Cross Valley Contractors
Renewal of Conveyance
Contracts EIR

APPENDIX A

PUBLIC SCOPING

A.1 Notice of Preparation

The NOP was received the State Clearinghouse on May 10, 2011. It is shown on the following pages.

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Notice of Preparation (NOP) of an Environmental Impact Report for the Renewal of Conveyance Contracts involving the Department of Water Resources, Bureau of Reclamation, and Cross Valley Canal Contractors

Date: May 4, 2011

To: State Clearinghouse, Responsible Trustees, and Interested Agencies; and other Interested Parties and Individuals

The Lower-Tule River Irrigation District (LTRID) is designated as Lead Agency under the California Environmental Quality Act (CEQA) pursuant to an agreement among LTRID, all of the Cross Valley Canal Contractors (CVC Contractors), and the Department of Water Resources (DWR). LTRID will prepare an Environmental Impact Report (EIR) regarding the execution and adoption of a long term conveyance agreement by each of the CVC Contractors with DWR and the United States Department of the Interior Bureau of Reclamation (Reclamation (the Project). The Project will be the implementation of these conveyances agreements.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed Project. Your agency may need to use the subject EIR when considering any necessary permit or other approval for the Project. Interested parties and individuals are invited also to comment on alternatives to, concerns with, and environmental issues or potential effects of the Project. Please share this notice with anyone you feel may be interested in the Project. LTRID will collect and maintain the CEQA process records for the CVC Contractors at the address provided below. A description of the proposed Project, its location, and potential environmental impacts are contained in the attached materials.

Public Scoping Meeting

One public scoping meeting will be held to receive agency and public comment on the scope of analysis and EIR content for the proposed Project as follows:

Date and Time: **June 1, 2011 at 2:30 pm**
Location: **Lower-Tule River Irrigation District Board Room, 357 East Olive Ave., Tipton, CA 93272**

Due to the time limits mandated by State law, your written response must be sent at the earliest possible date, but no later than 30 days after receipt of this notice. Please send your response to: Daniel Vink, General Manager, Lower-Tule River Irrigation District, 357 East Olive Ave., Tipton, CA, 93272, fax: 559 686-0151, email: ltrid@ltrid.org.

5/6/11

Daniel Vink, General Manager
Lower-Tule River Irrigation District

Date

1

PROJECT DESCRIPTION

Summary

The CVC Contractors consist of seven agencies (Lower Tule River Irrigation District, Pixley Irrigation District, Kern-Tulare Water District, Hills Valley Irrigation District, Tri-Valley Water District, the County of Tulare and the County of Fresno) located along the Friant-Kern Canal (FKC) in Fresno, Tulare, Kings, and Kern Counties. The CVC Contractors historically relied on groundwater for their water supply. Then, in late 1975 and early 1976, the CVC Contractors signed their individual three-party contracts ("Original Contracts") with Reclamation and DWR for delivery and conveyance of Central Valley Project (CVP) water to the respective CVC Contractors. Historically, DWR conveyed CVP water under these contracts using the State Water Project (SWP) facilities including the Harvey O. Banks (Banks) Pumping Plant and the California Aqueduct (Aqueduct). DWR conveyed this water only when the CVC Contractors' CVP supplies were physically and legally available in the Delta and capacity existed in the Aqueduct. Starting in 1995, the Original Contracts have been succeeded by several one and two year interim renewals (Interim Renewal Contracts). The present Interim Renewal Contracts (IR-13) are for a two-year term that commenced March 1, 2010 and continues to February 29, 2012. The DWR, Reclamation, and each of the CVC Contractors are proposing to execute a separate long-term three-party conveyance contract that continues the conveyance of CVC Contractor CVP water through SWP facilities.

The need for a three-party conveyance agreement arises because Reclamation supplies the water and power for the action, but generally lacks sufficient capacity to deliver the CVP supply directly to the CVC Contractors. The SWP has unused conveyance capacity at certain times of the year, and DWR has offered to continue to convey the water to the CVC Contractors in this available capacity in a manner substantially similar to the ways it has done in the past. Reclamation will prepare a separate National Environmental Policy Act (NEPA) document on the related action of executing separate long-term renewal contracts to continue to provide the CVC Contractors with a CVP water supply. Reclamation will release public information about its NEPA process separate from this notice.

Project Location

With consideration of the ongoing operations of both the SWP and CVP, this Project is principally located in the San Joaquin Valley, including the service areas of the CVC contractors in Fresno, Tulare, Kings, and Kern Counties (refer to Figures 1 and 2 below) and the service areas of the other public agencies with which the CVC Contractors' CVP supply may be exchanged. The Cross Valley Canal (CVC), a principal conveyance facility utilized by the CVC contractors, is located in the San Joaquin Valley near Bakersfield and connects the Aqueduct on the west side of the San Joaquin Valley and the FKC on the east side (Figure 1). The connection with the Aqueduct is south of the town of Tupman in Reach 12 E of the Aqueduct. The CVC is connected to the FKC through five 24-inch pipes and a 500cfs intertie pipeline and pumping plant that convey the water from the CVC into the FKC.

Background

The CVC Contractors historically relied on groundwater for their water supply. In late 1975 and early 1976, they entered into the Original Contracts with Reclamation and DWR for the delivery and conveyance of CVP water. The CVC Contractor's water supply originates in the CVP, and is made available to them in the Delta by Reclamation. CVP supply made available to the CVC Contractors in the Delta may then be conveyed by DWR from the Banks Pumping Plant in the Delta to the CVC through SWP facilities. Because Reclamation generally lacks sufficient capacity to deliver this supply directly to the CVC Contractors, conveyance service is provided by DWR when there is excess capacity in the Banks Delta Pumping Plant and SWP facilities. The CVC Contractors are located on the east side of the San Joaquin Valley and do not have a direct connection under normal conditions with their CVP water supply in the Delta. The CVC Contractors receive this CVP water primarily through exchange agreements

with other water districts and on occasion by pumping this water back up the FKC. Through these exchange agreements the CVC Contractors exchange their CVP supply for water from the east-side of the San Joaquin Valley. The CVC Contractors receive up to 128,300 acre-feet (af) of their aggregate total contract quantity per Federal Water Year commencing on March 1st.

Typically, DWR pumps CVP water from the Delta at the Banks Pumping Plant into the Aqueduct and conveys this water to the CVC. The Dos Amigos pumping plant is also used to convey the water to the CVC turnout at Reach 12E of the Aqueduct. Available space within San Luis Reservoir may be used for temporary storage of the water. Water from the Aqueduct can be conveyed through the CVC into the FKC for direct deliveries to some of the CVC contractors. Although CVP water is made available by Reclamation in the Delta, DWR has a hierarchy for meeting the SWP water commitments; thus, the CVP water supplies are subordinate to the SWP needs. DWR only pumps and conveys the CVP water through the Aqueduct after SWP needs have been met. Typically, deliveries of CVC Contractor water occur in the spring or late summer to fall. However, during periods when export capacity from the Delta is limited by the total export demand and/or by legal requirements, DWR is unable to pump this CVP water to the CVC Contractors. In such cases, Reclamation makes available CVP water to CVC Contractors in the Delta and that water is conveyed and delivered to another agency in exchange for an amount of water that is returned to the CVC Contractors through other facilities. In compliance with applicable legal requirements, exchanges may be unbalanced in volume or time. That is, the CVC Contractors may give up and never receive some amount of water in the exchange (up to 2:1 average exchange ratio over a 10-year period), or the exchange may involve a return of the supply to the CVC Contractor during different times of the year, or in different years.

In the past, the most common exchange was with the Arvin-Edison Water Storage District in Kern County. Arvin-Edison takes delivery of CVC Contractor CVP supply through the Aqueduct and the CVC, and provides its water from Millerton Lake and/or FKC to the CVC Contractors. Exchanges with other public agencies located in the San Joaquin Valley have been or will be analyzed in the EIR, and fall into the following general categories:

- Exchanges with other Friant Division contractors.
- Exchanges with CVP South of Delta contractors.
- Exchanges with SWP contractors.
- Exchanges with water users in the Tulare Lake Basin.

Proposed Project

The proposed Project is the approval, execution and implementation of three-party conveyance agreements (CVC Contractors, DWR, and Reclamation) providing for the continued conveyance of the CVC Contractor's existing CVP water supply in the Delta through SWP facilities when supplies are physically and legally available in the Delta and capacity exists in the Aqueduct. The related action is the execution of separate long-term renewal contracts to continue to provide the CVC Contractors with a CVP water supply. The term of the proposed conveyance agreement is under negotiation but may be from 20 to 30 years. The authority to convey non-SWP water, including CVP water in the Aqueduct comes from the California Water Code, Section 1810 and 12930-12944 (The Burn-Porter Act). This allows DWR to convey water through unused capacity in SWP facilities for other entities such as the CVC Contractors. A draft of both the proposed conveyance contract and separate water supply contract with Reclamation will be available as part of the draft EIR.

As the bullet points above suggest, there are numerous conveyance mechanisms that the CVC Contractors can employ to meet the Project objectives, each of which will be described fully in the EIR. For each exchange mechanism, Reclamation makes available CVP water for CVC Contractors in the Delta and the SWP or the CVP conveys the water to another public agency and water is returned to the CVC Contractors through SWP, CVP or other facilities. Exchange agreements have been negotiated

between CVC Contractors individually or collectively and other water agencies. Such exchanges are contemplated in the CVC Contractors' Original Contracts and Interim Renewal Contracts. The proposed Project assumes that annually up to the full contract quantity of 128,300 af will continue to be conveyed by DWR through SWP facilities when capacity is available.

Project Alternatives and Impacts

The EIR will assess the physical changes to the environment that would likely result from implementation of the proposed Project, compare environmental effects of the alternatives, and identify mitigation measures for potentially significant impacts. A reasonable range of appropriate alternatives in addition to the No Project Alternative will be discussed in the EIR. Potential environmental impacts (direct, indirect, and cumulative) to be analyzed in the EIR for the Project and No Project Alternatives include the following:

- Agricultural Resources
- Air Quality
- Biological Resources
  - Vegetation and Wildlife:
    - Effect on special status species; and
    - Changes in land use and habitat.
  - Fisheries:
    - Effect on local fisheries resources;
    - Effect on Delta fisheries resources; and
    - Effect on CVP reservoir fisheries resources.
- Geology and Soils
- Climate Change/Greenhouse Gases:
  - Effects on production of greenhouse gases from changes in energy use (if any) as required by revised CEQA Guidelines to address the Air Resources Control Board mandates regarding AB 32.
- Hydrology and Water Quality
  - Surface Water:
    - Effect on operation of CVP and SWP reservoirs,
    - Changes to Delta water supply and Delta outflow; and
    - Effect on hydrologic units.
  - Groundwater:
    - Effect on groundwater balance; and
    - Effect on groundwater quality.
- Land Use and Planning:
  - Effect on agricultural land uses from any changes in irrigated acreage;
  - Compatibility with applicable land use plans, policies, or regulations in all affected counties; and
  - Effect on recreational land uses and activities.
- Recreation

- Utilities and Service Systems
- Socioeconomics:
  - Economic impacts of changes in crop patterns (if any);
  - Economic impacts of changes in administrative costs;
  - Changes in employment; and
  - Economic impacts associated with changes in the available water supply (if any).

Environmental issues raised during public scoping will be incorporated into a public scoping report and made available to the public and preparers of the EIR.

For More Information

Additional information is located at ltrid@ltrid.org

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Sacramento River
Sacramento-
San Joaquin Delta
Banks
Pumping Plant
Jones
Pumping Plant
California Aqueduct
Delta Mendota Canal
San Luis
Reservoir
O'Neill
Forebay
Dos Amigos
Pumping Plant
San Joaquin River
NEVADA
CALIFORNIA
Millerton Lake
Friant
Kern Canal
Pine Flat
Reservoir
Kings River
San Luis Canal
Lake Kaweah
Lake
Success
Kern River
Cross
Valley
Canal
KERN
COUNTY
California Aqueduct
Pacific Ocean
Perris
Reservoir
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Miles
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Cross Valley Canal Project
Cardno
ENTRIX
Figure 1: Cross Valley Canal Location

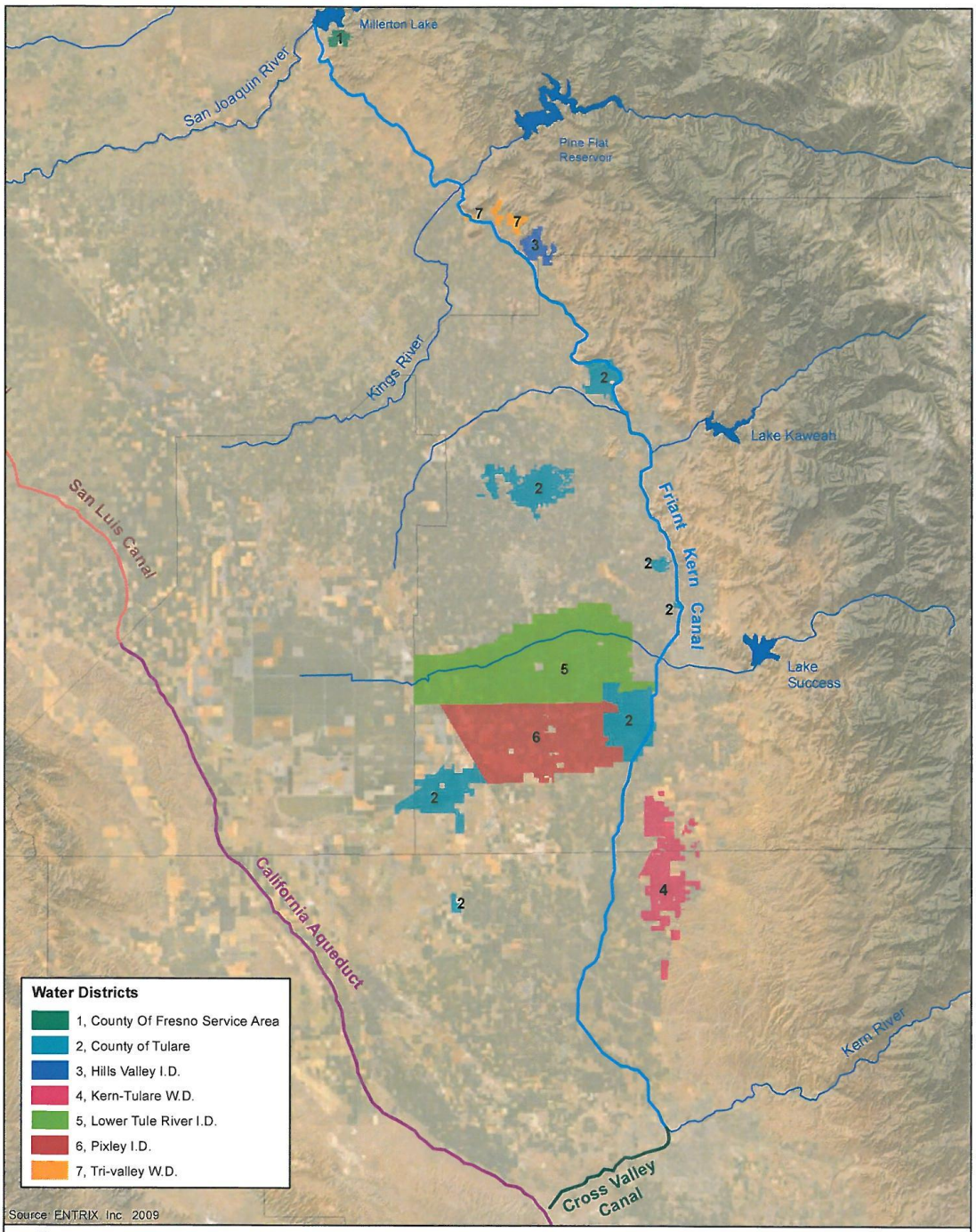

Figure 2: Cross Valley Canal Water Districts

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A.2 Comment Letters

Comment letters were submitted by two agencies. Copies of their letters are shown on the following page:

1. Native American Heritage Commission, and
2. Arvin-Edison Water Storage District.

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(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

May 25, 2011

Mr. Daniel Vink, General Manager
Lower – Tule River Irrigation District
357 East Olive Avenue
Tipton, CA 93272

Re: SCH#2011051022; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the: **"Renewal of Conveyance Contracts involving CA Department of Water Resources, U.S. Bureau of Reclamation and Cross Valley Canal Contractors Project;"** located in southern Tulare County, California

Dear Mr. Vink:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources. The NAHC wishes to comment on the above-referenced proposed Project.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including …objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC Sacred Lands File (SLF) search resulted in; **Native American cultural resources were not identified** within the 'area of potential effect (APE), based on the USGS coordinates of the project location provided. However, there are Native American cultural resources in close proximity to the APE. The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254.10.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural

contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to C"A Public Resources Code § 5097.95, the NAHC requests that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Furthermore we recommend, also, that you contact the California Historic Resources Information System (CHRIS) California Office of Historic Preservation for pertinent archaeological data within or near the APE, at (916) 445-7000 for the nearest Information Center in order to learn what archaeological fixtures may have been recorded in the APE.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

The response to this search for Native American cultural resources is conducted in the NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code 5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code 6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places and there may be sites within the APE eligible for listing on the California Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

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If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contact List
Tulare County
May 25, 2011

Santa Rosa Rancheria
Rueben Barrios, Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278
(559) 924-3583 Fax

Tache
Tachi
Yokut

Esohm Valley Band of Indians/Wuksache Tribe
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas , CA 93906
kwood8934@aol.com
831-443-9702

Foothill Yokuts
Mono

Tule River Indian Tribe
Ryan Garfield, Chairperson
P.O. Box 589
Porterville , CA 93258
(559) 781-4271
chairman@tulerivertribe-nsn.gov
(559) 781-4610 FAX

Yokuts

Kern Valley Indian Council
Robert Robinson, Co-Chairperson
P.O. Box 401
Weldon , CA 93283
brobinson@iwvisp.com
(760) 378-4575 (Home)
(760) 549-2131 (Work)

Tubatulabal
Kawaiisu
Koso
Yokuts

Ron Wermuth
P.O. Box 168
Kernville , CA 93238
warmoose@earthlink.net
(760) 376-4240 - Home
(916) 717-1176 - Cell

Tubatulabal
Kawaiisu
Koso
Yokuts

Tubatulabals of Kern Valley
Donna Begay, Tribal Chairwoman
P.O. Box 226
Lake Isabella, CA 93240
drbegay@aol.com
(760) 379-4590
(760) 379-4592 FAX

Tubatulabal

Sierra Nevada Native American Coalition
Lawrence Bill, Interim Chairperson
P.O. 125
Dunlap , CA 93621
(559) 338-2354

Mono
Foothill Yokuts
Choinumni

Wukchumni Tribe
John Sartuche
929 N. Lovers Lane
Visalia , CA 93292
signsbysarch@aol.com
(559) 636-1136

Wukchumni

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011051022; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Renewal of Conveyance Contracts involving the California Department of Water Resources, the U.S. Bureau of Reclamation and the Cross Valley Canal Contractors; located in Tulare County, California.

