



United States Department of the Interior
2020 JAN 34 PM 2:10




In Reply Refer to:
08ESMF00-
2020-I-0800

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

JAN 30 2020

Memorandum

To: Chief, Environmental Compliance Branch, U.S. Bureau of Reclamation, South-Central California Area Office, Fresno, California

From: Chief, San Joaquin Valley Division, Endangered Species Program, Sacramento Fish and Wildlife Office, Sacramento, California 

Subject: Informal Consultation on the Central Valley Project Cross Valley Contractors Interim Renewal Contracts 2020-2022 (19-044)

This memorandum is in response to the U.S. Bureau of Reclamation's (Reclamation) November 29, 2019, request for concurrence with the determination that the proposed execution of Central Valley Project (CVP) Interim Renewal Water Service Contracts (IRCs) for Cross Valley (CV) Contractors and Article 5 Exchanges, from March 1, 2020 to February 28, 2022, may affect, but is not likely to adversely affect (NLAA) the federally-listed as endangered Buena Vista Lake ornate shrew (*Sorex ornatus relictus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), blunt-nosed leopard lizard (*Gambelia sila*), Kern mallow (*Eremalche kernensis*), and San Joaquin woolly-threads (*Monolopia congdonii*). The districts involved in the CV IRCs and Article 5 Exchanges are located within Fresno, Kern, Tulare, and Kings Counties. Your request was received in our office on December 18, 2017. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is the two year-renewal of CV IRCs beginning on March 1, 2020, and ending February 28, 2022, as well as potential Article 5 Exchanges involving the CV IRC districts and other CVP and non-CVP recipients. Pursuant to 50 CFR 402.12(j), you submitted a Biological Evaluation (BE) for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is NLAA the Buena Vista Lake ornate shrew, San Joaquin kit fox, Tipton kangaroo rat, blunt-nosed leopard lizard, Kern mallow, and San Joaquin woolly-threads.

Reclamation has requested initiation of informal consultation under the Act. In considering your request, we based our evaluation on the following information: (1) the November 29, 2019, request for consultation, (2) a BE for the CV IRCs dated November 2019, (3) Central Valley Project Habitat Mapping Program (CVPHMP) land use change maps between 2006 and 2011 for CV IRC districts and Article 5 Exchange participants provided by Reclamation's Regional Office to the Service on January 6, 2016, (4) information provided by Reclamation's South Central California Area Office for

the 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, and 2016 consultations involving CV IRCs, and (5) other information available to the Service.

01-19-15 11:11 AM

Reclamation has determined that the proposed project will have no effect on the federally-listed species or critical habitats identified in Appendix A of the BE and is not requesting concurrence with those determinations. These no effect determinations are predicated on the conclusion that these species are not adapted to highly disturbed conditions, would not become established on land that had been fallowed for less than three years and would not occur on land that is being cultivated or is highly disturbed. These determinations of “no effect” are also based on an environmental commitment stipulating that “no native or untilled land (fallow for three consecutive years or more) may be cultivated with this water,” with proposed changes to the contract service area requiring “separate environmental documentation and approval” (land conversion commitment).

Reclamation is requesting concurrence with NLAA for those species that could occupy or colonize lands that are fallowed for less than three years within the CV IRCs and Article 5 Exchanges: the Buena Vista Lake ornate shrew, San Joaquin kit fox, Tipton kangaroo rat, blunt-nosed leopard lizard, Kern mallow, and San Joaquin woolly-threads. These species were considered able to move onto, or sprout from the seedbanks on, lands that could be fallowed less than 3 years and could potentially be affected by such fallowed lands being brought back into production. The information provided for this consultation, as well as the short duration of this project and land conversion commitment in provides the basis for the Service to concur with Reclamation’s determination that the CV IRCs and Article 5 exchanges are NLAA the species listed above.

The Service’s Sacramento Fish and Wildlife Office issued a biological opinion on long-term renewal of the Friant and CV CVP water service contracts (Friant BiOp) on January 19, 2001 (File No. 01-F-0027). As part of that consultation, the Friant Division and CV contractors sought and received Applicant status under the Act. Reclamation, however, has not yet executed the long term contracts for the CV contracts. Compliance with the Act for the CV IRCs is governed by the commitments made in the Friant BiOp. For the purposes of this consultation, and as outlined in the BA for this action, all conservation measures and Applicant commitments described in the Friant BiOp apply to CV IRCs for the period of March 1, 2018 through February 29, 2020, or until long-term contracts for the CV contractors are executed, whichever comes first. These measures are summarized in Appendix B. Interim contract renewals of CV water service contracts will not result in additional adverse effects to listed species beyond those analyzed in the Friant BiOp. We therefore are only considering Reclamation’s concurrence request for listed species within Article 5 exchange recipient districts and on lands fallowed for less than 3 years within CV IRC.

The consultation history, prior to the current proposed project, was identified in detail in previous consultations on these contracts and is hereby incorporated by reference (Service Files Nos., 00-F-0056, 02-F-0070, 04-F-0360, 06-F-0070, 08-F-0944-1 and -2, 12-I-0255, 14-I-0040, and 16-I-0341).

Relationship of the Proposed Project to Other Reclamation Consultations

Coordinated Long-Term Operation of the CVP and State Water Project (OCAP)

The effects of water exports from the Delta on protected species are addressed separately by NMFS and Service in consultations on continued long-term operation of the CVP and State Water Project (SWP) referred to as OCAP. Biological Opinions on OCAP have been issued by NMFS (2009) and Service (December 15, 2008, Service File 08-F-1481-5) for the effects of the continued long-term operation of the CVP and SWP. However, since that time, the United States Court, Eastern District of California remanded the OCAP BiOps and Reclamation was ordered by the Court to comply

with NEPA before accepting the Reasonable and Prudent Alternatives of the BiOps. Subsequently, the OCAP BiOp issued by the Service was upheld by another Court ruling¹. Reclamation has since signed a Record of Decision for OCAP supported by the Coordinated Long-term Operation of the Central Valley Project and State Water Project Final Environmental Impact Statement. The Preferred Alternative identified in the OCAP Final EIS and the Reclamation's decision included in the ROD is to implement the No Action Alternative. The No Action Alternative contains all of the Reasonable and Prudent Alternative actions in the 2008 U.S. Fish and Wildlife Service and 2009 National Marine Fisheries Service Biological Opinions².

