

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Central Valley Project Interim Renewal Contracts for Cities of Avenal, Coalinga, Huron and the California Department of Fish and Wildlife 2017-2019

EA-16-015



U.S. Department of the Interior
Bureau of Reclamation

January 2017

Mission Statements

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

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

Contents

| | Page |
|---|-----------|
| Section 1 Introduction | 1 |
| 1.1 Background..... | 1 |
| 1.1.1 Long-Term Renewal Contracts..... | 3 |
| 1.2 Need for the Proposed Action..... | 5 |
| 1.3 Scope..... | 5 |
| 1.4 Issues Related to CVP Water Use Not Analyzed | 6 |
| 1.4.1 Contract Service Areas | 6 |
| 1.4.2 Water Transfers and Exchanges..... | 6 |
| 1.4.3 Contract Assignments | 6 |
| 1.4.4 Warren Act Contracts | 6 |
| 1.4.5 Purpose of Water Use | 6 |
| Section 2 Alternatives Including the Proposed Action | 9 |
| 2.1 No Action Alternative..... | 9 |
| 2.2 Proposed Action..... | 9 |
| 2.2.1 Environmental Commitments | 10 |
| 2.3 Alternatives Considered but Eliminated from Further Analysis..... | 10 |
| Section 3 Affected Environment and Environmental Consequences..... | 13 |
| 3.1 Resources Eliminated from Further Analysis | 13 |
| 3.3 Biological Resources | 14 |
| 3.3.1 Affected Environment..... | 14 |
| 3.3.2 Environmental Consequences..... | 15 |
| 3.4 Environmental Justice..... | 16 |
| 3.4.1 Affected Environment..... | 16 |
| 3.4.2 Environmental Consequences..... | 17 |
| 3.6 Socioeconomic Resources | 17 |
| 3.6.1 Affected Environment..... | 17 |
| 3.6.2 Environmental Consequences..... | 17 |
| 3.7 Water Resources | 18 |
| 3.7.1 Affected Environment..... | 18 |
| 3.7.2 Environmental Consequences..... | 20 |
| Section 4 Consultation and Coordination..... | 23 |
| 4.1 Public Review Period..... | 23 |
| 4.2 List of Agencies and Persons Consulted..... | 23 |
| 4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)..... | 23 |
| Section 5 Preparers and Reviewers | 25 |
| 5.1 Reclamation | 25 |
| Section 6 References | 27 |
| Figure 1 Proposed Action Area..... | 7 |
| Table 1 Contractors Existing Contract Amounts and Expiration Dates | 3 |
| Table 2 Environmental Protection Measures and Commitments. | 10 |
| Table 3 Resources Eliminated from Further Analysis..... | 13 |

Table 4 City Demographics compared to State 16
Table 5 South-of-Delta CVP M&I Contract Allocations between 2005 and 2016 18

Appendix A Cities Contractor Service Area Maps
Appendix B Purpose and Methodology for Water Needs Assessments
Appendix C 2017 Water Needs Assessments
Appendix D Reclamation’s Cultural Resources Determination
Appendix E Concurrence Memo from the U.S. Fish and Wildlife Service

Section 1 Introduction

1.1 Background

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

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

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

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

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

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

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

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

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

In accordance with and as required by Section 3404(c) of the CVPIA, Reclamation proposes to execute four interim renewal contracts beginning March 1, 2017 (Table 1). These four interim renewal contracts would be renewed for a two-year period from March 1, 2017 through February

28, 2019. 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 Amounts and Expiration Dates

| Contractor | Contract Number | Contract Quantity (acre-feet) | Expiration of Existing Interim Renewal Contract |
|---|---------------------|-------------------------------|---|
| California Department of Fish & Wildlife ¹ | 14-06-200-8033A-IR4 | 10 | 2/28/2017 |
| City of Avenal | 14-06-200-4619A-IR4 | 3,500 | 2/28/2017 |
| City of Coalinga | 14-06-200-4173A-IR4 | 10,000 | 2/28/2017 |
| City of Huron | 14-06-200-7081A-IR4 | 3,000 | 2/28/2017 |