Native American Contact List
Tulare County
May 25, 2011

Jennifer Malone
637 E Lakeview
Woodlake , CA 93286
indianpopup@sbcglobal.net
559-564-2146 - home
559-280-0712 - cell

Wukchumni
Tachi
Yowlumni

Santa Rosa Tachi Rancheria
Lalo Franco, Cultural Coordinator
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278 - Ext. 5
(559) 924-3583 - FAX

Tachi
Tache
Yokut

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2011051022; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the Renewal of Conveyance Contracts involving the California Department of Water Resources, the U.S. Bureau of Reclamation and the Cross Valley Canal Contractors; located in Tulare County, California.

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ARVIN-EDISON WATER STORAGE DISTRICT

20401 BEAR MOUNTAIN BOULEVARD
MAILING ADDRESS: P.O. BOX 175
ARVIN, CALIFORNIA 93203-0175

TELEPHONE (661) 854-5573
FAX (661) 854-5213

EMAIL arvined@aewsd.org

June 9, 2011

Via Email: ltrid@ltrid.org
Via Fax: 559.686.0151
Via USPS

Daniel Vink, General Manager
Lower Tule River Irrigation District
357 East Olive Ave.
Tipton, CA 93272-9627

RE: Notice of Preparation (NOP) of an Environmental Impact Report for the Renewal of Conveyance Contracts involving the Department of Water Resources, Bureau of Reclamation and Cross Valley Canal Contractors

Dear Mr. Vink:

Arvin-Edison Water Storage District (AEWSD or District) appreciates the opportunity to provide preliminary comments regarding the planned subject document (herein called Conveyance Agreement EIR).

As you may be aware, AEWSD's primary concerns about the Conveyance Agreement EIR relate to a potential point of discharge of Cross Valley Canal (CVC) water into the Friant-Kern Canal (FKC) and therefore to potentially significant water quality impacts to AEWSD's surface and groundwater supplies, water banking programs, and associated negative impacts on crops and land uses in the District.

Scope of EIR. In reading the NOP, it states "The proposed Project assumes that annually up to the full contract quantity of 128,300 af will continue to be conveyed by DWR through SWP facilities when capacity is available." This statement does not indicate that the discharge of water into the FKC is part of the proposed Project. The "Project Alternatives and Impacts" bullet points for water quality (and hydrology) also omit a discussion regarding the discharge of water into the FKC. **Subsequently, it is unclear to AEWSD if the Conveyance Agreement EIR is to address discharges into the FKC and subsequent conveyance therein?**

Daniel Vink
June 9, 2011
Page 2

If it is intended that actions under the proposed Project include the discharge into the FKC, the EIR needs to address water quality impacts. If not, perhaps the EIR can include a clear statement to the effect, "This Conveyance Agreement and EIR is not intended to analyze nor seek approval for deliveries into the FKC." Absent such a statement, it will be necessary for AEWSD to respond to the EIR accordingly.

If the CVC water is to be discharged into the FKC, AEWSD will be interested in the surface and groundwater quality impact analyses from such action(s). In that regard, AEWSD has a great deal of current and historic information concerning the water qualities of local water supplies (FKC, CVC, etc).

Thank you for considering AEWSD's view as to the scope and context of the environmental information on the intended Conveyance Agreement EIR.

Sincerely,

Steve Collup
Engineer-Manager

cc: Board of Directors
Jeevan Muhar, Staff Engineer
Ernest Conant, Esq.
Ron Jacobsma, FWA
Jim Beck, KCWA

SCC:JSM:sj\collup\lower.tule.river\vink.daniel.NOP.comment.letter.06.11.doc

Cross Valley Contractors
Renewal of Conveyance
Contracts EIR

APPENDIX

B

DRAFT LONG-TERM CONVEYANCE CONTRACT

The draft conveyance contract is presented on the following pages.

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PROPOSED LONG-TERM CONVEYANCE CONTRACT AMONG THE DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA, THE UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION, AND INSERT CONTRACTOR NAME HERE

THIS CONTRACT is made this _____ day of _____, 20__, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented, July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), October 12, 1982 (96 Stat. 1263), October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706), all collectively hereinafter referred to as Federal Reclamation law and pursuant to the California Central Valley Project Act [Part 3, Division 6 (commencing at Section 11100) of the California Water Code], the California Water Resources Development Bond Act [Chapter 8, Part 6, Division 6 (commencing at Section 12930) of the California Water Code,] and all acts of the California legislature amendatory thereto or supplementary thereof, and California Water Code sections 1810 through 1814, among THE DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA, hereinafter referred to as DWR, THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, and INSERT CONTRACTOR HERE, hereinafter referred to as the Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof, with its principal place of business in California; collectively referred to as Parties.

EXPLANATORY RECITALS

A. WHEREAS, the United States has constructed and is operating the Central Valley Project, California, (CVP) for diversion, storage, carriage, distribution and beneficial use, for flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection and restoration, generation and distribution of electric energy, salinity control, navigation and other beneficial uses, of waters of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries; and

B. WHEREAS, the United States constructed the CVP facilities, which will be used in part for furnishing the water which DWR will convey to the Contractor pursuant to the terms of this Contract; and

C. WHEREAS, CVP Water may be made available to the Contractor from the Sacramento-San Joaquin River Delta (Delta) and/or the Friant Division of the CVP and delivered to the Contractor through appropriate federal, state and/or local facilities; and

D. WHEREAS, DWR is engaged in the operation of the State Water Resources Development System pursuant to the laws of the State of California involving the development, transportation, and delivery of water supplies to public agencies throughout the State of California; and

E. WHEREAS, the Cross Valley Canal, connecting the California Aqueduct and the Friant-Kern Canal in Kern County, has been constructed by the Contractor and others at no cost to either the United States or DWR and is currently operated by Kern County Water Agency; and

F. WHEREAS, the Contractor has the right to use the Cross Valley Canal for

conveyance of the CVP Water furnished hereunder; and

G. WHEREAS, the rights to CVP Water were acquired by the United States pursuant to California law for operation of the CVP; and

H. WHEREAS, the Contractor, DWR and the United States entered into Contract No. 14-06-200-LTR, as amended, which established terms for the delivery to the Contractor of CVP Water from November 12, 1975, through February 29, 1996; and

I. WHEREAS, the Contractor, DWR and the United States have pursuant to subsection 3404(c)(1) of the Central Valley Project Improvement Act (CVPIA), subsequently entered into interim renewal contract(s) identified as Contract No(s). 14-06-200-LTR -IR1, IR2, IR3, IR4, IR5. IR6, IR7, IR8, IR9, IR10, IR11, IR12, IR13, IR14 and IR15 the current of which is hereinafter referred to as the Existing Contract, which provides for the continued water service to the Contractor from March 1, 2014, through February 29, 2016; and

J. WHEREAS, Section 3404(c) of the CVPIA provides for long-term renewal of the Existing Contract following completion of appropriate environmental documentation, including a programmatic environmental impact statement (PEIS) pursuant to the National Environmental Policy Act analyzing the direct and indirect impacts and benefits of implementing the CVPIA and the potential renewal of all existing contracts for CVP Water; and

K. WHEREAS, the United States has completed the PEIS and all other appropriate environmental review necessary to provide for long-term renewal of the Existing Contract and this Contract; and

L. WHEREAS, the Contractor has requested the long-term renewal of the

Existing Contract, pursuant to the terms of the Existing Contract, Federal Reclamation law, and the laws of the State of California, for water service from the CVP; and

M. WHEREAS, the United States and DWR have determined that the Contractor has fulfilled all of its obligations under the Existing Contract; and

N. WHEREAS, to provide for long-term renewal of the Existing Contract, the United States and Contractor shall, concurrent with the execution of this Contract, enter into that certain water service contract, Contract No. 14-06-200-LTR; and

O. WHEREAS, the Contractor has entered into an agreement entitled "Agreement Regarding California Environmental Quality Review for Cross Valley Canal Contractors' Contracts for Renewal of Central Valley Project Water Supply and Conveyance Through State Facilities" by and among the Contractor, other Cross Valley Canal contractors similarly situated to Contractor, and DWR. Pursuant to that agreement, Lower Tule Irrigation District, as Lead Agency, is preparing an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) on behalf of all CVC contractors to provide CEQA compliance for the execution of this Contract; and

P. WHEREAS, DWR as a responsible agency has reviewed and considered the information in the EIR prepared by the Lead Agency and all other appropriate environmental documentation prior to entering into this Contract; and

Q. WHEREAS, the parties intend by this Contract to continue a cooperative relationship in order to achieve their mutual goals; and

R. WHEREAS, the United States and the Contractor desire to contract with DWR for conveyance of CVP Water through the facilities of the SWP under an

arrangement wherein the United States will furnish the necessary power for pumping such water through DWR's Harvey O. Banks (Banks) Pumping Plant and Dos Amigos Pumping Plant (Dos Amigos) so that DWR can provide Contractor with the conveyance of CVP Water under the terms of this Contract; and

S. WHEREAS, DWR desires to place its conveyance services into a contract separate from the contract providing for Reclamation's water service obligations; and

T. WHEREAS, DWR is willing to convey such water through SWP Facilities subject to the needs for SWP project operations, services to SWP Contractors, the availability of transportation capacity and payment of costs as herein provided; and

U. WHEREAS, the Existing Contract states that DWR shall negotiate in good faith with the Contractor and the United States in a process providing for the execution of a long-term renewal contract provided that no such contract shall obligate DWR beyond February 28, 2035, without further negotiations; and

V. WHEREAS, the United States, DWR, and the Contractor are willing to enter into this long-term conveyance contract on the terms and conditions set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the Parties hereto as follows:

1. DEFINITIONS

When used herein unless otherwise distinctly expressed, or manifestly incompatible with the intent of the Parties as expressed in this Contract, the term:

(a) "Calendar Year" shall mean the period January 1 through December 31, both dates inclusive;

(b) "Cross Valley Canal" shall mean the water conveyance and related works in Kern County constructed by the Contractor and others to deliver water from the SWP Facilities, which canal currently is operated by Kern County Water Agency;

(c) "Cross Valley Canal Operator" shall mean the entity which operates the Cross Valley Canal;

(d) "CVP" shall mean the Central Valley Project owned by the United States and managed by the Department of the Interior, Bureau of Reclamation;

(e) "CVP Water" shall mean all water that is developed, diverted, stored, or delivered by Reclamation in accordance with the statutes authorizing the CVP and in accordance with the terms and conditions of water rights acquired pursuant to California law made available to the Contractor pursuant to the Water Service Contract;

(f) "CVPIA" shall mean the Central Valley Project Improvement Act, Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706);

(g) "Minimum Operation, Maintenance, Power, & Replacement (OMP&R) Costs" shall mean those OMP&R costs incurred by DWR irrespective of the amount of water delivered for the Contractor;

(h) "Operation and Maintenance" or "O&M" shall mean normal and reasonable care, control, operation, repair, replacement (other than capital replacement), and maintenance of SWP facilities;

(i) "Operations Manual" shall mean the manual developed by DWR and Reclamation setting forth procedures, which shall be consistent with this Contract,

for working level communications including scheduling and accounting for power and water deliveries;

(j) “Reclamation” shall mean the United States Department of the Interior, Bureau of Reclamation;

(k) “Secretary” shall mean the Secretary of the Interior, a duly appointed successor, or an authorized representative acting pursuant to any authority of the Secretary and through any agency of the United States Department of the Interior;

(l) "SWP" shall mean the State Water Project as authorized by California Water Code sections 11100 et seq. and California Water Code sections 12930 et seq.;

(m) "SWP Contractor(s)" shall mean those entities with a long-term water supply contract of the type included in DWR Bulletin 141;

(n) "SWP Facilities" shall mean that portion of the SWP (including DWR's portion of San Luis Unit joint-use facilities), necessary to convey CVP Water from the Delta to points of delivery along the California Aqueduct;

(o) “Transportation Minimum OMP&R Cost” and “Transportation Variable OMP&R Costs” shall mean those costs incurred by DWR for OMP&R of SWP Facilities for delivery of water for the Contractor;

(p) "Variable Operation, Maintenance, & Replacement (OM&R) Costs" shall mean the costs incurred by DWR for OM&R of all SWP Facilities used in conveying CVP Water for the Contractor which costs are dependent upon and vary with the amount of water delivered for the Contractor;

(q) “Water Service Contract” shall mean that certain long-term renewal

water service contract between Contractor and the United States for the supply of CVP Water, Contract No. 14-06-200-____-LTR__;

(r) "Year" shall mean the period from and including March 1 of each Calendar Year through the last day of February of the following Calendar Year.

2. TERM OF CONTRACT

(a) This Contract shall be effective March 1, 2014 through February 28, 2035. In the event the Contractor wishes to renew this Contract beyond February 28, 2035, DWR, Reclamation and the Contractor may renew this Contract to convey water for additional periods on terms mutually agreeable to the Parties.

(b) The Parties acknowledge that operation of SWP Facilities is not, and shall not be, subject to federal Reclamation Law.

3. WATER TO BE CONVEYED FOR THE CONTRACTOR

(a) DWR shall provide water conveyance service through SWP Facilities for the Contractor pursuant to this Contract and assumes no responsibility for providing a water supply which is to be made available for the Contractor by Reclamation under its separate Water Service Contract.

(b) Reclamation may make CVP Water available in the Delta, through Federal Delta diversion and conveyance facilities, and/or from the Federal share of storage at San Luis Reservoir for the Contractor for conveyance by DWR. For CVP Water made available by Reclamation from Federal diversion and conveyance facilities and/or from the Federal share of storage at San Luis Reservoir for such conveyance, the point at which such water shall be made available for conveyance by DWR is O'Neill Forebay.

(c) Reclamation shall notify DWR of the proposed quantity, location and timing of CVP Water made available for the Contractor for conveyance by DWR pursuant to this Contract. Reclamation assumes no responsibility for such conveyance.

(d) When CVP Water is made available by Reclamation for the Contractor, DWR shall provide for the Contractor, subject to the availability of capacity as determined by DWR, conveyance of such CVP Water consistent with the following:

(1) Reclamation shall make water available for the Contractor as set forth in the Water Service Contract. Such deliveries for the Contractor shall be made at such times and rates of flow as Reclamation and DWR shall agree.

(2) DWR, in accordance with an approved delivery schedule, shall convey the amount of CVP Water for the Contractor; provided that such deliveries of CVP Water shall be made only in a manner which will not increase the cost of, or adversely affect, SWP operations and services to SWP Contractors. Such deliveries shall be made as follows:

(i) To Cross Valley Canal turnouts in Reach 12E or other turnouts from the California Aqueduct in Reaches 2A through 12E;

(ii) To O'Neill Forebay to be stored by Reclamation in the Federal share of storage in San Luis Reservoir for later release and conveyance by DWR for the Contractor; or

(iii) To other points of delivery mutually agreed to in writing by DWR, Reclamation and the Contractor;

(3) The total amount of CVP Water made available to DWR for the Contractor by Reclamation shall include water to compensate DWR for water

conveyance losses incurred in the conveyance of CVP Water for the Contractor. The amount of such losses are 2% from the Delta through Reach 3 or 3% from the Delta through Reach 12E of the CVP Water made available unless otherwise determined by DWR. DWR may adjust the percentage of losses if supported by DWR's technical analysis provided to the Parties. DWR's determination will remain consistent with the then current losses policy applied to other DWR conveyance agreements.

(4) CVP Water received by DWR for conveyance and possible storage in the Federal share of San Luis Reservoir for delivery to the Contractor will be commingled with waters of DWR which are pumped through facilities of the California Aqueduct and with other waters of both the United States and DWR in the joint-use facilities of the San Luis Unit.