Changes to County of Fresno Service Area #34

The Service has been involved in several consultations involving County of Fresno Service Area #34 (a CV IRC contractor). The Service completed a formal consultation on January 7, 2009 on the proposed Millerton New Town (MNT) Tract 4870 change in service area (File 08-F-1248). On March 21, 2014 the Service completed a reinitiated formal consultation on Millerton New Town Tract 4870 to increase the size of the action area. The Service also completed formal consultation with Reclamation on August 28, 2015 on the authorization of three long-term water transfers to Fresno County from Arvin-Edison Water Storage District and Terra Bella Irrigation District (Friant contractors) and the Lower Tule River Irrigation District (a Friant and CV IRC contractor) for a proposed development in the Millerton New Town Specific Plan Area (MNTSPA; File No. 09-F-0873). The MNTSPA considered in that consultation does not include the 88 acres that were considered in the formal consultation on Millerton New Town Tract 4870.

Project Description

This informal consultation is a reinitiation of previous consultations on IRCs that involved these CV contracts, and those consultations are included here by reference (Service File Nos., 00-F-0056, 02-F-0070, 04-F-0360, 06-F-0070, 08-F-0944-1 and -2, 2012-I-0255, and 2014-I-0040, and 2016-I-0341). This consultation on CV IRCs, detailed in Table 1, was established pursuant to Section 3404(c) of the Central Valley Project Improvement Act (CVPIA) and addresses the effects of the proposed renewal of the CV IRCs for a two-year period from March 1, 2018 to February 29, 2020. The water supplied through these contracts will be used within the CVC districts and may be exchanged to other districts, as shown in Figure 1, for agricultural, municipal, and industrial purposes, and will not exceed water allocations determined by existing CVP operations criteria. Interim CVP water contract renewals are consistent with the tiered implementation of the CVPIA, as described in the biological opinion on Implementation of the CVPIA (Service File 98-F-0124).

This consultation addresses the effects of the proposed renewal of eight IRCs in the CV Unit of the CVP, which are executed in accordance with Section 3401(c) of the CVPIA for a maximum period of 2 years. Some of the CV contractors are composed of several subcontractors. Altogether, there are fifteen water suppliers within the group known as the CV contractors. Under the IRCs, CV contractors can receive up to 128,300 acre-feet/year of CVP water. The CV contract service areas are located along the eastern side of the southern San Joaquin Valley. The water delivered for these IRCs will be used for agricultural, municipal, and industrial purposes, and will not exceed water allocations determined by existing CVP operations criteria established in the OCAP BiOps.

¹ see: http://www.fws.gov/sfbaydelta/documents/APPELLATE-315077-v1-Delta_smelt_II_--_panel_decision.pdf.

² The ROD and Final EIS for OCAP are available at:
http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=21883

The proposed project will continue existing IRCs for the CV contractors, with only minor administrative changes to the contract provisions to update the previous IRCs for the new contract period. No changes to CV contract service areas or water deliveries are part of the proposed project. Central Valley Project water deliveries under the CV IRCs can only be used within each designated contract service areas.

Article 5 Exchanges

In addition to the CV interim contracts, the proposed project includes Reclamation's approval of the CV contractors' exchange arrangements with individually proposed exchange partners for the 2018 and 2019 contract years (March 1, 2018 through February 29, 2020) for up to the full CV contractors' CVP contract supply of 128,300 acre-feet/year. Beginning in 1975, the first CV

Table 1. Cross Valley Contractors' Contract Quantities and Expiration Dates.

Contractor	Existing IRC #	Contract Quantity (AF)	Purpose of Use	Expiration Date
County of Fresno ³	14-06-200-8292A-IR16	3,000	Agriculture and M&I	2/29/2020
County of Tulare ⁴	14-06-200-8293A-IR16	5,308	Agriculture and M&I	2/29/2020
Hills Valley Irrigation District	14-06-200-8466A-IR16	3,346	Agriculture and M&I	2/29/2020
Kern-Tulare Water District (KTWD) ⁵	14-06-200-8601A-IR16	40,000	Agriculture and M&I	2/29/2020
Kern-Tulare Water District (Rag Gulch Water District) ⁴	14-06-200-8367A-IR16	13,300	Agriculture and M&I	2/29/2020
Lower Tule River Irrigation District	14-06-200-8237A-IR16	31,102	Agriculture and M&I	2/29/2020
Pixley Irrigation District	14-06-200-8238A-IR16	31,102	Agriculture and M&I	2/29/2020
Tri-Valley Water District	14-06-200-8565A-IR16	1,142	Agriculture and M&I	2/29/2020
Total		128,300		