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

- EA-14-008, *Central Valley Project Interim Renewal Contracts for the Cities of Avenal, Coalinga, Huron and the California Department of Fish and Wildlife 2015-2017* (Reclamation 2015) which covered contract years² 2015 through 2017
- EA-12-046, *Central Valley Project Interim Renewal Contracts for the Cities of Avenal, Coalinga, Huron and the California Department of Fish and Game 2013-2015* (Reclamation 2013) which covered contract years 2013 through 2015
- EA-09-101, *San Luis Unit Water Service Interim Renewal Contracts 2010-2013* (Reclamation 2010) which covered contract years 2011 through 2013
- EA-07-056, *San Luis Unit Water Service Interim Renewal Contracts – 2008-2011* (Reclamation 2007) which covered the contract years 2008 through 2011

1.1.1 Long-Term Renewal Contracts

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

Reclamation completed long-term renewal contract environmental documentation in early 2001 for CVP contracts in the Friant Division, Hidden Unit, and Buchanan Unit of the CVP (Reclamation 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

¹ Previously known as California Department of Fish and Game

² A contract year is from March 1 of a particular year through February 28/29 of the following year.

Act of 2009 (Public Law 111-11), Reclamation entered into 24 Friant Division 9(d) Repayment Contracts by December 2010.

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

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

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

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

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

Reclamation completed long-term renewal contract environmental documents for the majority of the American River Division (Reclamation 2005g). The American River Division has seven contracts that are subject to renewal. The ROD for the American River long-term renewal contract EIS was executed for five of the seven contractors. Reclamation continues to work on long-term renewal contract environmental documentation for the other two remaining contractors.

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

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

1.2 Need for the Proposed Action

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

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

1.3 Scope

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

This EA does not analyze Delta exports of CVP water, as Delta exports is an on-going action and the diversion of CVP waters for export to South-of-Delta contractors was described in the PEIS

(see Chapter III of the PEIS). In addition, on January 11, 2016, Reclamation issued a ROD (Reclamation 2016) addressing the environmental effects of implementing reasonable and prudent alternatives (RPAs) affecting the CVP/SWP LTO. As the proposed execution of interim renewal contracts is administrative in nature and does not affect the operations of the CVP or SWP, this EA only covers the site specific environmental analysis of issuing the proposed interim renewal contracts over a two year period.