(5) Upon request of Reclamation, DWR will allow the encroachment of CVP water stored by Reclamation for the Contractor in the State share of San Luis Reservoir provided that such encroachment shall be only in a manner which will not increase the cost of, or adversely affect, SWP operations and services to SWP Contractors.

(6) Subject to the necessary arrangements, Reclamation shall transmit or cause to be transmitted, by exchange or otherwise, such quantities of power as shall be required by DWR to pump through Banks and DWR's share of Dos Amigos, the quantities of CVP Water pursuant to subdivision (b) of this Article.

(7) DWR shall furnish Reclamation with such information as Reclamation and DWR agree is needed regarding the timing and quantities of power required by DWR to pump CVP Water. Such information shall be exchanged between

Reclamation and DWR in accordance with provisions that may be set forth in an Operations Manual.

(8) Reclamation and DWR may, under terms and conditions satisfactory to both, and in accordance with applicable law, exchange water and/or power necessary for delivery of CVP Water for the Contractor under terms of this Contract.

(e) Conveyance of CVP Water by DWR shall be subject to capacity available in SWP Facilities in excess of capacity determined by DWR to be needed for SWP operations or services to any SWP Contractor. Conveyance and/or storage for the Contractor may be curtailed prior to or subsequent to approval of the Contractor's schedule under Article 4 of this Contract, in the event DWR determines the delivery would interfere with the delivery of water to SWP Contractors or other SWP operations such as a State Drought Water Bank necessary to meet obligations of the SWP, including delivery of water to SWP storage or reregulation of stored water for delivery to SWP Contractors.

(f) For purposes of determining the available capacity under this Contract, the deliveries of CVP Water for the Contractor shall not be considered a "service to SWP Contractors," notwithstanding any arrangement the Contractor may have with a SWP Contractor.

(g) If DWR is precluded in whole or in part from conveying water under this Contract as a result of uncontrollable forces, DWR is relieved from the obligation to deliver the water to the extent it is reasonably unable to complete the obligation due to the uncontrollable force. Uncontrollable forces shall include, but are not limited to

earthquakes, fires, tornadoes, floods and other natural or human caused disasters.

(h) DWR may temporarily discontinue or reduce the quantity of CVP Water to be delivered to the Contractor for the purpose of investigation, inspection, maintenance, repair or replacement of any SWP Facilities or any part thereof necessary for the delivery of CVP Water to the Contractor. To the extent reasonably practicable, DWR shall give the Contractor notice in advance of such temporary discontinuance or reduction, except in the case of emergency, in which case no notice need be given. DWR shall use its best efforts to avoid such discontinuances or reductions in such service, and upon resumption of service after such reduction or discontinuance, and if requested by the Contractor, DWR will, if capacity is available, deliver the quantity of CVP Water which otherwise would have been delivered in the absence of such discontinuance or reduction, but only to the extent such delivery can be made without adversely impacting SWP operations and deliveries to SWP Contractors. For CVP Water not delivered after a discontinuance or reduction, the Contractor shall be responsible for all costs as set forth in Article 9 of this Contract.

(i) Subject to the limitations provided herein, DWR shall make all reasonable efforts consistent with sound fiscal policies, and proper operating procedures to maintain necessary facilities and to deliver CVP Water to the Contractor in accordance with the provisions of this Contract in such a manner and at such times as such CVP Water is scheduled by the Contractor.

4. OPERATIONS MANUAL

DWR and Reclamation may develop an Operations Manual for use by DWR and Reclamation. DWR and Reclamation may update the Operations Manual from time to

time without amendment of this Contract.

5. SCHEDULING CONVEYANCE OF WATER

(a) On or before each March 1, and at such other times as necessary, the Contractor shall submit to DWR and Reclamation a written schedule in a form satisfactory to DWR and Reclamation. The written schedule, at a minimum, shall show by month the quantities and expected point(s) of delivery of CVP Water to be conveyed by DWR for the Contractor pursuant to this Contract for the Year.

(b) If the delivery of the water would involve use of the Cross Valley Canal, the Contractor's requested schedule and any modifications thereto shall indicate concurrence from the Cross Valley Canal Operator.

(c) If DWR is unable to convey CVP Water in the quantities and times requested in the schedule, the Contractor may elect to receive such CVP Water at other times during such year as DWR determines, in consultation with the Contractor, that the water can be delivered without interference with SWP operations or services to SWP Contractors.

(d) Pumping of CVP Water for the Contractor at Banks and Dos Amigos shall be identified separately from other federal pumping at these plants.

(e) Pumping of CVP Water for the Contractor at Banks and DWR's share of Dos Amigos will normally be done during on-peak hours unless DWR determines that off-peak capacity is available that is not needed for SWP operations or services to SWP Contractors.

6. POINT OF DELIVERY AND EXCHANGES

(a) CVP Water scheduled and conveyed pursuant to this Contract shall

be delivered for the Contractor at a point or points of delivery in Reaches 2A through 16A or other points of delivery mutually agreed to in writing by Reclamation, DWR, and the Contractor.

(b) The Parties acknowledge that CVP Water shall be conveyed by DWR and delivered for the Contractor by direct delivery via the Cross Valley Canal and/or by exchange arrangements involving Arvin-Edison Water Storage District or others.

(c) DWR shall have no obligation to make exchange arrangements or be responsible for water transported in facilities that are not a part of the SWP.

7. MEASUREMENT OF WATER DELIVERED

DWR shall measure all water delivered for the Contractor from the California Aqueduct and shall keep and maintain accurate and complete records thereof.

8. RESPONSIBILITY FOR DELIVERY AND DISTRIBUTION OF WATER

(a) Neither DWR nor any of its officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of water delivered for the Contractor after such water has passed the delivery points established in Article 6, nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond said delivery structures; and the Contractor shall indemnify and hold harmless DWR and its officers, agents, and employees from any such damages or claims of damages, except for any damage or claim arising out of the sole negligence or willful misconduct of DWR, its officers, agents, employees, or assigns.

(b) Neither the Contractor nor any of its officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of water being delivered by DWR before such water has passed the delivery points established in accordance with Article 6; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such water before it has passed said delivery points;

(c) The United States shall not be responsible for the conveyance of CVP Water under this Contract, or the control, carriage, handling, use, disposal, or distribution of CVP Water made available for the Contractor beyond the Delta or, if stored in San Luis Reservoir, beyond O'Neill Forebay. The Contractor shall indemnify Reclamation, its officers, employees, agents, and assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility pursuant to this Contract.

9. RATES AND METHOD OF PAYMENT FOR CONVEYANCE AND OTHER SERVICES BY DWR.

(a) The Contractor shall reimburse DWR for all costs incurred by DWR for providing services to the Contractor pursuant to this Contract regardless of whether DWR delivers any water to the Contractor.

(b) To the extent CVP Water is conveyed through SWP Facilities, payment of the costs of conveyance of water through the SWP Facilities shall be made by the Contractor directly to DWR. The charges and interest rates applicable upon execution of this Contract are set forth in Exhibit "A."

(c) Each year DWR shall revise Exhibit "A" and determine the charge per acre-foot for conveyance of water through SWP Facilities pursuant to this Contract as follows:

(1) When DWR provides conveyance directly from the Delta the unit conveyance charge shall equal the sum of the following, as determined by DWR:

(i) The equivalent unit transportation capital and Minimum OMP&R Costs for Reaches 1 through applicable reaches, excluding Reach 3A, of the California Aqueduct;

(ii) The portion of the Delta Water Rate for Reaches 1, 2A, 2B and 3 of the California Aqueduct;

(iii) The replacement component of the transportation Variable OM&R Costs for Banks and DWR's share of Dos Amigos;

(iv) A charge to offset direct fish losses associated with pumping at Banks, pursuant to the December 30, 1986, agreement between the California Department of Fish and Wildlife and DWR;

(v) Water System Revenue Bond Surcharge;

(vi) Any components or other categories of charges pursuant to this Contract not known at the execution of this Contract, including, but not limited to, those that are identified in the annual Appendix B of DWR Bulletin 132; and

(vii) The incremental costs, if any, caused by the conveyance and delivery of CVP Water to the Contractor pursuant to this Contract which, unless included in the increased charges to the Contractor, would result in increased charges to the SWP Contractors or increased costs to DWR.

(2) When DWR provides conveyance directly from the federal share of storage at San Luis Reservoir, the unit conveyance charge shall equal the sum of the following, as determined by DWR:

(i) The equivalent unit transportation capital and Minimum OMP&R Costs for Reaches 3 through applicable reaches, excluding Reach 3A, of the California Aqueduct;

(ii) The portion of the Delta Water Rate for Reach 3 of the California Aqueduct;

(iii) The replacement component of the transportation Variable OM&R Costs for DWR's share of Dos Amigos;

(iv) Water System Revenue Bond Surcharge;

(v) Any components or other categories of charges pursuant to this Contract not known at the execution of this Contract, including, but not limited to, those that are identified in the annual Appendix B of DWR Bulletin 132; and

(vi) The incremental costs, if any, caused by the conveyance and delivery of CVP Water to the Contractor pursuant to this Contract which, unless included in the increased charges to the Contractor, would result in increased charges to the SWP Contractors or increased costs to DWR.

(d) DWR shall invoice the Contractor monthly for all conveyance charges owing for the previous month. Payment by the Contractor to DWR shall be due thirty (30) days after the date of the invoice. Any payment not received within thirty (30) days after the date of the invoice shall be considered delinquent. Delinquent charges

shall be calculated in accordance with this Contract: Provided, that no interest shall be charged to or be paid by the Contractor unless such delinquency continues for more than thirty (30) days in total.

(e) Prior to December 31 of each Calendar Year, DWR shall notify the Contractor in writing of the charges to be in effect during the following Calendar Year, and such notification shall revise Exhibit "A" of this Contract. At the same time DWR shall provide to the Contractor a copy of the then most recent version of Appendix B of DWR Bulletin 132, which is the basis for calculating the charges to the Contractor to be in effect during that Calendar Year.

(f) If the Contractor is unable, fails, or refuses to accept delivery of CVP Water conveyed by DWR in accordance with this Contract, such inability, failure, or refusal shall not relieve the Contractor of its obligations to pay DWR all associated costs.

(g) The Contractor shall pay DWR a monthly administrative charge specified in Exhibit “A” for each month in which DWR conveys CVP Water to the Contractor and for each month in which DWR invoices the Contractor for delinquent charges.

(h) Pursuant to the “Contract Between United States Department of Energy Western Area Power Administration and State of California Department of Water Resources for California Independent System Operator Scheduling Coordinator Services for Joint-Use Facilities of the San Luis Unit and Certain DWR Pumping Facilities” (Contract # 12-SNR-01605), dated June 27, 2012, Western Area Power Administration (Western) agreed to pay DWR for Scheduling Coordinator (SC)

California Independent System Operator (CAISO) charges and charges for SC-related services incurred by DWR, and attributable to DWR acting as SC for the federal share of the Joint-Use Facilities and for certain DWR owned or operated pumping facilities to the extent they are used to pump federal water by mutual agreement between DWR and Reclamation. The Parties to this Contract agree that Contract # 12-SNR-01605, as now existing and as amended from time to time, applies to this Contract. If Western fails to pay DWR for charges incurred during the term of Contract #12-SNR-01605, DWR reserves the right to temporarily suspend conveyance under this Contract after providing Reclamation and the Contractor with 30 days written notice.

(1) Prior to the expiration of Contract # 12-SNR-01605, Reclamation and DWR will meet and confer with Western to discuss potential renewal. If Contract #12-SNR-01605 is renewed or a new contract is entered into to pay for the SC CAISO charges and charges for SC- related services, such contract will be the basis for paying these charges under this Contract.

(2) If Reclamation, DWR, and Western are unable to reach any such agreement on the payment of SC CAISO charges and charges for SC-related services, DWR reserves the right to suspend conveyance under this Contract after providing Reclamation and the Contractor with 30 days written notice. In the alternative, the Contractor and DWR may reach agreement on the Contractor's payment obligations for the SC CAISO charges and charges for SC-related services in order to avoid interruption of conveyance.

(i) The amount of any overpayment by the Contractor shall be applied first to any balance due by the Contractor to DWR. Any amount of overpayment

remaining shall, at the option of Contractor, be refunded to the Contractor or credited upon amounts to become due to DWR from Contractor in the following months. With respect to overpayment, such adjustment shall constitute the sole remedy of the Contractor.

(j) In the event that the Contractor contests the accuracy of any invoice submitted to it by DWR pursuant to this Contract it shall give DWR notice thereof at least ten (10) days prior to the day upon which payment of the stated amount due. To the extent that DWR finds that the Contractor's claims regarding the invoice are correct, it shall revise the invoice accordingly, and the Contractor shall make payment of the revised amounts on or before the due date. To the extent that DWR does not find the Contractor's claims correct, or where time is not available for review of such claims for correctness prior to due date, the Contractor shall make payment of the stated amounts on or before the due date, but may make the contested part of such payment under protest and seek to recover the amount from DWR.

(k) If in any year, by reason of errors in computation or other causes, there is an overpayment or underpayment to DWR by the Contractor of its charges, the amount of such overpayment or underpayment shall be credited or debited, as the case may be, to the Contractor's account for the next succeeding year and DWR shall notify the Contractor in writing.

10. ASSIGNMENT OF CONTRACT

Without the prior written consent of DWR, Reclamation, and the Contractor, this Contract is not assignable in whole or in part.

11. MODIFICATION OF CONTRACT

No modification of the terms of this Contract shall be valid unless made in writing and signed by the Parties to this Contract.

12. PARAGRAPH HEADINGS

The paragraph headings of this Contract are for the convenience of the Parties and shall not be considered to limit, expand, or define the contents of the respective paragraphs.

13. OPINIONS AND DETERMINATIONS

Where the terms of this Contract provide for actions to be based upon the opinion or determination of any party to this Contract, said terms shall not be construed as permitting such action to be predicated upon arbitrary, capricious, or unreasonable opinions or determinations. As provided in Article 14, the Parties expressly reserve the right to seek relief from and appropriate adjustment for any such arbitrary, capricious or unreasonable opinion or determination. Each opinion or determination by any party to this Contract shall be provided in a timely manner.

14. DISPUTE RESOLUTION

In the event of a dispute regarding interpretation or implementation of this Contract, a party shall provide written notice of the dispute to the other Parties. The Parties shall endeavor to resolve the dispute by meeting within 30 days of the written notice, or at a later date by mutual written agreement by the Parties. The representative for each party to this meeting shall be an individual authorized by that party to resolve the Contract interpretation or implementation issues. If the dispute is unresolved following the meeting, the authorized signatory of the Contractor or its designee, the Director of DWR and the Regional Director of Reclamation or their designees shall meet

within 30 days (Directors' meeting), or at a later date by mutual written agreement of the Parties, after the initial meeting to resolve the dispute. If the dispute still remains unresolved, the Parties shall use the services of a mutually acceptable consultant in an effort to resolve the dispute. The Parties shall share the fees and expenses of the consultant equally. If a consultant cannot be agreed upon, or if the consultant's recommendations are not acceptable to the Parties, or 90 days after the Directors' meeting, and unless the Parties otherwise agree, the matter may be resolved by litigation, and any party may at its option pursue any available legal remedy, including but not limited to, injunctive and other equitable relief; provided that this process shall not be required where a delay in commencing an action would prejudice the interests of the party that intends to file suit. Except as specifically provided, nothing herein is intended to waive or abridge any right or remedy that any party may have.

15. NOTICES

Any notice, demand or request authorized by this Contract shall be in writing and either hand-delivered or sent by United States first class mail, postage prepaid, or by facsimile or electronic mail followed by written notice sent by U.S. mail. Unless and until formally notified otherwise, notices shall be sent to the following addresses:

Director of Water Resources

P.O. Box 942836

Sacramento, CA 94236-0001

Contractor (Full name of District)

Address

City, State, & ZIP Code

Regional Director, Mid-Pacific Region

U.S. Department of the Interior Bureau of Reclamation

Address

City, State, & ZIP Code

16. SIGNATURE CLAUSE

The signatories represent that they have been appropriately authorized to enter into this Contract on behalf of the party for whom they sign. A copy of the resolution authorizing the Contractor to enter into this Contract shall be delivered to DWR before implementation of this Contract.

IN WITNESS WHEREOF, the Parties hereto have executed this Contract as of the day and year first above written.