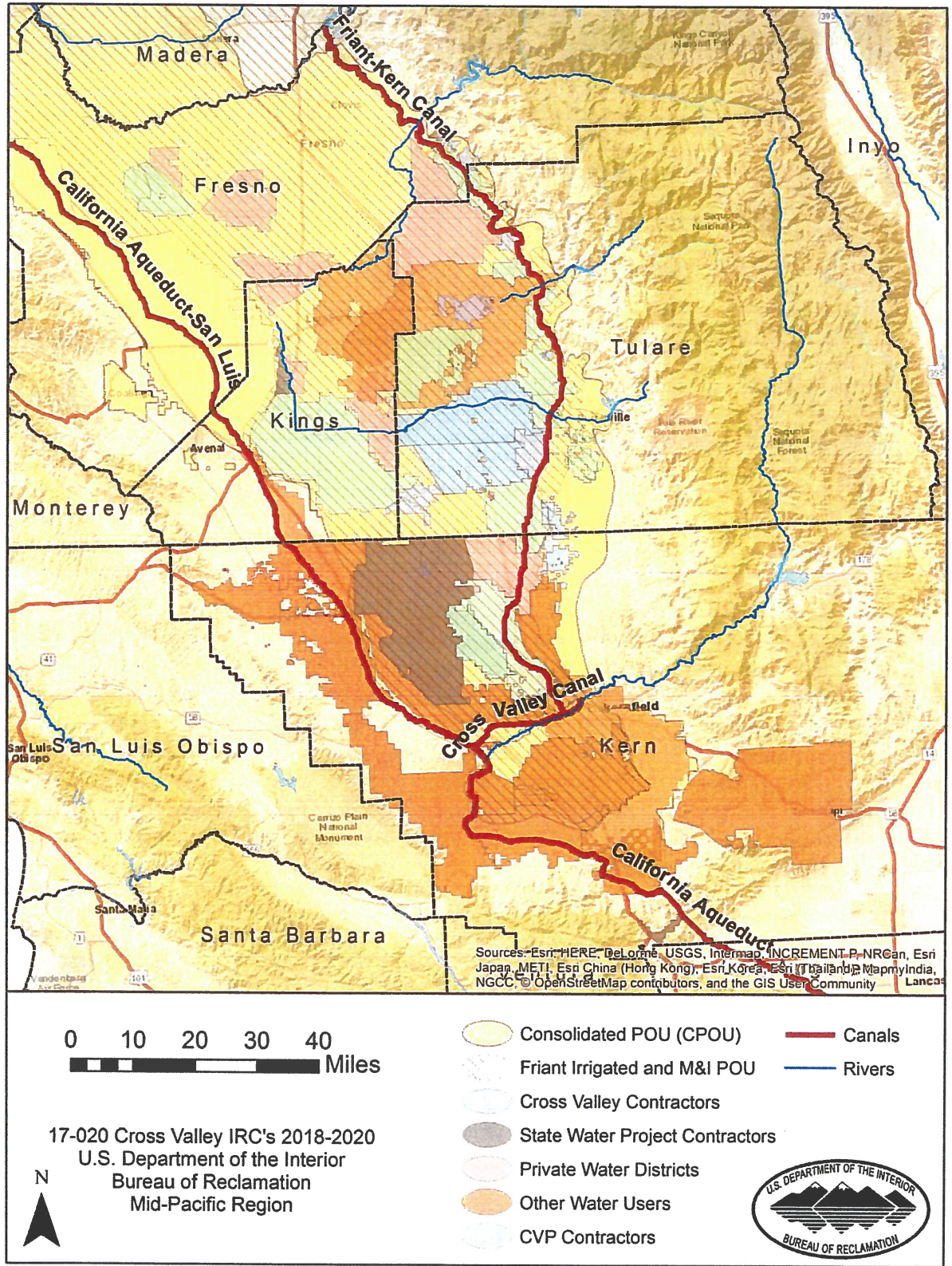
contractors entered into three-party contracts with Reclamation and the Department of Water Resources (DWR). Pursuant to these contracts, Reclamation provided long-term water service and DWR provided conveyance for the CV contractors. Although the CV contractors are situated on the eastside of the San Joaquin Valley amid the Friant Division CVP contractors (who receive their CVP supplies from the San Joaquin River stored in Millerton Lake via the Friant Kern Canal), for the CV contractors CVP water is not delivered from the San Joaquin River but is pumped from the Delta by the DWR and/or Reclamation. Reclamation may store the water in San Luis Reservoir and convey it in the San Luis Canal (SLC)/California Aqueduct for delivery to the CV contractor(s). Due to direct conveyance hurdles, Reclamation envisioned that the CV contractors would obtain their CVP supplies via exchanges.

³ County of Fresno includes County Service Area #34.

⁴ County of Tulare subcontractors include Alpaugh Irrigation District, Atwell Island Water District, Hills Valley Irrigation District, Saucelito Irrigation District, Stone Corral Irrigation District, City of Lindsay, Strathmore Public Utility District, Styrotek, Inc., and the City of Visalia.

⁵ KTWD and Rag Gulch Water District have consolidated their two districts into one district, under KTWD's name through a contract assignment of Rag Gulch Water District's assigned IRC (for 13,300 AF). As part of that assignment, KTWD has committed to maintain the effective separation of the two districts in terms of how much water is delivered and applied where, until the long-term water service contracts are negotiated and appropriate environmental compliance is completed.

Figure 1. CV IRC and Article 5 Exchange Participant Districts (source: USBR)



The exchange arrangements are set forth in Article 5(a) of the CV contractors' interim water service contracts, which states the following:

POINT OF DIVERSION AND RESPONSIBILITY FOR DISTRIBUTION OF WATER

5. (a) Project Water scheduled pursuant to subdivision (b) of Article 4 of this Contract shall be delivered to the Contractor at a point or points of delivery either on Project and/or state facilities or another location or locations mutually agreed to in writing by the Contracting Officer, DWR, and the Contractor. The parties acknowledge that Project Water to be furnished to the Contractor pursuant to this Contract shall be conveyed by DWR and delivered to the Contractor by direct delivery via the Cross Valley Canal and/or by exchange arrangements involving Arvin-Edison Water Storage District or others. The parties further acknowledge that such exchange arrangements are not transfers subject to Section 3405(a) of CVPIA. Notwithstanding Article 9 of this Contract, such exchange arrangements, other than the previously approved exchange arrangements with Arvin-Edison Water Storage District, shall be submitted to the Contracting Officer for approval in accordance with principles historically applied by the Contracting Officer in approving Cross Valley exchange arrangements. DWR shall have no obligation to make such exchange arrangements or be responsible for water transported in facilities that are not a part of the SWP.

The proposed project would also include the continued historical exchanges between the CV contractors and Arvin Edison Water Storage District (AEWSD). A description of other CVP contractors and non-CVP contractors that are potential exchange partners can be found in Appendix C. Some of these districts have sub-entities which may include CVP and/or SWP contractors. In some cases, the diversions of non-CVP water from rivers, creeks and ditches, is based on the total runoff in any given hydrological season. The districts receive a percentage of the runoff and no specific limit exists to the total annual supply. The total amount of non-CVP water is difficult to quantify; therefore, average water supplies are depicted.

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, under the proposed project, imbalanced exchange arrangements would be permitted but limited to a ratio of 2:1. Proposed exchange arrangements exceeding this amount are not within the scope of this analysis and subsequent environmental review(s) would be required. Possible exchange scenarios and mechanisms are identified in Appendix C.

CVP water may be wheeled under Article 55 of a SWP contract as one component of the exchange. Article 55 of the SWP contracts allows for the SWP contractor to convey non-SWP water in their increment of capacity in the Aqueduct. Under this scenario, a SWP contractor would request DWR to convey a CV 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 the California water rights permits. Water supplies will be used in compliance with the applicable water rights permits and conform to the applicable purpose and place-of-use of the associated water rights permit.

Project Area

The CV districts or sub-entities and recipient districts of Article 5 Exchanges included in the proposed project are located in the southern end of the San Joaquin Valley (SJV), in parts of Fresno, Kern, Kings, and Tulare Counties (Figure 1). The action area encompasses all the areas of the listed

contractors and irrigation/water districts that are also located within either or all of the following: CVP Consolidated and Conformed Place of Use (POU), Friant Ag POU and Friant Ag & M&I POU. Each place of use is specific to the origin and use of the water, and refers to those geographic areas that can legally be served with CVP water. The action area for water districts such as the Kern County Water Agency (whose boundaries extend to the limits of Kern County) only extends to the boundary of the CVP Consolidated and Conformed POU.