1.4 Issues Related to CVP Water Use Not Analyzed

1.4.1 Contract Service Areas

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

1.4.2 Water Transfers and Exchanges

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

1.4.3 Contract Assignments

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

1.4.4 Warren Act Contracts

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

1.4.5 Purpose of Water Use

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

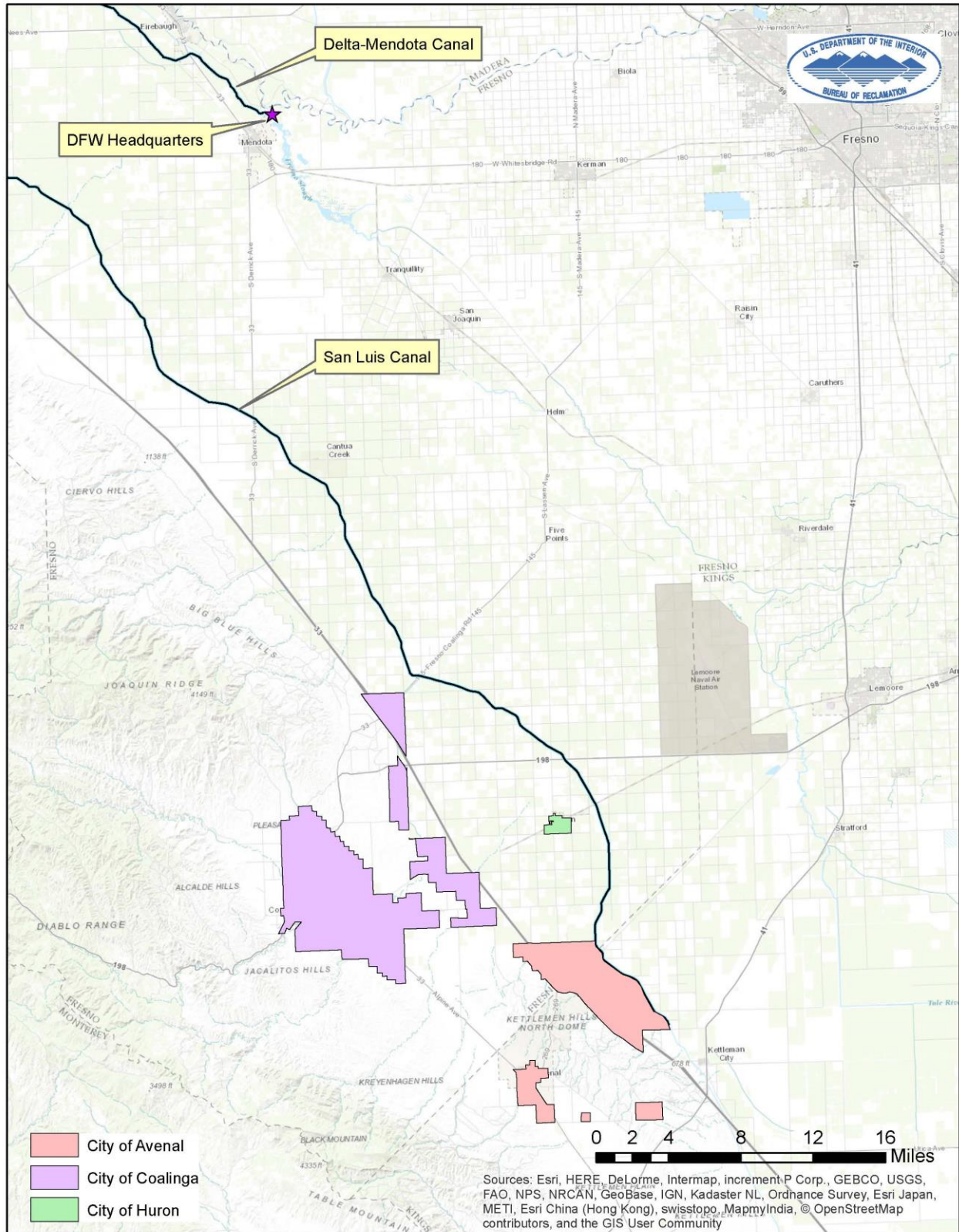


Figure 1 Proposed Action Area

THIS PAGE LEFT INTENTIONALLY BLANK

Section 2 Alternatives Including the Proposed Action

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

2.1 No Action Alternative

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

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

2.2 Proposed Action

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

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

- Execution of each interim renewal contract is considered to be a separate action.
- A two year interim renewal period is considered in the analysis, though contracts may be renewed for a shorter period.
- The contracts would be renewed with existing contract quantities as reflected in Table 1.

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

No changes to the contractors’ service areas or water deliveries are part of the Proposed Action. CVP water deliveries under the four proposed interim renewal contracts can only be used within each designated contract service area (see Appendix A for maps of the Cities contract service areas. The service area for CDFW is the Mendota Wildlife Area Management Office). 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 four interim renewal contracts contain provisions that allow for adjustments resulting from court decisions, new laws, and from changes in regulatory requirements imposed through re-consultations. Accordingly, to the extent that additional restrictions are imposed on CVP operations to protect threatened or endangered species, those restrictions would be implemented in the administration of the two interim renewal contracts considered in this EA, to the extent allowed by law. As a result, by their express terms, the interim renewal contracts analyzed herein would conform to any applicable requirements lawfully imposed under the federal ESA or other applicable environmental laws.

