reclamation (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.

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

Bureau of Reclamation (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.

Bureau of Reclamation (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.

Bureau of Reclamation (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.

Bureau of Reclamation (Reclamation). 2006a. Supplemental Environmental Assessment for the 2006 Renewal of Interim Water Service Contracts Through February 29, 2008, Central Valley Project, California. Mid-Pacific Regional Office. Sacramento, California.

Bureau of Reclamation (Reclamation). 2006b. Record of Decision for the American River Division Long-term Central Valley Project Water Service Contract Renewals. Mid-Pacific Region Central California Area Office. Folsom, California. Website: https://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=13.

Bureau of Reclamation (Reclamation). 2008. Environmental Assessment for the 2008 Renewal of Interim Water Service Contracts through February 28, 2010 (EA-07-75). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2010. 2010 Renewal of Cross Valley Interim Water Service Contracts and Delta Division/San Felipe Contracts through February 29, 2010 (EA-09-126). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2012. Environmental Assessment/Finding of No Significant Impact for the Three Delta Division and Five San Luis Unit Water Service Interim Renewal Contracts 2012-2014 (EA-11-049). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2014. Cross Valley Contractors Interim Renewal Contracts (EA-12-048). Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2016a. Cross Valley Contractors Interim Renewal Contracts (EA-15-022). Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2016b. Record of Decision and Environmental Impact Statement for the Coordinated Long-Term Operation of the Central Valley Project and State Water Project. Mid-Pacific Region Bay-Delta Office. Sacramento, CA. Website: http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=21883.

California Department of Water Resources (DWR). 2003. California's Groundwater - Bulletin 118. Website: http://www.water.ca.gov/groundwater/bulletin118/bulletin118update2003.cfm.

California Employment Development Department. 2017. Links to LMI by County. Website: http://www.labormarketinfo.edd.ca.gov/data/interactive-labor-market-data-tools.html. Accessed: March 7, 2017.

California Natural Diversity Database (CNDDB). 2017. CNDDB personal computer program updated August 1, 2016. Sacramento, CA. Website: http://www.dfg.ca.gov/biogeodata/cnddb/rf_ftpinfo.asp. Accessed: August 18, 2017.

County of Fresno, 2017. Memorandum: Fresno County Service Area No. 34 Water System United States Bureau of Reclamation CVP Long-term Renewal Contract: Evaluation of Non-Renewal Impacts. Department of Public Works and Planning. October 12, 2017.

Culbertson, A. E. 1946. Observations of the natural history of the Fresno kangaroo rat. *Journal of Mammalogy* 27:189-203.

Cypher. 2005. Email message from Ellen Cypher, California Department of Fish and Game, Bakersfield, CA to Shauna McDonald of the Bureau of Reclamation.

Hills Valley Irrigation District. 2016 Crop Report submitted to Reclamation.

Hills Valley Irrigation District (Hills Valley). 2017. Memorandum: No Action Alternative Impacts renewal of Water Service Contract – 2018. September 28, 2017.

Kern-Tulare Water District. 2016 Crop Report submitted to Reclamation.

Kern-Tulare Water District (Kern-Tulare). 2017. Memorandum: No-Action Alterntaive Effects of Non-Renewal of Water Service Contract. September 25, 2017.

Lewis, R. 1993. California native species field survey form. *Caulanthus californicus*. Ca. Dept. Fish and Game, Sacramento, Unpublished forms, 20 pp.

Lower Tule River Irrigation District. 2016 Crop Report submitted to Reclamation.

Lower Tule River Irrigation District (Lower Tule). 2017. USBR Cross Valley Canal Interim renwal Contract Draft Evaluation of Non-Renewal Impacts. September 21, 2017.

Moore-Craig, N. 1984. Distribution and habitat preference of Stephens' kangaroo rat on the San Jacinto Wildlife Area. Unpublished senior thesis. University of California, Riverside, California.

National Marine Fisheries Service (NMFS). 2009. Final biological opinion and conference opinion on the long-term operations of the Central Valley Project and State Water Project. June 4, 2009.

Pixley Irrigation District. 2016 Crop Report submitted to Reclamation.

Pixley Irrigation District (Pixley). 2017. USBR Cross Valley Canal Interim renwal Contract Draft Evaluation of Non-Renewal Impacts. September 21, 2017.

San Joaquin Valley Air Pollution Control District. 2017. About the District – Making Progress. Website: http://www.valleyair.org/General_info/aboutdist.htm. Accessed: March 13, 2017.

Saucelito Irrigation District. 2016 Crop Report submitted to Reclamation.

State of California. 2013. California Water Plan – Volume 1 – The Strategic Plan, Chapter 3 – California Water Today, p 3-79. Website: http://www.water.ca.gov/waterplan/docs/cwpu2013/Final/04_Vol1_Ch03_Ca_Water_Today.pdf.

State of California Employment Development Department. 2016. Report 400C Monthly Labor Force Data for Counties December 2016 - Revised. Website: http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html. Accessed: January 10, 2018.

State of California Employment Development Department. 2017. Report 400C Monthly Labor Force Data for Counties November 2017 - Preliminary. Website: http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html. Accessed: January 10, 2018.

Stone Corral Irrigation District. 2016 Crop Report submitted to Reclamation.

Thomas, J.R., Jr. 1975. Distribution, population densities, and home range requirements of the Stephens' kangaroo rat (*Dipodomys stephensi*). Unpublished master's thesis, California Polytechnic University, Pomona. 64 pp.

Tri-Valley Water District. 2016 Crop Report submitted to Reclamation.

U.S. Census Bureau. 2018a. QuickFacts – California. Website: https://www.census.gov/quickfacts/table/PST045216/06. Accessed: January 10, 2018.

U.S. Census Bureau. 2018b. American Fact Finder. Website: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed: January 10, 2018.

U.S. Fish and Wildlife Service (USFWS). 1991. Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contractors (1-1-01-F-0027). Sacramento Fish and Wildlife Office, California. January 19, 2001.

U.S. Fish and Wildlife Service (USFWS). 1992. Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contractors (1-1-01-F-0027). Sacramento Fish and Wildlife Office, California. January 19, 2001.

U.S. Fish and Wildlife Service (USFWS). 1998. Recovery plan for upland species of the San Joaquin Valley, California. Region 1, Portland, OR. 319 pp.

U.S. Fish and Wildlife Service (USFWS). 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.

U.S. Fish and Wildlife Service (USFWS). 2001. Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contractors (1-1-01-F-0027). Sacramento Fish and Wildlife Office, California. January 19, 2001.

U.S. Fish and Wildlife Service (USFWS). 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.

U.S. Fish and Wildlife Service (USFWS). 2008. Formal Endangered Species Act consultation on the coordinated operations of the Central Valley Project and State Water Project (81420-2008-F-1481-5). December 15, 2008.

U.S. Fish and Wildlife Service (USFWS). 2017. Endangered Species Lists. Website: http://ecos.fws.gov/ipac/. Accessed: August 18, 2017.

Warrick, G.D., H.O. Clark, Jr., P.A. Kelly, and D.F. Williams, and B.L. Cypher. 2007. Use of agricultural lands by San Joaquin kit foxes. *Western North American Naturalist* 67:270-277.

Westlands Water District (Westlands). 2013. Water Management Plan 2012. April 19, 2013.

Williams, D.F. and A.C. Harpster. 2001. Status of the Buena Vista Lake shrew (*Sorex ornatus relictus*): final report in partial fulfillment of the Central Valley Project Improvement Act Section 3406(B)(1). Submitted to the Bureau of Reclamation, South-Central California Area Office, Fresno, California. 22 pp.