The action area extends from the northern end of Fresno County along the San Joaquin River, to southern Kern County where the Tehachapi Mountains ring the southern end of the Central Valley. The eastern edge of the action area extends slightly into the Sierra Nevada foothills. Its boundary line meanders from 5 to 20 miles east of Highway 99. The western boundary extends to the foothills of the Diablo Range, and roughly follows Interstate 5 from its intersection with Highway 41 southward.

Conservation Measures

For the purposes of this consultation, and as outlined in the BA for this proposed project, the conservation measures found in Appendix B from the CVPIA BiOp apply to the CV IRCs for the period of March 1, 2020, through February 28, 2022, or until long-term contracts are executed, whichever occurs first. In addition, the following commitments are part of the proposed project:

- The exchanged water may be applied only to lands located within the appropriate Place of Use boundaries⁶;
- No native or untilled land (fallow for three consecutive years or more) may be cultivated with this water;
- No new construction or modification of existing facilities is to occur in order to complete the proposed project;
- No changes in the point of diversion or places-of-use without prior approvals from the State Water Resources Control Board, Reclamation, and/or DWR as applicable;
- 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 habitats; and
- All exchanges must comply with all applicable federal, state and local laws, regulations, permits and policies.
- Reclamation will review each transfer associated with the exchange proposal for compliance with the above conditions to determine that the action is consistent with the criteria described within this analysis prior to approval and execution of the action.

Any transfer with an exchange proposal will require an approval letter from the Contracting Officer. The approval letter will include requirements for compliance with all environmental commitments associated with the proposed project. An Environmental Commitment Plan (ECP) will be provided to all participants in the exchange arrangements as part of the approval process which will require annual verification during the term of the IRC.

⁶There are three relevant Places of Use: the Consolidated Place of Use, the Friant, Ag only Place of Use, and the Friant Ag & M&I Place of Use. The Cross Valley contractors would get some Friant water and thus the Friant Places of Use would apply to them. However, the exchangees would receive delta water, and thus the Consolidated Place of Use would apply for those districts.

Key Assumptions Associated with CVP Consultations

Because of the complex history as well as the complex present environmental and regulatory context of IRCs, and because this action is related to a number of other Reclamation actions, the Service has made a number of assumptions about likely future events and context of the interim renewal action. The following list of key assumptions has been central to our effects analysis:

1. Reclamation will continue to adhere to the conservation measures from previous IRC consultations, specifically to ensure that project water is not used in a manner that adversely affects listed, proposed or candidate species. The Service considers the scope of this conservation measure to include the assurance that project water will not be used in whole or in part to facilitate the conversion of existing natural habitat to agricultural or other purposes and this determination is essential to the conclusions made regarding the overall effects of the proposed project. If this fundamental assumption is not valid, then the effects analysis and conclusion of this consultation will need to be reviewed.
2. Reclamation will continue to implement in a timely manner relevant environmental commitments, conservation measures, and terms and conditions from other biological opinions as appropriate. These commitments include implementation of the CVPIA and Friant BiOps. Other CVP-related, non-CVPIA actions benefiting fish, wildlife, and associated habitats and related to effects of IRCs will continue, with at least current funding levels, including:
 - a. the Central Valley Habitat Monitoring Program's Comprehensive Mapping;
 - b. implementation of the Central Valley Habitat Monitoring Program's Land Use Monitoring and Reporting; and,
 - c. CVP Conservation Program and CVPIA B(1)(other) Habitat Restoration Program.
3. The analysis for this determination is based on the assumption that CVP water contract amounts and deliveries will remain consistent with those provided and analyzed in the Final PEIS for CVPIA and the 2008 OCAP biological opinion.

CVPHMP Mapping

The CV IRCs remain subject to the conservation measures, Applicant Commitments, and non-discretionary terms and conditions, as applicable, in the CVPIA and Friant BiOps. The CV IRCs also remain subject to conservation measures, Applicant Commitments, and non-discretionary terms and conditions from the formal consultation and reinitiated consultation on the Millerton new Town Tract 4870 Change in Service Area for the Water Service Contract for the County of Fresno, Service Area No. 34 (File No. 08-F-1248) and the formal consultation on Long Term Water Transfers for Millerton New Town Specific Plan Area (File No. 08-F-0873), as County of Fresno is one of the CV contractors included in this consultation.

We note that Reclamation's determinations are based on Reclamation's conclusion that CVP IRC deliveries do not result in land use changes that would adversely affect federally-listed species or critical habitat. The Service's most current information, based on the 2006-2011 mapping data and the December 2017, BA analysis, indicates that land conversion occurred within the CV service area between 2006-2011 and 2010-2017 as an indirect effect of CVP water deliveries, conveyance, storage, and exchanges. However, it is the Service's understanding that the commitments included in the proposed project, and summarized in Appendix B, will be implemented and no further land

conversion will occur as a result. Due to Reclamation's commitments and the short-term nature of the proposed project, the Service concurs with Reclamation's effects determination for the species considered in this consultation. To facilitate future consultations and increase the reliability of this mapping to evaluate conditions on the ground, we ask that prior to the next CV IRCs or long-term contract renewals, whichever comes first, that Reclamation work collaboratively with the Service to interpret, evaluate and update the CVPHMP to examine sensitive land use changes revealed by said mapping. This commitment is made to comply, in part, with the CVPIA BiOp, pages 2-62 through 2-64, to monitor trends in the environmental baseline for listed species, and to validate the assumption in the BA for these IRCs that "*no losses of native lands or lands fallowed and untilled for three or more years*" have occurred.

Determination

We concur with Reclamation's NLAA determinations for the Buena Vista Lake shrew, San Joaquin kit fox, Tipton kangaroo rat, blunt-nosed leopard lizard, Kern mallow, and San Joaquin woolly-threads or critical habitat designated for these species. Our concurrence is based on the short-term nature of the federal action and the assumption that environmental commitments in the proposed project will be implemented.

Our concurrence with your NLAA determination concludes consultation for this action. Therefore, unless new information reveals effects of the proposed project that may affect listed species in a manner or to an extent not considered, no further action pursuant to the Act is necessary. If you have questions or concerns regarding this action, please contact Patricia Cole, San Joaquin Valley Division Chief, at the letterhead address or at (916) 414-6544.

Attachments

cc:

Craig Bailey, California Department of Fish and Wildlife, Fresno, California

Appendix A.

Federally threatened and endangered species and/or critical habitat potentially within the action area that Reclamation has determined would not be affected by the proposed project.