2.2.1 Environmental Commitments

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

Table 2 Environmental Protection Measures and Commitments.

| Resource | Protection Measure |
|-----------------|---|
| Water Resources | CVP water may only be served within areas that are within the CVP Place of Use. |
| Various | No new construction or modification of existing facilities would take place as part of the Proposed Action. |

2.3 Alternatives Considered but Eliminated from Further Analysis

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

Reclamation reviewed the previous Water Needs Assessments completed for the Cities of Avenal, Coalinga, and Huron in 2000 and determined that updates to the assessments were warranted. New Water Needs Assessments have been prepared for the Cities (Appendix C).

Although, CDFW did not require a Water Needs Assessment pursuant to the exemption criteria in Reclamation's methodology (see Appendix B), Reclamation prepared a Water Needs Assessment for CDFW for purposes of this EA (see Appendix C). Reclamation followed the same methodology used in the initial Water Needs Assessments with the following modifications:

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

As part of the Water Needs Assessment process, Reclamation reviewed the Cities most recent Water Conservation Plans³, conferred with the contractors to verify current water use, and determined that the numbers in the updated Water Needs Assessments (Appendix C) are a reasonable projection of water use for the benchmark year 2050.

The contractors' water demands were compared to their overall water supplies to determine the need for CVP water. As shown in Column 39 of Appendix C, the updated Water Needs Assessments indicate that the City of Avenal, City of Huron, and CDFW had unmet demands in 2015 of 361 AF, 25, AF, and 0 AF, respectively and would have unmet demands in the future (see the second bullet above regarding the year 2050) of 2,368 AF, 25 AF, and 2 AF, respectively. The City of Coalinga had a surplus in 2011 of 1,358 AF but would have unmet demands in the future of 727 AF.

Based on the updated Water Needs Assessments, Reclamation has determined that the Cities and CDFW have put their full contract quantity to beneficial use and will continue to do so in the future. As such, a reduction in contract quantity is not warranted for these contractors and Reclamation has eliminated a contract reduction alternative from further review.

³ The City of Avenal's Water Conservation Plan is currently under review by Reclamation and has not yet been finalized. Consequently, Reclamation used the City's current public health and safety numbers for its Water Needs Assessment.

THIS PAGE LEFT INTENTIONALLY BLANK

Section 3 Affected Environment and Environmental Consequences

This section describes the service area for the Cities of Avenal, Coalinga, and Huron as well as the CDFW Mendota Wildlife Area Management Office which receive CVP water from the Delta via the Delta-Mendota Canal and the San Luis Canal. The study area, shown in Figure 1, includes portions of Fresno and Kings Counties. Maps of the Cities individual contractor service areas can be found in Appendix A.

3.1 Resources Eliminated from Further Analysis

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

Table 3 Resources Eliminated from Further Analysis.

| Resource | Reason Eliminated |
|-----------------------|---|
| Air Quality | Under the Proposed Action, CVP water would continue to be conveyed through existing facilities either via gravity or electric pumps which would not produce air pollutant emissions that impact air quality. |
| Cultural Resources | There would be no impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. The pumping, conveyance, and storage of water would be confined to existing CVP facilities. Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). See Appendix D for Reclamation's determination. |
| Global Climate Change | The Proposed Action does not include construction of new facilities or modification to existing facilities. While pumping would be necessary to deliver CVP water, no additional electrical production beyond baseline conditions would occur. In addition, the generating power plant that produces electricity for the electric pumps operates under permits that are regulated for greenhouse gas emissions. As such, there would be no additional impacts to global climate change. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. Current data are not yet clear on the hydrologic changes and how they will affect the San Joaquin Valley. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility under either alternative. |
| Indian Sacred Sites | The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action. |
| Indian Trust Assets | The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. |
| Land Use | The interim renewal contracts for CDFW and the Cities of Avenal, Coalinga and Huron would not provide for additional water supplies that could act as an incentive for conversion of native habitat. All four contractors are solely M&I contractors and the use of water would not change from the purpose of use specified in their existing contracts. |

3.3 Biological Resources

3.3.1 Affected Environment

A list of federally listed threatened and endangered species and critical habitat that occur within project area and/or may be affected as a result of the Proposed Action was obtained on May 25, 2016, by accessing the Service database: <https://ecos.fws.gov/ipac/>. The list is summarized below and was generated for a polygon that encompassed the entire Action area. The federally endangered blunt-nosed leopard lizard (*Gambelia sila*), California jewelflower (*Caulanthus californicus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and San Joaquin woolly-threads (*Monolopia congdonii*) are addressed in this EA as they are the only species with the potential to occur within the Proposed Action area.