UNITED STATES OF AMERICA

By: _____
Regional Director, Mid-Pacific Region
Bureau of Reclamation

Approved as to Legal Form and Sufficiency

DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA

_____
Chief Counsel
Department of Water Resources

By: _____
Director
Department of Water Resources

(SEAL)

INSERT CONTRACTOR HERE

By: _____
President, Board of Directors

Attest:

_____
Secretary

Cross Valley Contractors
Renewal of Conveyance
Contracts EIR

APPENDIX

C

POTENTIAL EXCHANGE AGENCIES FOR FUTURE CVC EXCHANGES

Table C-1 CVP Water Service Contracts South of the Delta

Friant Division CVP Contractors	M&I	Ag	CVP Division Unit	Contract Expiration Date
Arvin-Edison Water Storage District	●	●	Friant Div./Friant Dam & Reservoir/Friant-Kern Canal	Indefinite
Delano-Earlimart Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Exeter Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Fresno Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Garfield Water District		●	Friant Div./Friant-Kern Canal	Indefinite
Ivanhoe Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Kaweah Delta Water Conservation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Lewis Creek Water District		●	Friant Div./Friant-Kern Canal	Indefinite
Lindmore Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Lindsay-Strathmore Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Lower Tule River Irrigation District		●	Friant Div./Friant-Kern Canal	Indefinite
Orange Cove Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Porterville Irrigation District		●	Friant Div./Friant-Kern Canal	Indefinite
Saucelito Irrigation District		●	Friant Div./Friant-Kern Canal	Indefinite
Shafter-Wasco Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Southern San Joaquin Municipal Utility District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Stone Corral Irrigation District		●	Friant Div./Friant-Kern Canal	Indefinite
Tea Pot Dome Water District		●	Friant Div./Friant-Kern Canal	Indefinite
Terra Bella Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
Tulare Irrigation District	●	●	Friant Div./Friant-Kern Canal	Indefinite
CVC Division CVP Contractors				
Fresno, County of	●	●	Cross Valley Canal	2018
Hills Valley Irrigation District	●	●	Cross Valley Canal	2018
Kern-Tulare Water District	●	●	Cross Valley Canal	2018
Lower Tule River Irrigation District	●	●	Cross Valley Canal	2018
Pixley Irrigation District	●	●	Cross Valley Canal	2018
Tri-Valley Water District	●	●	Cross Valley Canal	2018
Tulare, County of	●	●	Cross Valley Canal	2018
San Felipe Division CVP Contractors				
San Benito County Water District	●	●	San Felipe Div.	2027
Santa Clara Valley Water District	●	●	San Felipe Div.	2027

Table C-1 CVP Water Service Contracts South of the Delta

Friant Division CVP Contractors	M&I	Ag	CVP Division Unit	Contract Expiration Date
West San Joaquin Division CVP Contractors				
Pacheco Water District	●	●	West San Joaquin Div./San Luis Unit	2024
Panoche Water District	●	●	West San Joaquin Div./San Luis Unit	2017
San Luis Water District	●	●	West San Joaquin Div./San Luis Unit	2017
Westlands Water District	●	●	West San Joaquin Div./San Luis Unit	2018
Delta Division CVP Contractors				
Central California Irrigation District		●	Delta Div.	Indefinite
Fresno Sough Water District			Delta Div./Mendota Pool	Indefinite
James Irrigation District			Delta Div./Mendota Pool	Indefinite
Tranquility Irrigation District			Delta Div./Mendota Pool	Indefinite

Table C-2 Other Potential Exchange Partners

Non-CVP Contractors	
Buena Vista Storage District	Kings County Water District
Consolidated Irrigation District	Kings River Conservation District
Corcoran Irrigation District	Lakeside Irrigation Water District
Deer Creek & Tule River Authority	Liberty Water District
Kern County Water Agency	North Kern Water Storage District
Kern Delta Water District	Tulare Lake Basin Water Storage District
Kern Water Bank Authority	

Cross Valley Contractors
Renewal of Conveyance
Contracts EIR

APPENDIX D

SUMMARY OF ENVIRONMENTAL ANALYSES CONTAINED IN RELATED NEPA/CEQA DOCUMENTS

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
CVP Water Users South of the Delta		
All Divisions/Units (Delta Div., San Luis Unit, San Felipe Unit, CVC Contractors)		
Final Environmental Assessment Accelerated Water Transfers and Exchanges, CVP, South of Delta Contractors Years 2011-2015 (Reclamation 2011).	The Proposed Action is to continue to implement an accelerated water transfer program (AWTP) that facilitates efficient water management by allowing contractors within the same geographical areas to conduct annual transfer of the type historically carried out under an accelerated program for the period March 2011 through February 29, 2016. The AWTP would allow water transfers and/or exchanges between SOD CVP Contractors. This includes the Delta Division, San Luis Unit, San Felipe Unit and CV Contractors with CVP water served from CVP Delta Division facilities or through the SWP Banks Pumping Plant, which sometimes acts as a Joint Point of Diversion. The cumulative amount of water transferred or exchanged annually would be limited to 150,000 af.	The Final EA concluded the following: > **Water Resources** – although surface water deliveries to individual contractors could increase or decrease under the Proposed Action Alternative, this change is driven by the need to meet existing demands within fluctuating hydrologic and economic conditions. Since the individual district has control over the transfer of the water and since it is a reasonable assumption that a district would not make adverse water management decisions, for the good of the district landholders, the surface water supplies within each district would not be negatively impacted from the standpoint of needed water deliveries or "good water management." Under the Proposed Action, the delivery of transferred or exchanged water would reduce the need for an amount of groundwater pumping in individual districts. Groundwater pumping can deplete the already compromised aquifer in the SJV. Delivery of transferred-in surface water can offset the need for groundwater pumping and improve the quality of the water applied to agricultural lands or for M&I purposes. There would be a slight benefit to groundwater resources from the Proposed Action as it would reduce the need for groundwater pumping. > **Land Use** – under the Proposed Action, the AWTP would not cause land use changes as it precludes land use changes. > **Biological Resources** – Proposed Action would not alter CVP operations, water storage or release patterns from CVP facilities, or the maximum volume of water delivered to the Contractors; therefore, there would be no adverse impacts to biological resources as a result of the Proposed Action. > **Socioeconomic** – Proposed Action would increase

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		the flexibility of water deliveries to the contractors. This increased flexibility may lead to a further diversification of crops within these districts. This could lead to a shift in the timing needs of farm labor during the year the Proposed Action would occur; however, the need for farm labor is not expected to change as a result of Proposed Action.
West San Joaquin Div./San Luis Unit		
Draft EIS for the Long-Term Water Service Contract Renewal for the San Luis Unit, which *includes the Pacheco Water District, PWD, SLWD, and Westlands Water District (WWD)* (Reclamation 2005b).	The Preferred Alternative was based upon the final or near-final versions of the long-term water service contracts that had been negotiated between Reclamation and each of the San Luis Unit Contractors.	The EIS analysis was for contracts extending through February 28, 2045. Although the EIS was not finalized.
Finding of No Significant Impact and Final Environmental Assessment for San Luis Unit Water Service Interim Renewal Contracts 2010–2013 (Reclamation 2010d).	Same as above	The Final EA concluded the following: > **Water Resources** – execution of the 11 IRCs will not change contract water quantities from existing quantities, will not lead to increased water use, and a shift to groundwater due to the IRCs will not occur. > **Biological Resources** – the amount and timing of storage at CVP reservoirs and flows in rivers and streams that convey CVP water during 2-year contract period are expected to be similar to the amount and timing of storage and flows under historic CVP operations and will conform with all existing BOs and to regulatory requirements. > **Land Use** – the renewal of 11 IRCs will not provide for additional water supplies that could act as an incentive for conversion of native habitat. > **Socioeconomic** – the renewal of 11 IRCs will provide continued stability to the agricultural industry within the contractors' service area resulting in beneficial impacts.
Finding of No Significant Impact and Final Environmental Assessment for San Luis Water District's (SLWD) and Panoche Water District's (PWD) Water Service Interim Renewal Contracts 2011-2013	The Proposed Action is the continued delivery of CVP water under the interim renewal of SLWD's and PWD's existing contracts which includes terms and conditions required by non-discretionary CVPIA provisions. The Proposed Action contains provisions consistent with	The Final EA concluded the following: > **Water Resources** – Execution of SLWD's and PWD's IRCs will not change contract water quantities from the quantities in the existing contracts, and will not lead to any increased water use. Therefore, there will

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
(Reclamation 2011).	interim renewal of current water service contracts as analyzed as part of the Preferred Alternative of the CVPIA PEIS adapted for an interim period but without implementation of tiered pricing.	be no effect on surface water supplies or quality. Since water quantities and deliveries will not change there will not be a shift to groundwater due to the interim renewal contracts. > **Land Use** – The interim renewal of SLWD's and PWD's contracts will not provide for additional water supplies that could act as an incentive for conversion of native habitat. SLWD's and PWD's renewal contracts will not change contract terms or conditions governing the allocation of CVP water during times of limited supply (e.g., drought), so will not provide additional water reliability conducive to conversion of land use from agricultural to M&I uses. > **Biological Resources** – The Proposed Action would not result in substantial changes in natural and semi-natural communities and other land uses that have the potential to occur within the study area and other portions of the San Luis Unit. On December 15, 2010 Reclamation received a concurrence letter from USFWS for the Proposed Action, concurring with Reclamation that effects of the Proposed Action are not likely to adversely affect San Joaquin kit fox, giant garter snake, and Delta smelt and its designated critical habitat. The execution of IRCs for SLWD and PWD will be subject to the terms and conditions as specified in the 2009 Grasslands Bypass Project Biological Opinion (USFWS 2009) and the February 23, 2011 Biological Opinion issued by NMFS. > **Socioeconomic** – Under the Proposed Action, there is no potential for effects to occur due to tiered pricing since SLWD's and PWD's interim renewal contracts are less than three years in duration. The renewal of SLWD's and PWD's interim contracts will provide continued stability to the agricultural industry within the contractors' service area resulting in beneficial impacts to socioeconomic resources. > **Air Quality** – Water delivery under these IRCs will move through existing federal facilities via gravity and electrical pumps as it will under the No Action

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		Alternative. Consequently, there are no impacts to air quality as a result of the Proposed Action and a conformity analysis is not required.
Finding of No Significant Impact and Final Environmental Assessment for Tranquility Irrigation District/San Luis Water District (SLWD) Groundwater Transfer/Exchange Program 2011-2013 (Reclamation 2011).	There is a need for SLWD to supplement their CVP allocation to ensure adequate water supply for over 24,000 acres of permanent crops within the district in the 2011 through 2013 water years. The purpose of the proposed transfer/exchange is to offset the effects of pumping restrictions and uncertain water supply conditions. The Proposed Action would involve the transfer of up to 15,000 af of water from TQID to SLWD over two water years (2011 through 2013). Transfer in any single water year shall not exceed 7,500 af.	The Final EA concluded the following: > **Water Resources** – Under the Proposed Action, Reclamation would approve a transfer/exchange of groundwater pumped from the TQID Well Field of up to 15,000 af for 2011-2012 through 2012-2013. This proposed transfer/exchange involving CVP water would not alter the flow regime of natural waterways or natural watercourses such as the Delta, rivers, streams, creeks, ponds, pools, wetlands, etc., so as to avoid detrimental effects on fish or wildlife or their habitats. No native or untilled land (fallow for 3 years or more) will be cultivated with CVP water involved in these actions. No new construction or modification of existing facilities is to occur in order to complete the proposed transfer/exchange. > **Land Use** – The proposed transfer/exchange would provide additional surface water to allow SLWD agricultural lands to remain in production, and to transfer groundwater for future delivery to support existing farmlands, minimize the potential for fallowing agricultural land, and avoid additional demand on Delta supplies. No new agricultural development is expected under the proposed transfer/exchange. The approval to be covered under this EA would be for 2011-2013 and would be limited to use of this groundwater with no resulting land use changes. > **Biological Resources** – Although the Proposed Action would transfer/exchange water through the Mendota Pool, water levels and flow of the Mendota Pool would not change and would therefore, not have an impact on the existing biological habitats. The proposed transfer/exchange would not involve the conversion of any land and would therefore not change the land use patterns of the cultivated or fallowed fields that do have some value to listed birds protected by the Migratory Bird Treaty Act (MBTA). Since no natural stream course alteration would occur, there would be no

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		effects on listed fish species. > **Socioeconomic** – The proposed transfer/exchange would not interfere with CVP priorities or operations and would result in temporarily increased water supply reliability for SLWD. The proposed transfer/exchange would have a positive socioeconomic impact to the SLWD area in that agricultural land would be maintained in production and the associated farm service industries would also be supported. The proposed transfer/exchange would allow for some additional portion of continued water deliveries to SLWD and would help to maintain the stability of the agricultural market and economic vitality for this part of the San Joaquin Valley. > **Air Quality** – Of the nine wells that would likely participate in the Proposed Action, none are powered with internal combustion engines. > **Greenhouse Gas Emissions** – GHG generated by the proposed transfer/exchange is expected to be extremely small compared to sources contributing to potential climate change since the exchange of water would be conveyed mostly via gravity and little, if any, additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Finding of No Significant Impact and Final Environmental Assessment Eastside Conveyance Project (Reclamation 2011).	The Proposed Action is a transfer from SLCC to PWD for up to 5,000 afy of CVP water from June 2011 through December 31, 2020. The SLCC to PWD transfer is made available through an interrelated, concurrent action, whereby Stevinson Water District (SWD) and Eastside Canal and Irrigation Company (ECIC) will transfer up to 5,000 afy of water rights water to SLCC.	The Final EA concluded the following: > **Water Resources** – The transferred water will consist only of surface water supplies and no groundwater supplies will be pumped as part of the Proposed Action. Therefore, there will be no significant impacts to surface water or groundwater supplies. > **Land Use** – The water transfer portion of the Proposed Action will provide an additional 5,000 afy CVP water to PWD for agricultural use. This additional supply will be

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		applied on land within PWD that long has been fully developed for agricultural use and will allow for crop production on approximately 1,500 acres annually that otherwise might have to be fallowed during periods of water shortage. The water will not be applied to land that has been fallowed for more than two years. The water transferred from SWD and ECIC will be new water generated through water conservation projects. No land within SWD or ECIC will be fallowed as a result of this project. Therefore, there will not be significant impacts to existing land use due to the Proposed Action. > **Biological Resources** – with implementation of the following avoidance and minimization measures, the Proposed Action will have no significant impact on biological resources: 1) a protocol-level field survey for burrowing owl will be completed 14 to 30 days prior to any ground disturbance in order to determine their presence. In addition, measures for avoiding "take" of burrowing owl will be followed, as detailed in, CDFG Staff Report and Burrowing Owl Consortium Guidelines (CDFG 1995); 2) if construction occurs during avian breeding season, preconstruction surveys for nesting Swainson's hawks shall be performed within 0.5 mile of the Project Area according to established protocol and protective measures implemented to avoid and minimize any potential effects (CDFG 1994) and preconstruction surveys for nesting cliff swallows under two bridges located on Turner Island Road; Pick Anderson Drain and the San Joaquin River; and 3) SJKF preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities. Reclamation will ensure that SLCC implement avoidance and minimization measures (AAM) for SJKF, U.S. Fish and Wildlife Service *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011a).

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		Reclamation consulted with the State Historic Preservation Officer (SHPO) on April 7, 2011, regarding a finding of no adverse effects to historic properties determination. SHPO concurred with Reclamation's findings and determination on May 17, 2011. > **Socioeconomic** – construction involved with the new conveyance facility will provide approximately 15 construction-related jobs during the construction period. The water transfer could allow an additional ±1,500 acres of farm land to be farmed during drought years which will retain approximately 15-20 agriculture related jobs during drought years. Therefore, there will be a slight beneficial impact to socioeconomic resources due to the Proposed Action. > **Air Quality** – short-term air quality impacts will be associated with construction, and will generally arise from dust generation (fugitive dust) and operation of construction equipment. The Proposed Action also involves the operation of electrically-driven pumps and motors; accordingly, there will not be any direct emissions from the operation of the facilities / equipment. The air quality emissions from electrical power have already been considered in environmental documentation for the generating power plant; therefore, a conformity determination is not required. Accordingly, project construction and operations under the Proposed Action will not result in significant impacts to air quality beyond Federal thresholds. > **Greenhouse Gas Emissions** – Proposed Action will involve a short-term increase in emissions during the construction and long-term impacts attributable to the generation of electrical energy for pumping. These emissions will vary annually, but have been estimated to average about 34 tons/year of carbon dioxide, which is negligible compared to the threshold for annually reporting GHG emissions (25,000 metric tons/year). Accordingly, construction and operation of the Proposed Action will result in below *de minimis* impacts

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		to global climate change.
Delta Div./DMC Unit		
Finding of No Significant Impact and Final Environmental Assessment for the Long-Term Contract Renewal for the Delta Mendota Canal Unit (Reclamation 2005c).	This renewal covers the Byron-Bethany Irrigation District (formerly Plain View Water District), the Del Puerto Water District and the Patterson Water District from March 2005 through February 2030. The Preferred Alternative was based upon the final negotiated contact language but some of the key provisions of the Preferred Alternative include: > The assumption that CVP water has been relied upon and considered essential by contractors. > Provisions for water transfers. > Tiered water pricing to 80% and above the total contract quantity. > The assumption that contracts will be renewed subject to certain conditions for agricultural water and unconditioned for M&I water. > The assumption that the CVP will operate in accordance with existing rules without obligations to operate towards water quality goals	The Final EA for the Preferred Alternative concluded the following: > **Water Resources** – will not change contract water quantities from existing contract quantities or cause any increased use. However, contract renewal could result in groundwater levels declining 1-3% because of the allocation of CVP water to Level 2 refuge water supplies and improved fish and wildlife habitat. If groundwater pumping proves to be more economical than obtaining surface water at a higher tiered price or through transfers, then groundwater pumping would increase over present levels. As a result, groundwater levels could decline with nor or little recharge, and land subsidence could increase over present rates. Soils may increase in salinity as salts concentrate as a result of insufficient water supply for adequate leaching or poor quality pumped groundwater. > **Land Use** – will not provide for additional water supplies that could act as an incentive for the conversion of native habitat for increased acreage of agriculture production, M&I development, of other activities. > **Air Quality** – contract renewal would not result in adverse impacts to air quality. Agricultural land uses would include similar crops and cropping patterns as existing conditions. It was assumed that retired or fallowed lands would naturally revegetate, be grazed by livestock, or be occasionally dryland-farmed. > **Socioeconomic** – contract renewal will have limited impact, even though costs will increase. Change of the threshold of a presumption of agricultural use from a 2- to 5-acre minimum will not significantly affect farmers; the smaller acreage would qualify for lower agricultural rates.
Finding of No Significant Impact and Final Environmental Assessment, Three Delta	The Proposed Action is to continue the interim contracts to 2014. The water service contracts contain provisions	The FONSI is supported by the following factors: > **Water Resources –** renewal of IRCs delivering the