Common Name	Scientific Name	Federal Status	Critical Habitat
Arroyo toad	<i>Anaxyrus californicus</i>	Endangered	Designated
Bakersfield cactus	<i>Opuntia treleasei</i> (= <i>Opuntia basilaris treleasei</i>)	Endangered	None
California clapper rail	<i>Rallus longirostris obsoletus</i>	Endangered	None
California condor	<i>Gymnogyps californianus</i>	Endangered	Designated
California jewelflower	<i>Caulanthus californicus</i>	Endangered	None
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	Designated
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	Designated
Coastal California gnatcatcher	<i>Poliophtila californica californica</i>	Threatened	Designated
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	Endangered	Designated
Delta smelt	<i>Hypomesus transpacificus</i>	Threatened	Designated
Desert tortoise	<i>Gopherus agassizii</i>	Threatened	Designated
Fresno kangaroo rat	<i>Dipodomys nitratooides exilis</i>	Endangered	Designated
Giant garter snake	<i>Thamnophis gigas</i>	Threatened	None
Giant kangaroo rat	<i>Dipodomys ingens</i>	Endangered	None
Greene's tuctoria	<i>Tuctoria greenei</i>	Endangered	Designated
Hairy Orcutt grass	<i>Orcuttia pilosa</i>	Endangered	Designated
Hartweg's golden sunburst	<i>Pseudobabia bahiifolia</i>	Endangered	None
Hoover's spurge	<i>Chamaesyce hooveri</i>	Threatened	Designated
Keck's checker-mallow (=checkerbloom)	<i>Sidalcea keckii</i>	Endangered	Designated
Kern mallow	<i>Eremalche kernensis</i>	Endangered	None
Kern primrose sphinx moth	<i>Euproserpinus euterpe</i>	Threatened	None
Lahontan cutthroat trout	<i>Oncorhynchus clarki benshawi</i>	Threatened	None
Least Bell's vireo	<i>Vireo belli pusillus</i>	Endangered	Designated
Little Kern golden trout	<i>Oncorhynchus mykiss</i> (= <i>aguabonita</i>) <i>whitei</i>	Threatened	Designated
Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>	Endangered	Designated

Common Name	Scientific Name	Federal Status	Critical Habitat
Mariposa pussy-paws	<i>Calyptridium pulchellum</i>	Threatened	None
Marsh sandwort	<i>Arenaria paludicola</i>	Endangered	None
Mohave tui chub	<i>Gila bicolor</i> ssp. <i>mohavensis</i>	Endangered	None
Mountain yellow-legged frog	<i>Rana muscosa</i>	Endangered	Proposed
North American wolverine	<i>Gulo gulo luscus</i>	Proposed threatened	None
Owens pupfish	<i>Cyprinodon radiosus</i>	Endangered	None
Owens tui chub	<i>Gila bicolor snyderi</i>	Endangered	None
Paiute cutthroat trout	<i>Oncorhynchus clarki seleniris</i>	Threatened	None
Palmate-bracted bird's-beak	<i>Cordylanthus palmatus</i>	Endangered	None
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	Endangered	None
Riparian woodrat (San Joaquin Valley woodrat)	<i>Neotoma fuscipes riparia</i>	Endangered	None
San Benito evening-primrose	<i>Camissonia benitensis</i>	Threatened	None
San Joaquin adobe sunburst	<i>Pseudobahia peirsonii</i>	Threatened	None
San Joaquin Valley Orcutt grass	<i>Orcuttia inaequalis</i>	Endangered	Designated
San Mateo thornmint	<i>Acanthomintha obovata</i> ssp. <i>duttonii</i>	Endangered	None
Sierra Nevada bighorn sheep	<i>Ovis canadensis californiana</i>	Endangered	Designated
Sierra Nevada yellow-legged frog	<i>Rana sierra</i>	Endangered	Proposed
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	Designated
Springville clarkia	<i>Clarkia springvillensis</i>	Threatened	None
Succulent owl's-clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Designated
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Threatened	Designated
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	Designated
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered	Designated
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Threatened	Designated

Common Name	Scientific Name	Federal Status	Critical Habitat
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Proposed	None
Yosemite toad	<i>Bufo canorus</i>	Threatened	Proposed

Appendix B.

Summarized Environmental Commitments from the 2001 Friant Cross Valley Long Term Water Service Contract Renewals Biological Opinion (01-F-0027) and the CVPIA Biological Opinion (98-F-0124) that are relevant to the CV IRCs and associated Article 5 Exchanges [Note: numbering is preserved from the source documents].

Summarized Environmental Commitments from the 2001 Friant Cross Valley Long Term Water Service Contract Renewals Biological Opinion (01-F-0027) and the CVPIA Biological Opinion (98-F-0124) that are relevant to the CV IRCs and associated Article 5 Exchanges [Note: numbering is preserved from the source documents].

2001 Friant/Cross Valley BiOp

5. Identify and map endangered species habitat in CVP contractor service areas and provide to contractors.

Phase I - A 1993 landcover database or basemap will be developed using the best available existing landcover data and satellite imagery.

Phase II - will determine areas of habitat change by comparing 1993 image data to year 2000 image data. Based on available GIS datasets and spectral change analysis, a preliminary change map will be created to guide sampling and remapping efforts in phase III.

Phase III - will create an updated landcover database representative of landcover and habitat conditions for year 2000. This process may include:

- Field sampling to determine the cause of change and identification of habitat types in change areas.
- Acquisition of large scale, orthorectified digital aerial photography for verification and remapping purposes.
- Additional mapping efforts in areas where existing datasets from 1993 are not adequate to meet the needs of this project.
- GIS analysis for habitat change monitoring.

Additionally, Reclamation and the Service commit to revisit and update the land cover database for year 2000 every 5 years for monitoring and trends analysis purposes.

6. Monitor land use change and ongoing activities within Districts receiving CVP water.

a. Monitor land use changes and ongoing activities in the Districts to ensure that project water is not used in a manner that adversely affects listed, proposed, and candidate species.

7. Landowners obtain Service/Reclamation approval prior to taking actions on endangered species habitat with no federal involvement.

8. Ensure section 7 consultation on future actions impacting endangered species where there is federal involvement. The Friant Division and Cross Valley Unit CVP water contractors, whose contracts are currently up for renewal, have also made “Applicant Commitments” that they will not deliver CVPIA Project Water for the purpose of converting any native lands to agricultural or M&I uses unless and until appropriate ESA compliance has determined that such conversion will not likely affect protected species or appropriate mitigation has been provided.

18. Identify and analyze impacts of all water assignments executed since 1991 for Friant and 1995 for Interim contractors, and coordination on future assignments to ensure ESA compliance.

19. Reclamation will apply applicable criteria to all water transfers.
22. Curtail deliveries associated with discovery of conversion of native lands without consideration of ESA⁷
24. Reclamation shall consult with the Service on any deliveries of water using Friant facilities beyond that addressed in this biological opinion.