Reclamation has determined that the Proposed Action either lacks habitat or is outside of the range of the following species; therefore, these species are not considered further in this document.

- California condor (*Gymnogyps californianus*), Endangered
- California red-legged frog (*Rana draytonii*), Threatened
- California tiger salamander (*Ambystoma californiense*), Threatened
- delta smelt (*Hypomesus transpacificus*), Threatened
- giant garter snake (*Thamnophis gigas*), Threatened
- giant kangaroo rat (*Dipodomys ingens*), Endangered
- Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), Endangered
- vernal pool fairy shrimp (*Branchinecta lynchi*), Threatened

The Proposed Action area does not fall within any proposed or designated critical habitat.

Contractors' Service Areas

The service area for CVP water at the Mendota Wildlife Area does not contain any listed species habitat, as the water is only used at the headquarters. The City of Huron's service area for CVP water consists of urban and agricultural lands and thus this area provides habitat for the San Joaquin kit fox, which can use agricultural lands to some degree (Warrick et al. 2007); however, the City of Huron is not known to have an urban kit fox population. The Cities of Avenal and Coalinga have native lands that may provide habitat for the blunt-nosed leopard lizard, California jewelflower, San Joaquin kit fox, and San Joaquin woolly-threads; there are a number of records of these species in the area (CNDDDB 2016). There is an urban population of San Joaquin kit foxes in Coalinga (Bjurlin et al. 2005) and pups have been observed in the city (Cypher et al. 2012).

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

Biological Opinions for Coordinated Operation of the CVP and SWP In December 2008, USFWS issued a biological opinion analyzing the effects of the coordinated long-term operation of the CVP and SWP in California (USFWS 2008). The USFWS biological opinion concluded that "the coordinated operation of the CVP and SWP, as proposed, was likely to jeopardize the continued existence of the Delta smelt" and "adversely modify Delta smelt critical habitat." The

USFWS biological opinion included Reasonable and Prudent Alternatives (RPA) for CVP and SWP operations designed to allow the projects to continue operating without causing jeopardy or adverse modification. On December 15, 2008, Reclamation provisionally accepted and then implemented the USFWS RPA.

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

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

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

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

3.3.2 Environmental Consequences

No Action

Under the No Action alternative, the Cities and CDFW Mendota Wildlife Management Area office would no longer receive their sole source of water. Without water, the Cities would not be

able to support its current population and it is likely that homes and businesses would be abandoned. Impacts to listed species is not anticipated.

Proposed Action

Continued delivery of CVP water under the M&I contracts listed in Table 1 sustains the residential, commercial, and industrial activities that occur within the contract service areas of these M&I contractors. Urban, industrial, or municipal development proposed within areas of natural habitat remaining in the water service area of any of these contractors could destroy, modify, fragment, or degrade habitat of San Joaquin kit fox, blunt-nosed leopard lizard, California jewelflower, or San Joaquin woolly-threads. All of these cities are small and are not currently experiencing, nor are they anticipated to experience, significant growth over the next two years based on the current economic situation in California. In addition, the Cities have confirmed that they will not deliver water to development or converted habitat without confirmation from Reclamation or other evidence of compliance with the ESA. Therefore, Reclamation does not anticipate a change in the type and extent of development during the two-year duration of the interim renewal contracts and any potential effects of the Proposed Action on Federally listed species are expected to be very minor.

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 biological resources in the Action area. The Proposed Action would continue the delivery of the same contractual amount of water to the same lands without the need for additional facility modifications or construction. 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

As shown in Table 4, the minority population within the Cities are greater than the California average. The Cities of Avenal and Huron have twice the percent population living below poverty compared to the State of California. Coalinga also has a larger percent of their population living below poverty.