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
Division and Five San Luis Unit Water Service Interim Renewal Contracts 2012-2014 (Reclamation 2012a).	that allow for adjustments resulting from court decisions, new laws, and changes in regulatory requirements imposed through reconsultations. To the extent that additional restrictions are imposed on CVP operations to protect threatened or endangered species, those restrictions will be implemented in the administration of the contracts. As a result, the IRCs will conform to any applicable requirements lawfully imposed under the Federal Endangered Species Act (ESA) or other applicable environmental laws (p.2).	same quantities of water that have historically been put to beneficial use will not result in effects on surface water supplies or water quality. > **Land Use** – renewal of IRCs will support existing land use and not provide for additional water supplies that could act as an incentive for conversion of native land. > **Biological Resources** – Proposed Action will not result in substantial changes in natural and semi-natural communities and other land uses that have the potential to occur within the interim renewal contractor's service area.
San Felipe Division		
Finding of No Significant Impact and Final Environmental Assessment, Santa Clara Valley Water District (SCVWD) Long-Term Groundwater Banking Project Storage and Exchange of Central Valley Project Water with Semitropic Water Storage District (Reclamation 2006b).	In the Proposed Action, the SCVWD would deliver up to 100,000 af of CVP supplies for delivery to the groundwater bank, and SCVWD could recover up to 100,000 af of water from the bank. In addition, the exchange water would only be used for beneficial purposes; would not be used to place untilled or new lands into production, nor to convert undeveloped land to other uses; would not adversely affect SCVWD operations; and the movement of water would not require the construction of any new water diversion or conveyance facilities, and no introduction of non-CVP water into Federal facilities would occur.	The Final EA concluded the following: > **Water Resources** – Proposed Action would not increase the amount of water to be banked at Semitropic. It would provide an additional source of water to be banked and would balance southern Santa Clara County's contributions with that of Northern Santa Clara County, allowing SCVWD to enhance their groundwater management with greater flexibility of surface water resources. > **Land Use** – no native, untilled, or similar habitats would be disturbed by the Proposed Action. > **Biological Resources** – Proposed Action is unlikely to adversely affect migratory birds, imperiled terrestrial species, unique habitats or species and habitats protected by federal or state law, nor would it have the potential to affect any critical habitats.
Friant Division/Friant-Kern Canal		
Friant Division Long-Term Contract Renewal, Final Environmental Assessment (Reclamation 2001b).	The Preferred Alternative was defined as the final contract language and the long-term renewal proposed action.	Reclamation assessed the potential adverse effects from water delivery from the CVP to the Friant Division contractors for agriculture, M&I uses for a 25-year time period. The Final EA (Reclamation 2001b) that supported the FONSI concluded the following for the Preferred Alternative: > **Water Resources** – contractors are expected to

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		continue mixed use of CVP surface water and groundwater, with greater emphasis on groundwater use during dry periods when CVP surface water is limited. Because groundwater quality is influenced by factors such as deep percolation of applied water, a shift in the quality of applied water may change the groundwater quality. > **Land Use** – Friant Division contractors account for 40% of the irrigated acreage in the 6 subregions. Changes in irrigated acres are relatively small because of the high percentage of land in the subregions planted in permanent crops and the availability of groundwater as a replacement for decreased CVP supplies. > **Socioeconomic** – contract renewal will have a less-than-significant effect on economic resources. The change in irrigated acres from an Average Year to a Dry Year decreases by 2%; the change in gross revenue decreases by 1%; and the change in employment decreases by less than 1%.
Draft Environmental Assessment Friant-Kern/Cross Valley Canals Intertie Construction Project (Reclamation 2007).	The Proposed Action is an interconnection between the FKC and the CVC as a way to convey current and future opportunities to transfer or exchange water into and out of Kern County and transfers or exchanges within Kern County as well as the direct delivery of CV Contractors' CVP supplies. The Project is to be accomplished through the construction of new facilities and improvements to existing facilities. This Intertie would allow up to 500 cfs to move bi-directionally between the FKC and the CVC.	The Draft EA addressed impacts, including water quality, of introducing CVC water into the FKC. > **Water Resources** – The Proposed Action would interconnect two existing water conveyance facilities. The project would be entirely piped, so water quality in the immediate vicinity of the project would not be affected. The project does not generate a need for water, and does not include as a component the pumping of additional water or acquisition of water. The Proposed Action would allow previously approved water delivery activities to occur without conveyance constraints and on the contractor's demand pattern with less need for consideration of when excess conveyance capacity is available at the key interface of the CVC and FKC. The potential salinity increase in the FKC and a larger quantity of this water's potential delivery northward would not affect groundwater quality. The majority of the water would be used for irrigation and the additional salinity when blended with other surface water may provide

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		an adequate SAR value for the farmers where they would not need to apply additional gypsum to facilitate percolation. The potential volume is very small compared to the volumes of water in the basin. > **Land Use** – footprint of the construction is located in a heavily industrialized area and the construction would not change the land values and is consistent with the existing land use conditions. The majority of the four acres that would be the footprint for construction would go back to its original land use and only 0.5 acres of facilities would remain on the surface. The Proposed Action would have no effect on land use. > **Biological Resources** – the project site is within the known range of the SJKF. The FWS prepared standardized recommendations for protection of the SJKF prior to or during ground disturbance to be implemented. The permanent loss of 500 square feet is not such that it would disrupt SJKF movement (i.e. it does not block off a movement path) and the rest of the area (four acres) would only be temporarily impacted for 2 months. > **Cultural/Paleo Resources** – Reclamation conducted a field survey of the proposed construction site and concluded consultation with the State Historical Preservation Officer. Reclamation further concluded that even though there will be construction activities including excavation of a pipe trench, given the highly disturbed nature of the site, no cultural resources are likely to be impacted during construction. > **Socioeconomic** – with increased reliability, growers would maintain their higher value crops such as orchards or vineyards. Permanent crops improve overall economic conditions by generating a year-round demand for farm labor. By allowing currently planted high value crops to flourish, the Proposed Action maintains the socioeconomics of the Project Area.
Finding of No Significant Impact and Final Environmental Assessment, Approval of Up to Five-Year Temporary Warren Act	Participating CVP Contractors within the Friant and Cross Valley Division requested the approval of up to five-year temporary Warren Act contracts from	The Final EA concluded the following: > **Water Resources** – Proposed Action would store and/or convey non-CVP water in existing canals,

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Contracts for Participating Friant and Cross Valley Division CVP Contractors 2009-2013 (Reclamation 2008)	Reclamation for Contract Water Years 2009-2013 (March 1 2009-February 28, 2014). The purpose of the Proposed Action (approval of the Warren Act contracts) is to allow participating districts to store and/or convey their non-CVP water through any available excess capacity in CVP facilities during water shortages. The flexibility in the timing of delivery afforded by storage would be advantageous to the districts during the summer growing season when water demand is at its peak.	turnouts, and distribution systems, and will not affect water rights held by the U.S. to deliver CVP water from the SJR. There would be no new construction or modifications to the Friant Division facilities, and normal operations would not be hindered. Where applicable, Reclamation staff will monitor water quality in the canals to identify any degradation caused by the non-CVP water, and will work with the districts to modify or restrict conveyance of the non-CVP water in order to improve water quality. Therefore, no major changes or significant impacts to water resources would occur as a result of the Proposed Action. > **Land Use** – Proposed Action would not induce growth or land use changes as the non-CVP water would be used on existing crops and M&I uses. The storage and conveyance of non-CVP water would use existing CVP facilities, canals, and distribution systems; therefore, no changes to land uses would occur as part of the Proposed Action. > **Biological Resources** – Conveyance and storage of non-CVP water would not affect the presence of T&E species or areas that have been designated as critical habitat. However, if land has been fallowed for three or more consecutive years, the land must be inspected for the possible presence of T&E species prior to tilling or disturbance. Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species or birds protected by the MBTA. Due to capacity constraints and water quality restrictions in CVP facilities, there would be no effects on listed fish species. Additionally, no change in diversions of water from the SJR or other rivers would occur as a result of the Proposed Action; therefore, there would be no effects on the delta smelt or any of the primary constituents of its designated critical habitat. > **Socioeconomic** – participating districts under the Proposed Action would receive a small non-CVP supplemental supply in addition to their CVP water supply in order to meet demand of agriculture

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		production and M&I uses. Additional delivery of non-CVP water would help avoid reduction in agricultural production, and would sustain farm-related work and support agriculture-dependent businesses. Therefore, there would be no significant adverse social or economic impacts.
Final Environmental Assessment, East to West Transfers Between Friant Division and South-of-Delta Central Valley Contractors, 2010-2011 (Reclamation 2010)	The purpose of the Proposed Action is to allow for expeditious water transfers from the City of Fresno (CiF), Fresno Irrigation District (FID), and/or Orange Cove Irrigation District (OCID), hereto referred to as the "Transferring Districts", of up to 57,500 af of their Friant Division CVP water, to San Luis Water District (SLWD) and Westlands Water District (WWD), hereto referred to as the "Recipient Districts", to supplement anticipated water shortages in 2010 and potential water shortages in 2011. More specifically, CiF would transfer up to 30,000 af of its 2010 CVP Friant Division Class 1 water; FID would transfer up to 22,500 af of its 2010 CVP Friant Division Class 2 water (to the extent Class 2 water is declared by Reclamation and is allocated to FID); and/or OCID would transfer up to 5,000 af of its 2010 CVP Friant Division Class 1 water (together referred to as the "Transfer Water") to WWD and/or SLWD.	The Final EA concluded the following: > **Water Resources** – Proposed Action would provide supplemental water supplies for the Recipient Districts in 2010 and 2011 to help deliver agricultural irrigation water to their customers within the appropriate places-of-use. It is anticipated that both 2010 and 2011 would be "dry" years and SOD CVP contractors would experience a reduction in their allocated contract supply; therefore, the Proposed Action would be beneficial to the Recipient Districts in meeting their in-district needs. The Transferring Districts currently have water available that is surplus to their respective immediate operational needs, and would still be able to adequately provide water to their customers under the Proposed Action. There would be no adverse impacts to the Recipient and Transferring Districts' water resources. The Proposed Action would not increase groundwater pumping from what has historically occurred within the Kings Subbasin by the Transferring Districts. The transfers are made possible due to water that is surplus to the Transferring Districts' immediate operational needs. The small increase in water supply for the Recipient Districts would not add measurable groundwater in either the Westside and/or Delta-Mendota Subbasins, especially in view of the fact that most of the water would be efficiently applied and used by crops, with minimal amounts leaching below the root zone and into groundwater. There would be no adverse impacts to groundwater resources. > **Land Use** – there would be no land use changes within the Transferring Districts as their water supplies would not be reduced below demands. There would be a slightly positive impact on agricultural land use within the Recipient Districts due to the ability of some

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		established row crops to remain in production and the enhanced survival of orchards (permanent crops). > **Biological Resources** – relatively small amounts of water associated with the Proposed Action (when compared to the amount of water supply deficit) and the requirement that no native lands be converted without consultation with USFWS would preclude impacts to wildlife, including federally listed species. Habitat for listed species is mostly absent in the vast agricultural areas where small declines in fallowed ground may occur, and listed species would not be affected by these small short term changes in the vast agricultural area. > **Socioeconomic** – Proposed Action would allow for water deliveries to be made to the Recipient Districts and would help maintain the stability of the agricultural market and economic vitality for the San Joaquin Valley to a certain degree. The transfers are temporary actions and would provide short-term beneficial impacts to socioeconomics. > **Greenhouse Gas Emissions** – GHG generated by a project is expected to be extremely small compared to sources contributing to potential climate change since the transfer of water would be conveyed mostly via gravity and little, if any, additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Cross Valley Canal		
Final Environmental Assessment, *Article 5 Exchanges between Cross Valley Contractors and other Water Districts for Delivery of CVP Water 2010-2011* (Reclamation 2010f).	The purpose of the Proposed Action is to provide delivery of the CVC Contractors' CVP water supply on a demand schedule where the CVC Contractors' have the ability to take delivery of their water supplies in large quantities and during short periods of time. The Proposed Action is the approval by Reclamation of the	The Final EA concluded the following: > **Water Resources** – the 128,300 afy of water involved in the exchanges are supplies already allocated and no additional water supplies would be diverted from rivers or lakes. No new construction or points of diversions would be required. However, changes in timing and

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
	CVC Contractors' exchange arrangements with individually proposed exchange partners for the 2010 and 2011 contract years for up to the full CVC Contractors' CVP contract supply of 128,300 afy. In addition, the Proposed Action would include the continued historical exchanges between the CV contractors and AEWSD.	locations of when and where water is diverted could occur. The timing and locations of diversion vary from year-to-year due to hydrological conditions, fluctuating marketing conditions, transfers and/or exchanges of water with or with the proposed Article 5 exchanges. The Proposed Action would not result in adverse impacts to third parties, water quality, quantity, flows, or temperature. The Proposed Action could provide short-term relief to groundwater quality and quantity. The Proposed Action would provide an increase of water to areas suitable for groundwater recharge providing an improvement of managing available water supplies and overall benefit to the region-wide overdraft conditions until the water is extracted in dry years. > **Land Use** – Land use would not change under the Proposed Action. Water would be delivered to established croplands and used for irrigation purposes on lands irrigated within the last three years or for existing M&I uses. Exchange arrangements that result in short-term unbalanced exchanges could result in short-term fallowing of lands until such time the water is delivered. Unbalanced exchanges may involve monetary compensation to allow purchases of other supplies. > **Biological Resources** – The aspect of the Proposed Action that is of concern, environmentally, is the potentially unbalanced nature of the exchanges. However, the net amount of water that could be delivered to an exchange partner would be temporary and would be applied to sustain existing agriculture and/or banked for groundwater recharge. The 128,300 afy of water that would be involved in the exchanges are supplies already allocated to the CV contractors and no additional water supplies would be diverted from rivers or lakes. The Proposed Action would not result in any increase in the water level of Lake Isabella, because each entity that has storage in the reservoir cannot exceed their allowed acre-foot amount. Any water not taken from Lake Isabella as a result of a district receiving water under the Proposed Action would have to be released if it would cause the

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		allowed amount to be exceeded. Therefore, the least Bell's vireo and southwestern willow flycatcher would not be affected by any flooding of nests or habitat. > **Socioeconomic** – The Proposed Action involves similar amounts of water delivered and applied to lands in the SJV as in the past. The Proposed Action would allow for improved water deliveries to the CV contractors when it is needed during the growing season and maintain the stability of the agricultural market and economic vitality for the SJV. The Proposed Action would result in improved water management and could reduce purchases of water supplies by the CV contractors. The Proposed Action could maintain costs for water through the unbalanced exchange scenario. The amount of water is small and would not contribute to changes in water prices. > **Greenhouse Gas Emissions** – GHG generated by the Proposed Action is expected to be extremely small compared to other sources contributing to potential climate change since the exchanges of water would be conveyed mostly via gravity and little, if any, additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Finding of No Significant Impact and Final Environmental Assessment for Central Valley Project Cross Valley Interim Renewal Contracts (IRCs) and Article 5 Exchanges 2012–2014 (Reclamation 2012).	The Proposed Action involves the execution of up to eight IRC between Reclamation and the CVP contractors. All seven of the CVC Contractors have existing IRC, which will expire on February 29, 2012, and all have had several IRC executed prior to their existing IRC. The CVC Contractors are currently in their thirteenth IRC and the proposed renewal would be the fourteenth. The Proposed Action would continue these existing IRC, with only minor, administrative changes to the contract provisions to update the previous IRC for the new contract period. In the event that a new long-term water contract is executed, that IRC would be	The Final EA concluded the following: > **Water Resources** – Renewal of the IRC with only minor administrative changes to the contract provisions would not result in a change in contract water quantities or a change in water use. Water delivery during the IRC period would not exceed historic quantities. The Proposed Action would provide an increase of water to areas suitable for groundwater recharge providing an improvement of managing available water supplies and overall benefit to the region-wide overdraft conditions until the water is extracted in dry years. Therefore, the Proposed