2000 CVPIA BiOp

B. Commitments Associated with Long-term Renewal⁸ of CVP Water Service Contracts

1. Long-term contracts will be renewed, and Reclamation will complete tiered site specific consultations with the Service. No CVP water will be delivered or applied outside current contract service areas until either formal or informal consultation, as appropriate, is complete. Once formal site specific consultation has occurred that is in compliance with this opinion, it is assumed that changes in land-use practices, and impacts to listed and proposed species, in the districts have been addressed.
4. Reclamation and the Service will write a joint letter to the water districts, any member agencies, Planning Departments of cities or counties within the districts using CVP water, and other responsible parties regarding requirements under the ESA. The letter will include: (1) a discussion of Reclamation's need to ensure that CVP water is not used in a manner which could jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated *critical habitat*, and (2) an explanation of the prohibitions described under Section 9 of the ESA in regard to *take*. The letter will discuss the appropriate protection measures as described here and in subsequent contract renewal consultation and will be completed within 60 days of execution of long-term contracts.⁹
5. Conservation strategies will be in place for the districts or areas receiving CVP water. The types of strategies that could be accepted are: *Habitat Conservation Planning* as described in section 10(a) of the ESA; programmatic land management actions that include protection of listed and proposed species; requirements resulting from site specific Section 7 consultation; or an expansion of the existing CVP Conservation Program that adequately compensates for the direct and indirect effects of increased water delivery to an area.¹⁰
6. Reclamation will, subsequent to a determination of *may affect* to listed species and/or adverse modification to designated *critical habitat* in consultation with the Service's SFWO Endangered Species Division, consult on all Federal actions that result in changes in purpose of use for CVP water contracts, including changes from Agriculture to Agriculture/Municipal and Industrial purposes.
7. The Service and Reclamation will work together to convey information to the water districts, and individual water users (as appropriate), on listed species needs. Reclamation will establish an

⁷ Reclamation and the Service have in practice been using this definition of "native lands": lands never tilled or lands fallowed and untilled for three or more years.

⁸ These apply to CV IRCs as well.

⁹ Letters were already sent to CVCs and Friant Contractors, but an Environmental Commitment Program form would be used for the interim contract renewal that would inform districts of the required commitments.

¹⁰ This would take the form of "requirements resulting from site specific Section 7 consultation" in this case.

outreach and education program, in collaboration with the Service, to help water users integrate implementation of the CVPIA and requirements of the contract renewal process as it relates to the ESA [Act]¹¹.

8. Interior will work closely with the water users, providing them maps of listed species habitats within their service-areas and guiding them through the consultation process to address site specific effects. Reclamation may encourage CVP contractors to complete HCPs encompassing the affected areas.

10. Reclamation and CVP contractors will comply with all applicable opinions related to the CVP. Flow standards that form the environmental baseline of the 1995 OCAP biological opinion will be met, and Reclamation will take no discretionary actions (e.g. new contracts, contract amendments, facility construction) that would incrementally increase diversions and alter hydrologic and environmental conditions in the Delta until any required consultation is reinitiated and completed.

11. Contractors are required to conform with any applicable provisions of any biological opinions addressing contract renewal so as to prohibit the use of CVP water that results in unauthorized *take* or conversion of wildland habitat determined to have the potential to be occupied by listed species, or violation of any terms of the contracts pertaining to the conservation of listed species. All contracts (or related biological opinions) will also stipulate Reclamation will not undertake any discretionary action allowing the delivery of CVP water to native habitat for listed species depicted on the maps attached to the 18-month notices unless clearance pursuant to the ESA has been obtained from the Service.

13. Reclamation will make certain that applicable measures to ensure ESA compliance for the renewal of CVP water service contracts are provided within the text of new and/or amended long-term water contracts and related actions.

14. Reclamation will provide information related to proposed new water assignments of Project water to the Service's SFWO Endangered Species Division prior to execution of the assignment.

F. Commitments Associated with Conservation Programs

Comprehensive Mapping and Land Use Monitoring and Reporting Program

- Monitoring will be used to assess the condition and impacts of Reclamation actions on listed species. Reclamation and the Service are actively developing a monitoring strategy based on the comprehensive mapping program. The land cover database for year 2000, described in Phase III, will be revisited every 5 years for monitoring purposes.
- The Comprehensive Mapping Program will be implemented immediately to test and track, for the purpose of validating over the life of the project, the assumptions made in this biological opinion that the baselines of the species in Appendix A are stable or increasing.
- For any species affected by the CVP that are continuing to decline, the Service and Reclamation will immediately assess critical needs for the species and determine whether it is appropriate to expand the Conservation Program or implement other *conservation measures*. Any native habitat converted to agricultural or municipal/industrial use within the water service area without prior biological surveys, as required by Reclamation prior to the delivery

¹¹ Addressed by the Environmental Commitment Program form.

of Reclamation water, will be evaluated to determine what mitigation measures will be required.

I. Service and Reclamation Strategy Statement to Ensure Compliance with the Endangered Species Act

7. CVP or CVPIA actions or parts of actions, which *may affect* listed species or for which there is not enough information available to estimate *take* or make a *not likely to adversely affect* determination, will receive future tiered analysis and consultation. Reclamation or the Service will provide to the Service's SFWO Endangered Species Division, dependent on lead agency status, clear descriptions of proposed CVP or CVPIA actions, specific areas that may be affected directly or indirectly by these actions, the manner in which the actions *may affect* any listed species or designated *critical habitat*, and other relevant reports and information. Reclamation and the Service will also identify any and all interrelated and interdependent actions and measures related to the proposed CVP or CVPIA action. In those situations where the lead agency, or the Service's SFWO Endangered Species Division, determines that an action *may affect* listed species or may adversely modify designated *critical habitat*, Reclamation and/or the Service will initiate informal or formal consultation as appropriate.

8. Reclamation and the Service will work together to develop means to more effectively facilitate ESA compliance through the coordination of activities and commitments discussed in this Project Description. This coordination will include establishment of a process within 3 months of this biological opinion that will provide necessary information to the Service's SFWO Endangered Species Division in situations where a determination of *no affect* has been made, sufficiently in advance, to enable the Service's review.