Table 4 City Demographics compared to State

| Demographics | Avenal | Coalinga | Huron | California |
|----------------------------------|---------------|-----------------|--------------|-------------------|
| Total Population (2010 estimate) | 15,505 | 18,089 | 6,745 | 37,254,503 |
| White, non-Hispanic | 15.4% | 37.7% | 1.5% | 40.1% |
| Black or African American | 10.5% | 4.1% | 1.0% | 6.2% |
| American Indian or Alaska Native | 1.2% | 1.3% | 1.1% | 1.0% |
| Asian | 0.7% | 3.0% | 0.6% | 13.0% |

| Demographics | Avenal | Coalinga | Huron | California |
|--|---------------|-----------------|--------------|-------------------|
| Native Hawaiian/Pacific Islander | <0.1% | 0.3% | 0.1% | 0.4% |
| Hispanic or Latino | 71.8% | 53.5% | 96.6% | 37.6% |
| June 2012 Unemployment rate | 20.3% | 8.9% | 12.5% | 10.6% |
| % Total Population Identified as Minority | 84.6 | 62.3 | 98.5 | 59.9% |
| % Total Population Below Poverty Level (2011-2015) | 36.4 | 23.2 | 35.8 | 16.3 |

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

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, CDFW and the Cities would not receive a CVP contract. All four contractors rely on CVP water as their sole source of water. Without a water supply, these communities would end up abandoning homes and businesses resulting in a substantially adverse impact to minority and disadvantaged populations due to additional financial burdens placed on an already economically impacted area.

Proposed Action

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

Cumulative Impacts

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

3.6 Socioeconomic Resources

3.6.1 Affected Environment

Demographic information for the Cities is summarized in Table 4. In June 2012, unemployment rates for the City of Avenal were about 10% greater than the State. The Cities of Coalinga and Huron are within 2% of the State's.

3.6.2 Environmental Consequences

No Action

Under the No Action alternative, the four contractors would no longer have their sole source of water. The cost of purchasing water, if available, on the open market would make water supply rates for the Cities' customers unsustainable as the rates tend to be more than 10 times greater than the rates for CVP water supplies. Without a water supply, the Cities would end up abandoning homes and businesses resulting in a substantially adverse impact to socioeconomics in an already economically impacted area.

Proposed Action

The proposed execution of interim renewal contracts would not result in a change in contract water quantities or a change in water use and would continue water deliveries within the contractors' respective service areas. As a result, the municipal viability for the Cities 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 for each contractor without the need for additional facility modification or construction. As such, there would be no cumulative adverse impacts to socioeconomics.

3.7 Water Resources**3.7.1 Affected Environment**

The Proposed Action area includes the CVP service areas of CDFW and the Cities of Avenal, Coalinga, and Huron as well south-of-Delta CVP facilities.

Central Valley Project

Reclamation makes CVP water available to contractors for reasonable and beneficial uses, but this water is generally insufficient to meet all of the contractors' water supply needs due to hydrologic conditions and/or regulatory constraints. As shown in Table 5, south-of-Delta CVP M&I allocations averaged 72 percent between 2005 and 2016. A 100 percent was only received in 2011, 2006 and 2005.

Table 5 South-of-Delta CVP M&I Contract Allocations between 2005 and 2016

| Contract Year | M&I Allocations (%) |
|-------------------|---------------------|
| 2016 | 55 ² |
| 2015 | 25 ³ |
| 2014 ² | 50 |
| 2013 | 70 |
| 2012 | 75 |
| 2011 | 100 |
| 2010 | 75 |
| 2009 | 60 |
| 2008 | 75 |
| 2007 | 75 |
| 2006 | 100 |
| 2005 | 100 |
| Average | 72 |

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 even more severe contractual shortages applicable to south-of-Delta water deliveries (Reclamation 1999), and this information has been incorporated into the modeling for the current CVP/SWP Coordinated Operations of the Delta (Reclamation 2004).