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
	superseded. No changes to any of the CVC Contractor's respective service areas or water deliveries are part of the Proposed Action.	Action would not result adverse impacts to groundwater quality or quantity. > **Land Use** – Land use would not change under the Proposed Action (same as previous renewal for 2010-2011 contract water). > **Biological Resources** – The aspect of the Proposed Action that has the greatest environmental concern is the potentially unbalanced nature of the Article 5 exchanges, which could result in either a temporary or permanent net amount of water being delivered to the participating Friant CVP or non-CVP contractors. The non-CVP contractors are not covered by the CVPIA PBO or the LTCR Opinion. However, all exchanges other than AEWSD, including the non-CVP contractors, would be required to accept all the environmental commitments for the Proposed Action in order for the Contracting Officer to approve any individual proposed exchange. With the IRCs, the CV contractors remain subject to the previous commitments in the CVPIA PBO and the LTCR Opinion. Due to their compliance with those commitments and the short-term nature of the action, the Proposed Action may affect, but is not likely to adversely affect federally listed species and critical habitat under the USFWS's jurisdiction. > **Socioeconomic** – The Proposed Action involves similar amounts of water delivered and applied to lands in the SJV as in the past. The Proposed Action would allow for improved water deliveries to the CV contractors when it is needed during the growing season and maintain the stability of the agricultural market and economic vitality for the SJV. > **Greenhouse Gas Emissions** – GHG generated by the Proposed Action is expected to be extremely small compared to other sources contributing to potential climate change since the delivery of water would be conveyed mostly via gravity and little, if any, additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		climate change, the Proposed Action would result in potentially minimal increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Finding of No Significant Impact and Supplemental Environmental Assessment, *Increase in Quantity for the Friant Division and Cross Valley Accelerated Water Transfer Program, 2011-2015* (Reclamation 2011).	The scope of the SEA is the same as that covered in EA-10-052 (above), except for the increase in total quantity that the participants can transfer and/or exchange per Contract Year. The annual quantity will increase by another 45,000 af, which will allow for up to 300,000 af of CVP water to be transferred and/or exchanged under the AWTP for Contract Years 2011 through 2015 (ending February 29, 2016). The Proposed Action would cover transfers and/or exchanges between Friant Division contractors and transfers from Friant Division contractors to CVC Contractors. In addition, federal wildlife refuges could also receive transfers of CVP water from eligible contractors participating in the AWTP. The Proposed Action would utilize existing Friant Division facilities including Millerton Lake, Friant Dam, Madera Canal, and the Friant-Kern Canal. The Proposed Action under this SEA does not replace that which is described and analyzed in EA-10-052, but merely supplements it to reflect the increase in total quantity from 255,000 af to 300,000 af per Contract Year.	The Supplemental EA concluded the following: > **Water Resources** – Proposed Action would not increase or decrease the amount of CVP water each district receives under contract with Reclamation. Transfers between districts would help supplement any surface water shortage that a particular water district, or districts, could be experiencing at that current time. Exchanges under the AWTP would be "bucket-for-bucket". There would be no adverse impacts to participating districts and their respective Friant Division CVP water supplies. The Proposed Action would help alleviate the need of some landowners to pump groundwater since surface water supplies would be more available to districts in need of immediate supplies. As a result, there would be beneficial impacts to groundwater resources. > **Lane Use** – Waters involved with the Proposed Action would be used on existing farmland and would not be used to put new land into production. There would be no impacts to land use from the increase in transfers and/or exchanges allowed under the AWTP. > **Biological Resources** – transfers and exchanges are water management actions to support existing uses and conditions. No native or untilled lands (fallow for three or more consecutive years) would be cultivated without prior surveys for threatened and endangered species as a result of the Proposed Action. Subsequent environmental review and consultations, if applicable, would be required to irrigate lands fallowed three or more years. Diversions from Millerton Lake would not change. The Proposed Action would not interfere with other management decisions for the Friant Division facilities.

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		> **Greenhouse Gas Emissions** – GHG generated by the Proposed Action is expected to be extremely small, if any, compared to sources contributing to potential climate change since the exchange of water would be conveyed via gravity and no additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Finding of No Significant Impact and Final Environmental Assessment Southern San Joaquin Municipal Utility District Assignment of 5,000 af of CVP Water to Kern-Tulare Water District (Reclamation 2012).	The Proposed Action is the partial assignment of 5,000 af of SSJMUD's Class 2 allocation from Millerton Lake to KTWD and the consequent reduction of SSJMUD's Class 2 allocation. Delivery of this water will be done through existing turnouts on the Friant-Kern Canal (FKC), between mileposts 111.56 and 151.81. The assigned 5,000 af of Class 2 contractual supply will be used to meet KTWD's in-district demands and other uses consistent with the existing Repayment Contract and Reclamation approvals.	The Final EA concluded the following: > **Water Resources** – water under this assignment is only 10 percent of SSJMUD's Class 2 water supply and will not impact SSJMUD's firm Class 1 water supply. As the availability of a Class 2 water supply is dependent on hydrologic conditions and is not a dependable water supply, and the total amount of SSJMUD's CVP water supply will only be reduced by approximately three percent, the Proposed Action is not expected to have significant impacts on SSJMUD's total water supplies. Class 2 water supplies are allocated only after 100 percent Class 1 supplies have been allocated; however, between 2002 and 2011, only one year (2007) had a zero allocation for Class 2 supplies. Thus, the addition of 5,000 af to KTWD's existing SOD CVP water supply will increase their overall water supply during times when it is available. Additionally, increased surface water supplies may reduce the need for additional groundwater pumping in KTWD to meet irrigation demands. Therefore, the Proposed Action will have slight beneficial impacts to groundwater resources. > **Land Use** – Proposed Action is not expected to cause fallowing or land uses changes within SSJMUD. KTWD will use the water for existing permanent crops within its service area. No native habitat, untilled lands, or lands fallow for three or more consecutive years will be brought into

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		production with this water. Therefore, no impact to land use is expected within or adjacent to KTWD or SSJMUD service areas. > **Biological Resources** – the Proposed Action will result in no impacts to biological resources. Reclamation determined that the Proposed Action will have no effect to listed species or designated critical habitat under the ESA (ESA, 16 U.S.C. §1531 et. seq.) for the proposed federal action of approving this assignment. Per Biological Opinion (1-1-01-1-031 1) on Implementation of the Central Valley Project Improvement Act and Continued Operation and Maintenance of the Central Valley Project, Reclamation prepared and provided a letter June 13, 2011 notifying the U.S. Fish and Wildlife Service of its determination. > **Socioeconomic** – assignment of 5,000 af of SSJMUD's Class 2 allocation to KTWD will reduce the potential need for KTWD to purchase additional water supplies at a much higher rate on the open market. The availability of this additional supplemental water supply will have slight beneficial impacts on socioeconomic resources within KTWD as this water will be used to help sustain existing crops. In addition, as this is only 10 percent of SSJMUD's Class 2 allocation, SSJMUD will still have sufficient irrigation water (97,000 af Class 1 and the remaining 45,000 af of Class 2 water) and will not be impacted by the assignment. Therefore, there will be no significant impacts to socioeconomics within either district.
Draft Finding of No Significant Impact Contract for Conveyance of Non-CVP Water for Kern-Tulare Water District and Rag Gulch Water District (Reclamation 2007).	The Proposed Action is the execution of a one-year Warren Act Contract for 2008 to convey up to 20,000 af (up to 10,000 af for Kern-Tulare Water District and 10,000 af for Rag Gulch Water District) of KTRG's Kern River water and State Water Project (SWP) water available through agreements with Kern County Water Agency (KCWA), into the FKC for direct delivery to KTRG. The term of the Warren Act contract will be the 2008 water year, ending February 28, 2009.	The Draft FONSI concluded the following: > **Water Resources** – as part of the Proposed Action, Reclamation would convey the non-CVP water for KTRG in the Friant Division facilities when capacity is available. This would not alter water rights held by the U.S. to deliver CVP water from the SJF. The introduction of this non-CVP water into CVP facilities would not cause any significant degradation to water quality; water deliveries are anticipated to be consistent with the water quality standards; therefore,

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		there would be no significant impacts to water resources. > **Land Use** – Proposed Action would not result in increased or decreased water supplies in KTRG that would induce growth or land use changes as both districts are fully built-out and supply no water to customers other than for agricultural use. The conveyance of non-CVP water through CVP facilities would not contribute to changes in land use. No excavation or construction is required to convey the water and no untilled land would be cultivated with this water. Therefore, no changes to land use would occur as a result of the Proposed Action. > **Biological Resources** – Proposed Action would not result in an increase of surface water delivered to KTRG. Only the method of conveyance will change. The water will be used to irrigate existing crops. The Proposed Action would sustain existing agricultural lands within KTRG resulting in no effects on listed or other status species. The conveyance of non-CVP water to KTRG would have no effect on species of concern due to the small amount of water involved in the action versus the large amount of water routinely conveyed through the FKC. Additionally, no change in diversions of water from the SJR would occur as a result of the Proposed Action; therefore, there would be no effects on the delta smelt or any of the primary constituents of its designated critical habitat, or any other listed species. > **Socioeconomic** – as part of the Proposed Action, KTRG can rely on its supply of non-CVP water for district operations without the need for a facilitating intermediary. Therefore, there would be no significant adverse social or economic impacts.
SWP Water Users South of the Delta		
Kern County Water Agency		
Final Environmental Impact Report, Monterey Amendment to the State Water	The preferred project was considered to be the approval of permanent transfers of 130,000 af of water and	The EIR found that most of the impacts would be reduced to less-than-significant levels, other than the

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
Project Contracts (Including Kern Water Bank Transfer) and Associated Actions as Part of a Settlement Agreement (Monterey Plus). SCH #2003011118 (DWR 2010a).	retirement of 45,000 af of SWP long-term water supply contracts.	specific impacts as described below: > **Water Resources** – proposed project would have a beneficial effect on groundwater levels in Kern County Groundwater Basin. > **Biological Resources** – impacts to special-status fish species in the San Joaquin River due to water flow changes for the future would require mitigation measures to reduce them to less than significant (refer to p. 7.3-71). Impacts to the following resources would be reduced to less than significant with implementation of mitigation measures: future impacts to special-status terrestrial biological resources on the Kern Fan Element property due to changes in land use and management (p. 7.4-27). Future impacts to special-status terrestrial biological resources in southern SJV portion of Kern County, excluding the Kern Fan Element property, due to construction of new groundwater storage facilities (p. 7.4-23) and impacts to special-status terrestrial species at Lake Perris (p. 7.4-34) would be significant and unavoidable even with implementation of mitigation measures. The proposed project could benefit special-status terrestrial species in Plumas County as a result of watershed improvement projects (p. 7.4-38). > **Visual Resources** – future visual changes at Castaic Lake and Lake Perris would constitute a significant and unavoidable impact (p. 7.5-15). > **Air Quality** – future project impacts from changes in water surface elevations could cause significant and unavoidable impacts on wind-blown particulate emissions (p. 7.7-15). > **Geology, Soils and Mineral Resources** – future impacts to rates of erosion at Castaic Lake and Lake Perris would be significant and unavoidable (p. 7.8-11). > **Recreation** – future impacts to recreational resources at Castaic Lake and Lake Perris would be significant and unavoidable even with implementation of mitigation measures (p. 7.9-15).

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		> **Cultural and Paleontological Resources** – significant impacts would be reduced to less than significant levels with mitigation measures for the following: future impacts to cultural/paleo resources in the Kern Fan Element as a result of development of groundwater banks (p. 7.13-22); and future impacts to expose cultural/paleo resources to damage and/or destruction as a result of water level changes at Castaic Lake and Lake Perris (p. 7.13-23). Future impacts would be significant and unavoidable even with implementation of mitigation measures to cultural/paleo resources in the southern SJV portion of Kern County, excluding the Kern Fan Element (p. 7.13-19); and cultural/paleo resources in Plumas County as a result of watershed improvement projects (p. 7.13-26).
Arvin-Edison Water Storage District		
Finding of No Significant Impact and Final Environmental Assessment Arvin-Edison Water Storage District and Rossdale-Rio Bravo Water Storage District Exchange (2011-2012) (Reclamation 2011).	The proposed action is the exchange of up to 100,000 af of AEWSD's CVP water supplies with RRBWSD. AEWSD supplies would be delivered to RRBWSD for future return to AEWSD on a 1 to 1 or "bucket for bucket" basis up to 100,000 af. It is anticipated that up to 10 percent of conveyance losses may occur, which will slightly decrease the net exchange amount. RRBWSD may return SWP water, Kern River supplies, and/or groundwater supplies to AEWSD as repayment of previously delivered supplies. The Friant-Kern Canal (FKC), Cross Valley Canal (CVC), Kern River (KR), California Aqueduct and other existing infrastructure may be utilized in order to convey the delivered and return water.	The Final EA concluded the following: > **Water Resources** – Proposed Action would provide AEWSD with surface water reliability and likely decrease reliance on groundwater pumping by AEWSD and its landowners during drought years. There would not be any depletion of groundwater supplies and lowering of the local groundwater table level. The exchange could result in a net increase in the Kern County Groundwater Sub-basin levels underlying AEWSD; therefore, the Proposed Action could have a beneficial impact on groundwater resources. > **Land Use** – Proposed Action would not result in a change in land use within or outside service area boundaries. > **Biological Resources** – Most of the habitat types required by species protected by the ESA do not occur in the exchange area. The Proposed Action would not involve the conversion of any land fallowed and untilled for three or more years. The Proposed Action would not change the land use patterns of the cultivated or fallowed fields that have value to listed species or birds protected by the MBTA. No critical habitat occurs within

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		the area affected by the Proposed Action and so none of the primary constituent elements of any critical habitat would be affected. As the Proposed Action would occur within existing conveyance facilities and no construction is associated with the Proposed Action, there would be no adverse effect to any biological species. > **Socioeconomic** – proposed exchange primarily results in regulation of water supplies with virtually no changes in flow path. This will provide AEWSD water supply reliability by maximizing its CVP water supply contract with Reclamation and thus provide reliability to the farming industry and its attendant economics. > **Air Quality** – extraction of banked groundwater from RRBWSD's seven extraction wells would be pumped using electric motors and therefore there would be no impact on air quality and a conformity analysis is not required under the CAA. > **Greenhouse Gas Emissions** – GHG generated by the Proposed Action is expected to be extremely small, if any, compared to sources contributing to potential climate change since the exchange of water would be conveyed via gravity and no additional pumping from electric motors would be required. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.
Finding of No Significant Impact and Final Environmental Assessment Arvin-Edison Water Storage District/Westside Mutual Water Company Exchange (2011-2016) (Reclamation 2011).	As part of the Proposed Action, AEWSD supplies would be delivered to WMWC member lands as exchange water to WMWC, based on a 1 for 1 or "bucket for bucket" basis up to 50,000 af. AEWSD would allow WMWC to divert CVP water and use its water through a combination of existing turnouts; in exchange for the AEWSD supplies, WMWC would deliver up to 50,000 af (on a variable, as-needed and available basis) from	The Final EA concluded the following: > **Water Resources** – AEWSD has delivery rights under various contracts and/or exchange programs in the Friant Kern Canal, Cross Valley Canal, Kern River, and California Aqueduct and would operate the exchange within those rights and capacities. There would not be a noticeable impact on groundwater resources,

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
	Supplier Water Districts. The exchange program between AEWSD and WMWC would begin in 2011 and be in effect through the end of 2016 contract year or 50,000 af, whichever comes first.	however, there would be beneficial impacts to surface water supply reliability, since management as a result of the Proposed Action, would be improved to enable water management in critical times of shortage for both entities. > **Land Use** – the exchange would not require the modification or construction of new conveyance facilities. The exchange would not induce existing agricultural uses of the WMWC land holdings or within AEWSD's service boundary to convert to another land use or to fallow. There would be slight beneficial impacts from the Proposed Action as it would contribute to maintaining land use. > **Biological Resources** – Proposed Action would not involve the conversion of any land fallowed and untilled for three or more years. The Proposed Action also would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species of birds protected by MBTA. Since no natural stream courses or additional pumping would occur, there would be no impacts on listed fish species. No critical habitat occurs within the area affected by the Proposed Action and so none of the primary constituent elements of any critical habitat would be impacted. > **Socioeconomic** – proposed exchange primarily results in regulation of water supplies with virtually no changes in flow path. This will provide WMWC and AEWSD water supply reliability by maximizing WMWC's SWP water and AEWSD's CVP water supply contract with Reclamation and thus provide reliability to the farming industry and its attendant supplies and thus local economics. There would be would be a slight beneficial impact to the local economic conditions within the two entities' service areas due to increased stability of the water supply for agriculture. > **Greenhouse Gas Emissions** – While any increase in

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions, and a net increase in GHG emissions among the pool of GHG would not be detectable.
North Kern Water Storage District		
Draft Environmental Assessment North Kern Water Storage District Lerdo/Calloway Canal Intertie Project (Reclamation 2009).	The Proposed Action is the construction and operation of the Lerdo/Calloway Canal Intertie and pumping plant. All of these improvements would have a design capacity of about 400 cfs.	The Draft EA concluded the following: > **Water Resources** – Proposed Action would not generate a new supply of water; rather, it would improve the reliability of NKWSD and the region's water supplies by using available surplus surface water to recharge the Kern County groundwater subbasin for later use when groundwater pump is necessary. The Proposed Action does not include additional groundwater pumping; rather, it would help to mitigate the water-level impacts of associated with existing groundwater pumping. In particular, the increased ability to recharge available surface water supplies would help to mitigate the projected long-term decline in groundwater levels. Since the surface water supply has a lower salinity level than the existing groundwater, the long-term infiltration of these surface water supplies would serve to maintain and enhance the generally good quality of groundwater underlying the district area. Also, the additional recharge of the groundwater basin would help reduce any further impacts to ground subsidence. Therefore, the Proposed Action would have slight beneficial impacts to NKWSD and the region's varied water resources. > **Land Use** – Proposed Action would not support development of additional lands to irrigated agriculture. Accordingly, the main purpose of the Proposed Action would be to deliver water to spreading ponds for recharge purposes; therefore, there would be no adverse impacts to existing land use. > **Biological Resources** – Proposed Action would