13. Reclamation will establish a tracking program to assure conditions necessary for compliance with ESA are met within areas affected by the delivery of CVP water. Where Reclamation and/or the Service believe there are *adverse affects* on listed species, a conservation strategy will be required to be in place for the district or area to receive the contract water. The types of strategies that could be accepted are: *Habitat Conservation Planning*, as described in Section 10(a) of the ESA; requirements resulting from a Section 7 consultation, programmatic land management actions that include protection of listed and proposed species, implementation of site specific *conservation measures*, or an expansion of the existing CVP Conservation Program that adequately compensates for the direct and indirect effects of increased water delivery to an area. Other actions that include components of the above strategies could also be accepted.

Appendix C.

Potential Exchanges for CV IRC Article 5 Exchanges

Table 1 Potential Exchanges from the Friant Division CVP Contractors

FRIANT CVP CONTRACTORS	Class 1 AF/y	Class 2 AF/y	Other Surface Supply	Groundwater Safe Yield	Groundwater Recharge
Arvin-Edison Water Storage District	40,000	311,675	Kern River	89,900	Yes
Delano-Earlimart Irrigation District	108,800	574,500	0	*	White River channel
Exeter Irrigation District	11,100	19,000	0	*	Yokohl Creek
Fresno Irrigation District	0	75,000	Kings River 800,000	*	Yes
Garfield Water District	3,500	0	0	*	Unknown
Hills Valley Irrigation District	1,250	0	0	*	Unknown
Ivanhoe Irrigation District	6,500	500	Wutchumna Water Company Stock 3,950 ST Johns River Cotton Creek	*	ST Johns River and Cotton Creek
Kaweah Delta Water Conservation District	1,200	7,400	Kaweah River Cottonwood Creek Cross Creek Kings River Tule River	*	Cross Creek, Recharge basins
Kern Tulare Water District	0	5,000	Kern River	*	Unknown
Lewis Creek Water District	1,200	0	0	*	Unknown
Lindmore Irrigation District	33,000	22,000	0	21,000	Yes
Lindsay-Strathmore Irrigation District	27,500	0	Wutchmna Water Company Stock 5- 45,000	18,000	Unknown
Lower Tule River Irrigation District	61,200	238,000	Tule River 70,000 31,102 CV	*	Unknown
Porterville Irrigation District	15,000	30,000	Tule River 12,900 Average, Porter Slough	0	No

FRIANT CVP CONTRACTORS	Class 1 AF/y	Class 2 AF/y	Other Surface Supply	Groundwater Safe Yield	Groundwater Recharge
Saucelito Irrigation District	21,500	32,800	0	*	Deer Creek only when CVP water is diverted from FKC
Shafter-Wasco Irrigation District	50,000	39,600	0	*	0
Southern San Joaquin Municipal Utility District	97,000	45,000	0	0	Poso Creek and other foothill runoff creeks
Stone Corral Irrigation District	10,000	0	950 via exchanges with other CVP Contractors	*	Unknown
Tea Pot Dome Water District	7,200	0	0	0	0
Terra Bella Irrigation District	29,000	0	0	0	Deer Creek
Tri-Valley Water District	400	0	0	0	0
Tulare Irrigation District	30,000	141,000	0	0	0

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be one AF of water for every acre of land.

Others

Below is a list of non-CVP potential exchangees:

Buena Vista Water Storage District

Kings County Water District

Cawelo Water District

Kings River Conservation District

Consolidated Irrigation District

Lakeside Irrigation District

Corcoran Irrigation District

Liberty Water District

Deer Creek & Tule River Authority

North Kern Water Storage District

Kaweah Delta Water Conservation District

Kern Water Bank Authority

Kern County Water Agency

Semitropic Water Storage District

Kern Delta Water District

Rosedale-Rio Bravo Water Storage District

Tulare Lake Basin Water Storage District

Some of these districts have sub-entities which may include CVP and/or SWP contractors. A complete narrative description of CVP contractors and non-CVP contractors that are potential exchangees is found in Appendix D.

In some cases, the diversions of non-CVP water from rivers, creeks and ditches, is based on the total runoff in any given hydrological season. The districts receive a percentage of the runoff and no

specific limit exists to the total annual supply. The total amount of non-CVP water is difficult to quantify. Therefore, average water supplies are depicted.

Table 2. Deer Creek & Tule River Authority

DEER CREEK & TULE RIVER AUTHORITY	Friant	CV	Other Surface Supply	Groundwater Safe Yield	Groundwater Recharge
Lower Tule River Irrigation District	61,200 Class 1 238,000 Class 2	31,102	Tule River 70,000	*	Unknown
Pixley Irrigation District		31,102	Deer Creek	*	Via Deer Creek
Porterville Irrigation District	15,000 Class 1 30,000 Class 2	0	Tule River 12,900 Average, Porter Slough	0	Yes
Saucelito Irrigation District	21,500 Class 1 32,800 Class 2	100 CVC Supply	3,200	*	Deer Creek only when CVP water is diverted from FKC
Stone Corral Irrigation District	10,000 Class 1	0	950 AF/y via exchanges with other CVP Contractors	3,200	Unknown
Terra Bella Irrigation District	29,000 Class 1	0	0	0	Deer Creek

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be 1 AF of water for every 1 acre of land.

Table 3. Kern County Water Agency

Kern County Water Agency	CVP ²	Other Surface Supply	Ground-water Safe Yield	Ground-water Recharge
Belridge Water Storage District ¹	N	SWP	n/a	None
Berrenda Mesa Water District ¹	N	SWP	n/a	None
Buena Vista Water Storage District	Y	SWP Kern River	0.3 ac/ft	Yes
Cawelo Water District	Y	45,000 AF/y SWP Wet years only Poso Creek 27,000 Kern River Reclaimed oil field water	0.3 ac/ft	Limited Poso Creek, Recharge basins

Kern County Water Agency	CVP ²	Other Surface Supply	Ground-water Safe Yield	Ground-water Recharge
Henry Miller Water District ¹	Y	SWP Kern River	0.3 ac/ft	Limited
Kern County Water Agency Improvement District #4	Y	Kern River SWP	0.3 ac/ft	Yes
Kern Delta Water District	Y	Kings River Kaweah River	0.3 ac/ft	Yes
Lost Hills Water District ¹	N	SWP	n/a	None
North Kern Water Storage District	Y	SWP Kern	0.3 ac/ft	Yes
Rosedale-Rio Bravo Water Storage District	Y	SWP Kern River	0.3 ac/ft	Yes
Semitropic Water Storage District	Y	SWP Poso Creek Metropolitan Water District	0.3 ac/ft	Limited
Tehachapi-Cummings Co. Water District ¹	N	SWP Local streams	*	Yes
Tejon-Castac Water District ¹	N	SWP Local streams	n/a	None
West Kern Water District	N	SWP	n/a	None
Wheeler Ridge-Maricopa Water Storage District	N	SWP Local streams	*	Unknown

¹Outside the Consolidated CVP Place of Use for Delta water and excluded from this EA and approval process.