Contractor Water Needs Assessment

As discussed in Section 2.3.1, an updated Water Needs Assessment (Appendix C) was developed for the Cities of Avenal, Coalinga, Huron, and CDFW. All four contractors show an unmet demand for the year 2050 and are deemed to have full future need of the maximum annual CVP water supply currently under contract for all year types.

City of Avenal

The City of Avenal's sole water supply source is CVP water delivered from the San Luis Canal. All of Avenal's CVP water supply is used for M&I purposes. Under a formal agreement, Avenal supplies Avenal State Prison with 1,411 AF of water annually. The City also provides water service to the urbanized portions of Avenal and a limited number of connections in the northern portion of the community. CVP water is treated at Avenal's water treatment plant prior to distribution to local water users. Avenal does not pump groundwater as the poor quality of the groundwater and its high concentrations of sulfate, nitrates, and sodium preclude its use for domestic purposes.

CVP Contracts On November 20, 1969 the City of Avenal signed a long-term contract (Contract 14-06-200-4619A) with Reclamation for up to 3,500 AF of CVP water annually (Reclamation 1969). This contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was the fourth interim renewal contract (Contract 14-06-200-4619A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

City of Coalinga

The City of Coalinga's sole water supply source is CVP water obtained at a single turnout from the Coalinga Canal, operated by Westlands Water District, which is fed by the San Luis Canal. The City of Coalinga supplies potable water to almost all of the residences within its service area. CVP water is treated at Coalinga's water treatment plant prior to distribution to local water users. Of the approximately one dozen farmers in and near the City of Coalinga's water service area, none receive water from the City for farming purposes, but domestic water is provided because of the very poor domestic quality of the groundwater. Coalinga does not pump groundwater as the initial long-term contract required Coalinga to abandon pumping groundwater and to depend on its CVP supply as its M&I water supply.

CVP Contracts On October 28, 1968 the City of Coalinga signed a long-term contract (Contract 14-06-200-4173A) with Reclamation for up to 10,000 AF of CVP water annually (Reclamation 1968). This contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was the fourth interim renewal contract (Contract 14-06-200-4173A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

City of Huron

The City of Huron's sole water supply is CVP water received from a lateral connection to the San Luis Canal. Water is transported to Huron via Lateral 27, which is operated by Westlands Water District. CVP water is treated at Huron's water treatment plant prior to distribution to local water users. Huron does not pump groundwater as the groundwater in the area is very deep, of poor quality, and almost non-potable.

CVP Contracts On September 26, 1972 the City of Huron signed a long-term contract (Contract 14-06-200-7081A) with Reclamation for a maximum of 3,000 AF of CVP water annually (Reclamation 1972). This contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was the third interim renewal contract (Contract 14-06-200-7081A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

California Department of Fish and Wildlife

CDFW currently receives 10 AF of M&I water for domestic use at the headquarters of the Mendota Wildlife Area. The headquarters consists of five houses, a conference hall, and a workshop, located on approximately one acre of land near Mendota, California (Figure1). There is an on-site water treatment facility that is used to treat the CVP water before it is used for landscaping and at the visitor's center and employee residence. The CVP supply is CDFW's only water supply used at this facility. CDFW does not own or operate groundwater wells.

CVP Contracts On January 1, 1976 the CDFW signed a long-term contract (Contract 14-06-200-8033A-LTR1) with Reclamation to supply 10 AF of supply for domestic use at the Mendota Wildlife Area headquarters, near the City of Mendota (Reclamation 1976). This contract expired December 31, 2008 and has been succeeded by a series of interim renewal contracts pending completion of site specific environmental analysis for the long-term contract renewal. The most recent was the fourth interim renewal contract (Contract 14-06-200-8033A-IR4) issued March 1, 2015, which remains in effect until February 28, 2017.