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		implement Environmental Protection Measures to avoid or minimize effects to special-status species (p. 2.2.1-8). Prior to construction, a preactivity survey would be conducted by a qualified biologist to ensure that the construction areas remain unoccupied by sensitive species and, during construction, standard avoidance and minimization protocols would be followed to avoid impacts. Therefore, the Proposed Action is expected to have No Effect to either the San Joaquin kit fox or western burrowing owl. > **Socioeconomic** – over the long term, the Proposed Action would facilitate an increase in the reliability of the region's water supply. This would subsequently help to maintain the economic viability of irrigated agriculture within the region, which presently includes a significant percentage of permanent crops. There is greater economic output associated with permanent crops, which includes a year-round demand for farm labor (as compared to annual crops). In the short term, the Proposed Action would provide a temporary increase in construction-related jobs. As a result, there will be slight beneficial impacts to socioeconomic resources. > **Air Quality** – short-term air quality impacts would be associated with construction, and would generally arise from dust generation (fugitive dust) and operation of construction equipment. Comparison of the estimated Proposed Action emissions (p. 3.8.2-23) with the thresholds for Federal conformity determinations (p. 3.8.1-23) indicates that project emissions are estimated to be below these thresholds. Notwithstanding this observation, the Proposed Action would comply with the SJVAPCD's Regulation VIII (SJVAPCD 2009) control measures for construction emissions of PM10. One of these control measures includes the use of water with all "land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities" for fugitive dust suppression. > **Greenhouse Gas Emissions** – Proposed Action

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Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		would involve short-term impacts consisting of emissions during construction, which have been estimated at about 393 metric tons of CO2. Long-term impacts are attributable to project operations and would involve the generation of electrical energy to power the electric motor pump drivers. These emissions would vary annually, but have been estimated to average about 159 metric tons/year of CO2 (PG&E 2009), which is negligible compared to the threshold for annually reporting GHG emissions (25,000 metric tons/year). Accordingly, project construction and operations under the Proposed Action would result in *de minimis* impacts to global climate change.
Finding of No Significant Impact and Final Environmental Assessment Madera Irrigation District One-Year Transfer to North Kern Water Storage District and/or Semitropic Water Storage District (2011-2012) (Reclamation2011).	Under the Proposed Action, MID would transfer up to 20,000 af of its Friant Water Class 1 and/or Class 2 water with delivery to occur before February 28, 2012 to NKWSD and/or Semitropic. The water would be banked within the existing NKWSD/Semitropic facilities or delivered to internal customers in-lieu of groundwater pumping. This transfer would be contingent on: 1) availability of wheeling capacity in the Friant Kern Canal, 2) wheeling capacity in locally owned conveyances used by NKWSD and Semitropic, and 3) available recharge capacity at NKWSD or Semitropic.	The Final EA concluded the following: > **Water Resources** – Proposed Action would not have adverse impacts on conveyance facilities or surface water resources. The Proposed Action would result in a small net increase in groundwater levels since more surface water would be delivered to the groundwater sub-basin underlying NKWSD and Semitropic than would have occurred absent the project. The Proposed Action would not further deplete groundwater supplies or interfere with groundwater recharge (that would otherwise occur). Taken together, the Proposed Action could result in a net rise in groundwater levels within the San Joaquin River and Tulare Lake Hydrologic Regions. Application of the transferred water from the FKC in NKWSD and Semitropic could also result in a beneficial impact to groundwater quality since the quality of FKC water is better than that of the underlying aquifer. > **Land Use** – Proposed Action would maintain current land uses by providing reliable water to agricultural and M&I users during years with surface water shortages. Therefore, the Proposed Action would not result in increased or decreased water supplies that would induce growth or land use changes. > **Biological Resources** – proposed water conveyance would not involve the conversion of any land and would

Table D-1 Summary of Environmental Analyses Contained in Related NEPA/CEQA Documents

Environmental Compliance Documents	Proposed Project/ Preferred Alternative	Potential Environmental Effects
		therefore not change the land use patterns of the cultivated or fallowed fields that have value to Federal or state listed species, proposed, or designated critical habitat, or birds protected by the MBTA. Since no natural stream courses alteration would occur, there would be no effects on fish species. Therefore, there would be no effects on listed species or designated or proposed critical habitat. > **Socioeconomic** – Proposed Action would increase water supply reliability to existing agricultural users and would help to sustain existing uses. Businesses and farm workers rely on these crops to maintain jobs. Conditions would remain the same as existing conditions and there would be no adverse impacts to socioeconomic resources. > **Air Quality** – under the Proposed Action, there are no direct emissions from electrical motors and therefore a conformity analysis is not required under the Clean Air Act and there would be no impact on air quality. The Proposed Action would not involve any construction or land disturbing activities that could lead to fugitive dust emissions and/or exhaust emissions associated with the operations of heavy machinery. > **Greenhouse Gas Emissions** – GHG generated by the Proposed Action is expected to be extremely small, if any, compared to sources contributing to potential climate change. In general, water would be conveyed via gravity. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions, and any net increase in GHG emissions among the pool of GHG would not be detectable.

Cross Valley Contractors
Renewal of Conveyance
Contracts EIR

APPENDIX E

SPECIAL-STATUS SPECIES LISTS

Table E-1 Special-status Species Potentially Present in the Project Area or Vicinity

Common Name *Scientific Name*	Status	Habitat
Plants		
Horn's milk-vetch *Astragalus hornii* var. *hornii*	RPR 1B	Meadows and seeps, playas. Lake margins, alkaline sites. 60-850 meters.
Heartscale *Atriplex cordulata*	RPR 1B	Chenopod scrub, valley and foothill grassland, meadows. Alkaline flats and scalds in the Central Valley, sandy soils. 1-150(600)m.
Lost Hills crownscale *Atriplex coronata* var. *vallicola*	RPR 1B	Chenopod scrub, valley and foothill grassland, vernal pools. In powdery, alkaline soils that are vernally moist with *Frankenia*, *Atriplex* spp. and *Distichlis*. 0-605 meters.
Brittlescale *Atriplex depressa*	RPR 1B	Chenopod scrub, meadows, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 1-320 meters.
Earlimart orache *Atriplex erecticaulis*	RPR 1B	Valley and foothill grassland. 40-100 meters.
Lesser saltscale *Atriplex minuscula*	RPR 1B	Chenopod scrub, playas, valley and foothill grassland. In alkali sink and grassland in sandy, alkaline soils. 20-100 meters.
Vernal pool smallscale *Atriplex persistens*	RPR 1B	Vernal pools. Alkaline vernal pools. 10-115 meters.
Subtle orache *Atriplex subtilis*	RPR 1B	Valley and foothill grassland. Little info available. 40-100 meters.
Bakersfield smallscale *Atriplex tularensis*	CE, RPR 1A	Chenopod scrub, alkali meadow. Historically In valley sink scrub or with saltgrass. 90-110 meters.
Alkali mariposa-lily *Calochortus striatus*	RPR 1B	Chaparral, chenopod scrub, Mojavean desert scrub, meadows. Alkaline meadows and ephemeral washes. 90-1595 meters.
Succulent (fleshy) owl's-clover *Castilleja campestris* ssp. *succulenta*	FT, CE, RPR 1B	Vernal pools, valley and foothill grassland. Moist places, often in acidic soils. 25-750 meters.
California jewel-flower *Caulanthus californicus*	FE, CE, RPR 1B	Chenopod scrub, valley and foothill grassland, pinyon-juniper woodland. Historical from various valley habitats in both the Central Valley and Carrizo Plain. 65-900 meters.
Hoover's spurge *Chamaesyce hooveri*	FT, RPR 1B	Vernal pools, valley and foothill grassland. Vernal pools on volcanic mudflow or clay substrate. 25-130 meters.

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Table E-1 Special-status Species Potentially Present in the Project Area or Vicinity

Common Name *Scientific Name*	Status	Habitat
Hispid bird's-beak *Chloropyron molle* ssp. *hispidum*	RPR 1B	Meadows, playas, valley and foothill grassland. In damp alkaline soils, especially in alkaline meadows and alkali sinks with *Distichlis*. 10-155 meters.
Slough thistle *Cirsium crassicaule*	RPR 1B	Chenopod scrub, marshes and swamps, riparian scrub. Sloughs, riverbanks, and marshy areas. 3-100 meters.
Springville clarkia *Clarkia springvillensis*	FT, CE, RPR 1B	Chaparral, cismontane woodland, valley and foothill grassland. Cutbanks and openings in blue oak woodland. Decomposed granite loam. 330-1220 meters.
Recurved larkspur *Delphinium recurvatum*	RPR 1B	Chenopod scrub, valley and foothill grassland, cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-685 meters.
Dwarf downingia *Downingia pusilla*	RPR 2	Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 1-485 meters.
Kern mallow *Eremalche kernensis*	FE, RPR 1B	Chenopod scrub, valley and foothill grassland. On dry, open sandy to clayey soils; usually within valley saltbush scrub; often at edge of balds. 70-515 meters.
Hoover's eriastrum *Eriastrum hooveri*	RPR 4	Chenopod scrub, valley and foothill grassland, pinyon and juniper woodland. On sparsely vegetated alkaline alluvial fans; also in the temblor range on sandy soils. 50-915 meters.
Spiny-sepaled button-celery *Eryngium spinosepalum*	RPR 1B	Vernal pools, valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grassland. 100-420 meters.
Tejon poppy *Eschscholzia lemmonii* ssp. *kernensis*	RPR 1B	Valley and foothill grassland. Little information available on habitat. 250-750 meters.
Striped adobe-lily *Fritillaria striata*	CT, RPR 1B	Cismontane woodland, valley and foothill grassland. Heavy clay adobe soils in oak grassland. 135-1455 meters.
California satintail *Imperata brevifolia*	RPR 2	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali). Mesic sites, alkali seeps, riparian areas. 0-500 meters.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	RPR 1B	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1400 meters.
Madera leptosiphon *Leptosiphon serrulatus*	RPR 1B	Cismontane woodland, lower montane coniferous forest. Dry slopes; often on decomposed granite in woodland. 80-1575 meters.
Calico monkeyflower *Mimulus pictus*	RPR 1B	Broadleafed upland forest, cismontane woodland. In bare ground around gooseberry bushes or around granite rock outcrops. 100-1300 meters.

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Table E-1 Special-status Species Potentially Present in the Project Area or Vicinity

Common Name *Scientific Name*	Status	Habitat
San Joaquin woollythreads *Monolopia congdonii*	FE, RPR 1B	Chenopod scrub and valley and foothill grassland. Alkaline or loamy plains; sandy soils, often with grasses and within chenopod scrub. 60-800 meters.
Bakersfield cactus *Opuntia basilaris* var. *treleasei*	FE, CE, RPR 1B	Chenopod scrub, valley and foothill grassland, cismontane woodland. Coarse or cobbly well-drained granitic sand on bluffs, low hills, and flats within grassland. 90-550 meters.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	FT, CE, RPR 1B	Vernal pools. 30-755 meters.
Hartweg's golden sunburst *Pseudobahia bahiifolia*	FE, CE, RPR 1B	Valley and foothill grassland, cismontane woodland. Clay soils, predominantly on the northern slopes of knolls, but also along shady creeks or near vernal pools. 15-150 meters.
San Joaquin adobe sunburst *Pseudobahia peirsonii*	FT, CE, RPR 1B	Valley and foothill grassland, cismontane woodland. Grassy valley floors and rolling foothills in heavy clay soil. 85-800 meters.
California chalk moss *Pterygoneurum californicum*	RPR 1B	Chenopod scrub, alkali playas, valley and foothill grassland. Moss growing on alkali soil. 10-100 meters
Oil neststraw *Stylocline citroleum*	RPR 1B	Chenopod scrub, coastal scrub. Flats, clay soils in oil-producing areas. 50-300 meters.
Invertebrates		
Conservancy fairy shrimp *Branchinecta conservatio*	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.

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Table E-1 Special-status Species Potentially Present in the Project Area or Vicinity

Common Name *Scientific Name*	Status	Habitat
Fish		
Green sturgeon *Acipenser medirostris*	FT	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento River at temperatures between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.
Kern brook lamprey *Entosphenus hubbsi*	CSC	San Joaquin River system and Kern River. Gravel-bottomed areas for spawning and muddy-bottomed areas where ammocoetes can burrow and feed.
Delta smelt *Hypomesus transpacificus*	FT, CE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. seldom found at salinities > 10 ppt. most often at salinities < 2ppt.
Central Valley steelhead *Oncorhynchus mykiss*	FT	Populations in the Sacramento and San Joaquin Rivers and their tributaries.
Central Valley spring-run Chinook salmon *Oncorhynchus tshawytscha*	ST, FT	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 c for spawning.
Sacramento River winter-run Chinook salmon *Oncorhynchus tshawytscha*	SE, FE	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures >27 C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.
Amphibians		
California tiger salamander *Ambystoma californiense*	FT, CT, CSC	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma Counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding
Northern leopard frog *Lithobates pipiens*	CSC	Native range is east of Sierra Nevada-Cascade crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics
Foothill yellow-legged frog *Rana boylii*	CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
California red-legged frog *Rana draytonii*	FT, CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.

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Table E-1 Special-status Species Potentially Present in the Project Area or Vicinity

Common Name *Scientific Name*	Status	Habitat
Southern mountain yellow-legged frog *Rana muscosa*	FE, CE	Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino Mountains only. Always encountered within a few feet of water. Tadpoles may require 2 – 4 years to complete their aquatic development.
Western spadefoot *Spea hammondii*	CSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.
Reptiles		
Silvery legless lizard *Anniella pulchra pulchra*	CSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.
Western pond turtle *Emys marmorata*	CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, but need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying
Blunt-nosed leopard lizard *Gambelia sila*	FE, CE, CFP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	CSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.
Coast horned lizard *Phrynosoma blainvillii*	CSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.
Giant garter snake *Thamnophis gigas*	FT, CT	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.
Birds		
Tricolored blackbird *Agelaius tricolor*	CSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.
Burrowing owl *Athene cunicularia*	CSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.

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Common Name *Scientific Name*	Status	Habitat
Swainson's hawk *Buteo swainsoni*	CT	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.
Western snowy plover *Charadrius alexandrinus nivosus*	FT, CSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.
Mountain plover *Charadrius montanus*	CSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas with burrowing rodents.
Fulvous whistling-duck *Dendrocygna bicolor*	CSC	Freshwater marsh. Tule/cattail marsh.
Willow flycatcher *Empidonax traillii* (*Empidonax traillii exima is FE)*	CE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.
California condor *Gymnogyps californianus*	FE, CE	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.
Le Conte's thrasher *Toxostoma lecontei*	CSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 ft above ground.
Mammals		
Nelson's antelope squirrel *Ammospermophilus nelsoni*	CT	Western San Joaquin Valley from 200-1,200 ft elevation on dry, sparsely vegetated loam soils. Dig burrows or use k-rat burrows. need widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes
Pallid bat *Antrozous pallidus*	CSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Giant kangaroo rat *Dipodomys ingens*	FE, CE	Annual grasslands on the western side of the San Joaquin Valley, marginal habitat in alkali scrub. Need level terrain and sandy loam soils for burrowing.

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Common Name *Scientific Name*	Status	Habitat
Short-nosed kangaroo rat *Dipodomys nitratoides brevinasus*	CSC	Western side of San Joaquin Valley in grassland and desert shrub associations, especially *Atriplex*. Occurs in highly alkaline soils around soda lake. Needs friable soils. Favors flat to gently sloping terrain.
Fresno kangaroo rat *Dipodomys nitratoides exilis*	FE, CE	Alkali sink-open grassland habitats in western Fresno County. Bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	FE, CE	Saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils which escape seasonal flooding. Digs burrows in elevated soil mounds at bases of shrubs.
Spotted bat *Euderma maculatum*	CSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.
Western mastiff bat *Eumops perotis californicus*	CSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.
Tulare grasshopper mouse *Onychomys torridus* tularensis	CSC	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.
Buena Vista Lake ornate shrew *Sorex ornatus relictus*	FE, CSC	Marshlands and riparian areas in the Tulare Basin. Prefers moist soil. Uses stumps, logs and litter for cover.
American badger *Taxidea taxus*	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.
San Joaquin kit fox *Vulpes macrotis mutica*	FE, CT	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.

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Cross Valley Contractors
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APPENDIX F

SPECIES DESCRIPTIONS

F.1 Species Descriptions: Federally or State-Listed Species

F.1.1 Plants

> **Bakersfield Smallscale.** Bakersfield smallscale (*Atriplex tularensis*) is state-listed as endangered and is Rare Plant Rank List 1A, indicating that it is considered to be extirpated. This species was endemic to Kern County. Bakersfield smallscale was an annual herb, flowering from June to October (CNPS 2008). This species historically was found in valley sink scrub (chenopod scrub) or with saltgrass at elevations from 295 to 360 ft (CDFG[1] 2012).