²Surplus CVP flood water when available.

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be one AF of water for every acre of land.

Table 4. Kern Water Bank Authority

Kern Water Bank Authority	CVP ²	Other Surface Supply	Ground-water Safe Yield	Ground-water Recharge
Dudley Ridge Water District	N	SWP	*	Yes
Kern County Water Agency	Y	SWP Kern River	*	Yes
Semitropic Water Storage District	Y	SWP Poso Creek	*	Yes
Tejon-Castaic Water District ¹	N	SWP	*	Yes
Westside Mutual Water Company	Y	SWP	*	Yes
Wheeler Ridge-Maricopa Water Storage District	N	SWP Local streams	*	Yes

¹Outside the CVP Place of Use and excluded from this EA and approval process.

²Surplus CVP flood water when available.

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be one AF of water for every acre of land.

Table 5. Kings River Conservation District

Kings River Conservation District	CVP	Other Surface Supply	Ground-water Safe Yield	Ground-water Recharge
Alta Irrigation District	N	Kings River	*	*
Clark's Fork Reclamation District No. 2069	N	Kings River	*	*
Consolidated Irrigation District	215 Water	Kings River	*	Yes
Corcoran Irrigation District	N	Kings River	*	*
Empire West Side Irrigation District	N	Kings River, SWP	*	*
Fresno Irrigation District	^{2,3}	Kings River, CVP	*	*
James Irrigation District	^{2,3}	CVP via exchange for Kings River	*	*
Kings County Water District	²	SWP, Kings and Kaweah Rivers	*	*
Kings River Water District	²	Kings River	*	*
Laguna Irrigation District	800 AF/y, ²	Kings River	*	*
Lakeside Irrigation Water District	²	Kings River, St. Johns, Cross Creek	*	Cross Creek, recharge basin

Kings River Conservation District	CVP	Other Surface Supply	Ground-water Safe Yield	Ground-water Recharge
Liberty Water District	²	Kings River via Liberty Canal	*	Liberty Canal and recharge basin
Mid-Valley Water District	N	Kings River	*	*
Raisin City Water District	N	Kings River	*	*
Riverdale Irrigation District	N	Kings River	*	*
Salyer Water District	N	0	*	*
Stratford Irrigation District	N	Kings River	*	*
Tranquility Irrigation District	2, 3	CVP via exchange for Kings River	*	*
Tulare Lake Reclamation District No. 761	N	Kings River, SWP	*	*
Burrel Ditch Company	N	Kings River via Murphys Slough	*	*
Corcoran Irrigation Company	N	Kings River via Lakelands Canal	*	*
Crescent Canal Company	N	Kings River via Crescent Canal	*	*
John Heinlen Mutual Water Company	N	Kings River	*	*
Last Chance Water Ditch Company	N	Kings River via Last Chance Ditch	*	*
Lemoore Canal and Irrigation Company	N	Kings River via Lemoore Canal	*	*
Liberty Canal Company	N	Kings River via Liberty Canal	*	*
Liberty Mill Race Company	N	Kings River via Murphys Slough	*	*
Lovelace Water Corporation	N	Kings River South Fork Canal and Tulare Lake Canal	*	*
Peoples Ditch Company	N	Kings River via operations of People's Weir	*	*
Reed Ditch Company	N	Kings River via Murphys Slough	*	*
Southeast Lake Water Company	N	Kings River	*	*
Stinson Canal and Irrigation Company	N	Kings River via Stinson Canal	*	*
Tulare Lake Canal Company	N	Kings River via Tulare Lake Canal	*	*
Upper San Jose Water Company	N	Kings River	*	*

¹Outside the CVP Place of Use and excluded from this EA and approval process.

²Surplus CVP flood water when available.

³Long-term CVP Contractor

Mill Creek, Sand Creek, and Wahtoke Creek are tributary to the Kings River and provide conveyance and supplies to some districts.

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be one AF of water for every acre of land.

Table 6. Tulare Lake Basin Water Storage District

Tulare Lake Basin WSD	Kings, Tule, Kaweah, Kern Rivers, Deer Creek, SWP
Angiola WD	<p>605 AF/y SWP if available</p> <p>15,000 AF/y (5,145 average) Kings River</p> <p>6,000 AF/y (975 average) Tule River/ Deer Creek</p> <p>60,000 AF/y (7,787 average) Tulare Lake Flooding</p> <p>35,000 groundwater</p>
Melga WD	SWP and Kings, Tule, Kaweah Rivers, Kern River

*The safe groundwater yield is difficult to quantify. However, the safe yield of groundwater is generally considered to be one AF of water for every acre of land.

Appendix D.

Annual acre-foot (AF) of Cross Valley CVP water supplies delivered 2010-2017.

Cross Valley Contractors	2017	2016	2015	2014	2013	2012	2011	2010
<u>Kern-Tulare Water District</u>	-	-	-	-			-	
Transfer for IRC exchange to Kern County Water Agency					4,000	21,000		
AWTP transfer to Westlands Water District					4,000	1,000		
Transfer for IRC exchange to Rosedale Rio Bravo Waster Storage District								23,985
<u>County of Fresno</u>	-	-		-	-		-	
Transfer for IRC exchange to Arvin-Edison Water Storage District			120			1,200		1,350
<u>Hills Valley Irrigation District</u>							641	
Transfer for IRC exchange to Arvin-Edison Water Storage District					630	1,338		1,506
<u>Pixley Irrigation District</u>	-	-	-				-	
AWTP transfer to Del Puerto Water District				1,097	5,123			
AWTP transfer to Westlands Water District						12,441		7,350
Transfer for IRC exchange to Tulare Lake Basin Water Storage District								4,528
<u>Lower Tule River Irrigation District</u>								
Transfer out to Del Puerto Water District				1,097	5,123			
Transfer to Westlands Water District						12,441	7,350	
Transfer for IRC exchange to Tulare Lake Basin Water Storage District								4,528
<u>Tri-Valley Water District</u>	300	-	-	-	-		-	
Transfer for IRC exchange to Arvin-Edison Water Storage District						457		
Transfer to San Luis Water District								514
<u>County of Tulare</u>		-		-	-	-	-	-
Transfer for IRC exchange to Arvin-Edison Water Storage District			1,062					
Delivery to subcontractor: Alpaugh Irrigation District	100							
Delivery to subcontractor: Atwell Island Water District	50							
Delivery to subcontractor: Strathmore Public Utility District	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