South-of-Delta Facilities

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

3.7.2 Environmental Consequences

No Action

Under the No Action alternative, the Cities and DFW would not have a CVP contract in place in order to receive a CVP contract water allocation (up to 3,500 AFY for Avenal, up to 10,000 AFY for Coalinga, up to 3,000 AFY for Huron, and up to 10 AFY for CDFW). This is the only water supply available to these contractors and would result in substantial adverse impacts to these contractors.

Proposed Action

Under the Proposed Action, Reclamation would execute a two-year interim renewal contract with the Cities and CDFW in order to continue to provide CVP water. There would be no change from conditions under the existing interim renewal contract as CVP water would be placed to beneficial use within the authorized CVP place of use as it has in the past. Water delivery during the interim renewal contract period would be up to the respective contract total and would not exceed historic quantities. As the delivery of CVP water would be done through existing infrastructure for existing uses, the Proposed Action would not result in impacts to water resources.

Cumulative Impacts

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

THIS PAGE LEFT INTENTIONALLY BLANK

Section 4 Consultation and Coordination

4.1 Public Review Period

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

4.2 List of Agencies and Persons Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- City of Avenal
- City of Coalinga
- City of Huron
- California Department of Fish and Wildlife
- U.S. Fish and Wildlife Service

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

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

Reclamation consulted with the USFWS on the Proposed Action and received concurrence on January 4, 2017 (Appendix E).

THIS PAGE LEFT INTENTIONALLY BLANK

Section 5 Preparers and Reviewers

5.1 Reclamation

Jennifer L. Lewis, Natural Resources Specialist, SCCAO

Joanne Goodsell, Archaeologist, MP-153

Erma Leal, Repayment Specialist, SCCAO – reviewer

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

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

THIS PAGE LEFT INTENTIONALLY BLANK

Section 6 References

Bjurlin, C.D., B.L. Cypher ., C.M. Wingert, and C.L. Van Horn Job. 2005. Urban roads and the endangered San Joaquin kit fox. California State University-Stanislaus, Endangered Species Recovery Program, Fresno, California.

Bureau of Reclamation (Reclamation). 1968. Contract Between the United States and the City of Coalinga Providing for Water Service. Contract 14-06-200-4173A. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 1969. Contract Between the United States and the Avenal Community Services District Providing for Water Service. Contract 14-06-200-4619A. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 1972. Contract Between the United States and the City of Huron Providing for Water Service and Repayment of a Portion of the Cost of Distribution System Construction and Operation and Maintenance. Contract 14-06-200-7081A. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 1976. Contract Between the United States and the California Department of Fish and Game Providing for Water Service. Contract 14-06-200-8033A. Mid-Pacific Region South-Central California Area Office. Fresno, 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). 2001. Final Environmental Assessment for the Friant Division Long-term Contract Renewal. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2004. 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. Final Environmental Assessment for the Delta-Mendota Canal Unit Environmental Assessment for Long-term Contract Renewal. Mid-Pacific Region South Central California Area Office. Fresno, California.

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

Bureau of Reclamation (Reclamation). 2010. Final Environmental Assessment for the San Luis Unit Water Service Interim Renewal Contracts 2010-2013 (EA-09-101). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2013. Central Valley Project Interim Renewal Contract for the Cities of Avenal, Coalinga, Huron and the California Department of Fish and Game 2013-2015 (EA-12-046). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

Bureau of Reclamation (Reclamation). 2015. Central Valley Project Interim Renewal Contract for the Cities of Avenal, Coalinga, Huron and the California Department of Fish and Game 2015-2017 (EA-14-008). Central Valley Project, California. Mid-Pacific Region South-Central California Area Office. Fresno, California.

California Natural Diversity Database (CNDDDB). 2016. CNDDDB personal computer program updated May 2016. Sacramento, CA. From web at http://www.dfg.ca.gov/biogeodata/cnddb/rf_ftpinf.asp.

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

State of California. 2012. Labor Force and Unemployment Rates for Cities and Census Designated Places. Employment Development Department. Website: <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133>. Accessed: August 2012.

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

U.S. Census Bureau, 2011-2015. American Community Survey 5-Year Estimates. Website: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#. Accessed: January 2017.

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

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