> **Succulent (Fleshy) Owl's-Clover.** Succulent (fleshy) owl's-clover (*Castilleja campestris* ssp. *succulenta*) is federally listed as threatened, state-listed as endangered, and is RPR List 1B. Critical habitat for succulent (fleshy) owl's-clover has been designated in San Joaquin, Stanislaus, Tuolumne, Merced, Mariposa, Madera, and Fresno counties. This owl's clover occurs sporadically in the San Joaquin Valley over a range of 66 miles, extending from northern Fresno County to Stanislaus County (Federal Register 1997a; CDFG 2012). This species is an annual herb, occurring in vernal pools at elevations from 80 to 2,470 ft (CDFG 2012). Pools supporting this species are often acidic. This owl's clover flowers from April to May (CNPS 2008).

> **California Jewel-Flower.** California jewel-flower (*Caulanthus californicus*) is federally and state-listed as endangered and is RPR list 1B. No critical habitat has been designated for California jewel-flower. California jewel-flower is found from Fresno County to Santa Barbara County (CDFG 2012; USFWS 1998). California jewel-flower is an annual herb, flowering from February to May (CNPS 2008). This species is found in valley and foothill grassland, chenopod scrub, and pinyon and juniper woodland at elevations from 210 to 3,000 ft (CDFG 2012).

> **Hoover's Spurge.** Hoover's spurge (*Chamaesyce hooveri*) is federally listed as threatened and is RPR list 1B. Critical habitat for Hoover's spurge has been designated in Tehama, Butte, Stanislaus, Tuolumne, Merced, and Tulare counties. This spurge occurs sporadically in the Central Valley, in Butte, Tehama, Glenn and Colusa counties in the north, as well as in Stanislaus and Tulare counties. This species is an annual herb, flowering in July (CNPS 2008). Hoover's spurge is found in vernal pools on volcanic mudflow or clay substrate in valley and foothill grassland, at elevations from 80 to 430 ft. (CDFG 2012).

> **Springville Clarkia.** Springville clarkia (*Clarkia springvillensis*) is federally listed as threatened, state-listed as endangered, and is RPR list 1B. No critical habitat has been designated for Springville clarkia. This clarkia occurs in Kern County and has also been reported from San Luis Obispo County. This species is an annual herb, flowering from May to July (CNPS 2008). Springville clarkia is found on cutbanks and openings in blue oak woodland, usually on decomposed granite loam. This clarkia occurs in chaparral, cismontane woodland, and valley and foothill grassland, at elevations from 1,080 to 4,000 ft (CDFG 2012).

> **Kern Mallow.** Kern mallow (*Eremalche kernensis*) is federally listed as endangered and is RPR list 1B. No critical habitat has been designated for Kern mallow. This mallow occurs in Kern, Tulare, San Luis Obispo, and Santa Barbara counties. This species is an annual herb, flowering from March to May (CNPS 2008). Kern mallow is found on dry, open sandy to clayey soils, often at the edge of barren areas. This mallow occurs in chenopod scrub and valley and foothill grassland, at elevations from 230 to 1,690 ft (CDFG 2012).

[1] "At the direction of Assembly Bill 2402 (Huffman) and Governor Brown, the name of the California Department of Fish and Game has been changed to the 'California Department of Fish and Wildlife' as of January 1, 2013. Our mission has not changed. Updating all references to reflect the Department's new name will require some time, so we appreciate your understanding during this transition." – CDFW website

> **Striped Adobe-Lily.** Striped adobe-lily (*Fritillaria striata*) is state-listed as threatened and is RPR list 1B. No critical habitat has been designated for striped adobe-lily. This adobe-lily occurs in Tulare and Kern counties. This species is a bulbiferous, perennial herb, flowering from February to April (CNPS 2008). Striped adobe-lily is found on clay adobe soils in oak grassland, at elevations from 440 to 4,775 ft (CDFG 2012).

> **San Joaquin Woollythreads.** San Joaquin woollythreads (*Monolopia congdonii*) is federally listed as endangered and is RPR list 1B. No critical habitat has been designated for San Joaquin woollythreads. This woollythreads occurs in from Fresno, San Benito, and Monterey counties to Kern and Santa Barbara counties. This species is an annual herb, flowering from March to April (CNPS 2008). San Joaquin woollythreads is found on alkaline or loamy plains in sandy soils. This species occurs in chenopod scrub and valley and foothill grassland, at elevations from 195 to 2,635 ft (CDFG 2012).

> **Bakersfield Cactus.** Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) is federally and state-listed as endangered and is RPR list 1B. No critical habitat has been designated for Bakersfield cactus. This cactus occurs in Kern and Los Angeles counties. This species is a succulent-stemmed small shrub, flowering in May (CNPS 2008). Bakersfield cactus is found on bluffs, low hills, and flats within grassland, in well-drained granitic sand that is coarse or cobbly. This cactus occurs in chenopod scrub, valley and foothill grassland, and cismontane woodland at elevations from 295 to 1,805 ft (CDFG 2012).

> **San Joaquin Valley Orcutt Grass.** San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*) is federally listed as threatened, state-listed as endangered, and is RPR list 1B. Critical habitat has been designated for San Joaquin Valley Orcutt grass in Mariposa, Merced, Madera, Fresno, and Tulare counties. This grass has been reported from Fresno and Tulare Counties to Solano and Stanislaus Counties, although this species has been completely extirpated from Stanislaus County (CDFG 2012). San Joaquin Valley Orcutt grass is an annual herb, flowering from April to September (CNPS 2008). This species is found at elevations from 95 to 2,500 ft, in vernal pools that form on acidic soils varying in texture from clay to sandy loam (CDFG 2012, Federal Register 2003).

> **Hartweg's Golden Sunburst.** Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is federally and state-listed as endangered and is RPR list 1B. No critical habitat has been designated for Hartweg's golden sunburst. This species has been reported from El Dorado, Fresno County to Tuolumne County, and from El Dorado and Yuba counties (CDFG 2012). Populations in Madera and Stanislaus Counties constitute 90 percent of the population (Federal Register 1997b; CDFG 2012).

  Hartweg's golden sunburst is an annual herb, flowering from March to April (CNPS 2008). This species is found in valley and foothill grassland and cismontane woodlands, generally on clay soils of the Amador and Rocklin soil series, at elevations from 50 to 500 ft (Federal Register 1997b, CDFG 2012). Hartweg's golden sunburst is primarily found on the north slopes of knolls, but also occurs along shady creeks and near vernal pools (CDFG 2012).

> **San Joaquin Adobe Sunburst.** San Joaquin adobe sunburst (*Pseudobahia peirsonii*) is federally listed as threatened, state-listed as endangered, and is RPR list 1B. No critical habitat has been designated for San Joaquin adobe sunburst. This species occurs in Fresno, Tulare, and Kern counties. San Joaquin adobe sunburst is an annual herb, flowering from March to April (CNPS 2008). This species is found on heavy clay soil in grassy valley floors and rolling foothills. San Joaquin adobe sunburst is occurs in valley and foothill grassland and cismontane woodland, at elevations from 275 to 2,625 ft (CDFG 2012).

F.1.2 Wildlife

Invertebrates

> **Conservancy Fairy Shrimp.** The Conservancy fairy shrimp (*Branchinecta conservatio*) is federally listed as threatened. Critical habitat for the Conservancy fairy shrimp has been designated in Tehama, Butte, Solano, Stanislaus, Merced, Mariposa, Madera, and Ventura counties (USFWS 2005). This fairy shrimp occurs within a few isolated populations distributed over a large portion of California's Central Valley and in southern California (USFWS 2005a). In the San Joaquin Valley, Conservancy fairy shrimp are known to occur in the Grasslands Ecological Area in Merced County, and at a single location in Stanislaus County. Critical habitat for Conservancy fairy shrimp encompasses 161,786 acres across Butte, Colusa, Mariposa, Merced, Solano, Stanislaus, Tehama, and Ventura counties (USFWS 2006).
>
> The conservancy fairy shrimp is endemic to the grassland and vernal pool habitats of California's Central Valley. This species is adapted to ephemeral conditions and can be found in large, turbid pools at elevations from 15 to 5,600 ft (USFWS 2005; CDFG 2012). Fairy shrimp are adapted for survival in water bodies that are transient and their cysts (protected eggs) can withstand long dry periods. They require cool waters early in the rainy season for hatching and are highly susceptible to contaminants. Dispersal of cysts is thought to occur by animal vectors, including grazing animals or waterfowl.

> **Vernal Pool Fairy Shrimp.** The vernal pool fairy shrimp is federally listed as threatened. Critical habitat for the vernal pool fairy shrimp has been designated from Shasta County to Tulare County in the Central Valley and from Solano County to Ventura County west of the Central Valley (USFWS 2005). This fairy shrimp is currently found in 28 counties across the Central Valley and coast ranges of California (USFWS 2005a). Despite a wider distribution than Conservancy or longhorn fairy shrimp, the vernal pool fairy shrimp is generally uncommon throughout its range and rarely abundant where it does occur. Critical habitat for vernal pool fairy shrimp encompasses 597,821 acres across Jackson County, Oregon, and Alameda, Amador, Butte, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Ventura, and Yuba counties. Primary Constituent Elements are habitat elements that provide: 1) topographic features characterized by mounds and swales and depressions, 2) depressional features including isolated vernal pools, 3) Sources of food, and 4) structure within vernal pools.

> **Valley Elderberry Longhorn Beetle.** Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is federally listed as threatened. Critical habitat has been designated for the valley elderberry longhorn beetle, but critical habitat for this beetle is in the Sacramento area, far outside of the Project Area (Federal Register 1980). According to a recent status review of this species, it has recovered sufficiently to warrant delisting (USFWS 2006).
>
> Since 1984 when the valley elderberry longhorn beetle was listed as threatened, 190 populations have been reported from Shasta County to Fresno County (USFWS 2006). Over 1,500 acres of valley elderberry longhorn beetle habitat have been restored and 50,000 acres of riparian habitat have been protected. The valley elderberry longhorn beetle is endemic to California's Central Valley and feeds primarily on blue elderberry (Sambucus mexicana), although it will also utilize other elderberry species. This species generally lays eggs in the bark of elderberry trees that are 2 to 8 inches in diameter and prefers stressed plants (CDFG 2012; USFWS 1984).

> **Vernal Pool Tadpole Shrimp.** The vernal pool tadpole shrimp is federally listed as endangered. Critical habitat for the vernal pool fairy tadpole has been designated from Shasta and Tehama Counties to Tulare County in the Central Valley and from Solano County to Santa Clara County in the central coast area (USFWS 2005). This tadpole shrimp is currently distributed across the Central Valley of California and in the San Francisco Bay area, but its distribution is greatly reduced from historical times due to destruction of its habitat (USFWS 2005a). Vernal pool habitats in the Central

Valley occupy about 25 percent of their former area (Holland 1998, as cited in USFWS 2005a). In the San Joaquin Valley, vernal pool tadpole shrimp known occurrences include sightings within the Grasslands Ecological Area and private land in Merced County and from single locations in Tulare and Kings Counties (USFWS 2005a). Critical habitat for vernal pool tadpole shrimp encompasses 228,785 acres across Alameda, Amador, Butte, Colusa, Fresno, Kings, Madera, Mariposa, Merced, Sacramento, Shasta, Solano, Stanislaus, Tehama, Tulare, Yolo, and Yuba counties. Primary Constituent Elements are habitat elements that provide: 1) topographic features characterized by mounds and swales and depressions, 2) depressional features including isolated vernal pools, 3) Sources of food, and 4) structure within vernal pools.

Fish

> **Green Sturgeon.** The southern distinct population segment (DPS) of green sturgeon (*Acipenser medirostris*) is federally listed as threatened. The southern DPS includes all coastal and Central Valley populations south of the Eel River, including the Sacramento River (NMFS 2003). Although the southern DPS is considered a separate population from the northern DPS based on genetic data and spawning locations, the range of the northern DPS and southern DPS outside of spawning areas tends to overlap (Israel et al. 2004; Moser and Lindley 2007).

  In 2009, NOAA Fisheries designated critical habitat for the southern DPS of green sturgeon, including coastal United States marine waters within 60 fathoms depth from Monterey Bay, California North to Cape Flattery, Washington. The designation includes the Sacramento River, lower Feather River, lower Yuba River, the Delta and San Francisco Estuary, the lower Columbia River Estuary, as well as Humboldt Bay, Coos Bay, Winchester Bay, Yaquina Bay, Nehalem Bay, Willapa Bay, and Grays Harbor. The estuary portion of the Eel, Klamath, and Trinity rivers was specifically excluded from the critical habitat designation (NMFS 2009a).

  Primary Constituent Elements of habitat considered essential for the conservation of the southern DPS of green sturgeon in freshwater riverine systems include: 1) food resources, 2) substrate type or size, 3) water flow, 4) water quality, 5) migratory corridor, 6) water depth, and 7) sediment quality. For estuarine areas, all of the same PCEs apply except substrate type or size. In marine areas, PCEs considered essential for conservation include: 1) migratory corridor, 2) water quality, and 3) food resources (NMFS 2009a).

> **Delta Smelt.** Delta smelt (*Hypomesus transpacificus*) is federally listed as threatened and state-listed as endangered. Designated critical habitat for the delta smelt includes all water and submerged lands below the ordinary high water mark and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma sloughs; and the existing contiguous waters contained within the legal Delta (USFWS 1994, 2008). The primary constituent elements of Delta smelt critical habitat are: 1) physical habitat consisting of adequate spawning substrate, 2) water of quality suitable support all life stages, 3) river flow to facilitate spawning migrations and transport of offspring rearing habitats; this element includes Delta inflow and outflow, which influence adult, larval, and juvenile migrations, and 4) salinity to support nursery habitat (USFWS 2012).

> **Central Valley Steelhead.** The Central Valley DPS of steelhead (*Oncorhynchus mykiss*) is federally and state-listed as threatened. Designated critical habitat for Central Valley steelhead includes stream reaches of the Sacramento, Feather, and Yuba rivers, and Deer, Mill, Battle, and Antelope creeks in the Sacramento River basin; the lower San Joaquin River to the confluence with the Merced River, including its tributaries, and the waterways of the Delta (NMFS 2006b). The primary constituent elements of Central Valley steelhead critical habitat are: 1) spawning habitat, including spawning substrate, and adequate water quantity and quality, 2) freshwater rearing habitat including floodplain connectivity, and natural escape and velocity cover, 3) freshwater migration corridors free of obstructions, with water quantity and quality conditions that allow movement, and 4) estuarine areas

with adequate water quality and quantity to supporting juvenile and adult physiological transitions between fresh and salt water (NMFS 2009b).

> **Central Valley Spring-Run Chinook Salmon.** The Central Valley spring-run DPS of Chinook salmon (*Oncorhynchus tshawytscha*) is federally and state-listed as threatened. Critical habitat Central Valley spring-run Chinook salmon encompasses the Feather and Yuba Rivers, Big Chico, Butte, Deer, Mill, Battle, Antelope, and Clear creeks, the Sacramento River, as well as portions of the northern Delta (NMFS 2005). The PCEs considered essential for conservation include spawning sites, rearing sites, migration corridors, estuarine areas, and nearshore marine areas (NMFS 2009b)..

> **Sacramento River Winter-Run Chinook Salmon.** The Sacramento River winter-run DPS of Chinook salmon (*Oncorhynchus tshawytscha*) is federally and state-listed as endangered. Winter-run Chinook salmon critical habitat extends from the Sacramento River at Keswick Dam to Chipps Island within the Delta west to the Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Strait, San Pablo Bay west of the Carquinez Bridge, and the San Francisco Estuary to the Golden Gate Bridge north of the San Francisco Bay (NMFS 1993, 2009b). The physical and biological features essential for the conservation of the species are: 1) access to spawning areas in the upper Sacramento river, 2) the availability of clean gravel for spawning substrate, 3) adequate river flows for successful spawning, incubation of eggs, fry development and emergence, and downstream transport of juveniles, 4) water temperatures for successful spawning, egg incubation, and fry development, 5) habitat areas and adequate prey that are not contaminated, 6) riparian habitat that provides for successful juvenile development and survival, and 7) access downstream so that juveniles can migrate from spawning grounds to San Francisco Bay and the Pacific Ocean (NMFS 2009b).

Amphibians

> **California Tiger Salamander.** California tiger salamander (*Ambystoma californiense*) is federally and state-listed as threatened. Critical habitat has been designated for the central population of the California tiger salamander in 20 counties, from Yolo and Solano counties south to Tulare, Kings, and San Luis Obispo counties (Federal Register 2005a). The California tiger salamander is endemic to central California. This species is found in vernal pool complexes in Santa Barbara and Sonoma Counties, in the Central Valley from Colusa County south to Kern County, and in coast ranges from the San Francisco Bay area south to the Temblor Range.

California tiger salamander habitat has two distinct components: 1) rain pools used for spawning and 2) burrow complexes of California ground squirrel (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) in grasslands and sparse oak woodlands used by adults for most of the year. This salamander spends about 80 to 90 percent of the year in mammal burrows to prevent desiccation, especially during the hot dry summer season that is characteristic of the majority of its range in California. Typically, California tiger salamanders emerge from rodent burrows several times on rainy nights during the autumn and winter, and migrate to traditional spawning pool sites filled by winter rains (Stebbins 1951). Eggs are deposited singly or in small clusters on submerged plant stems, hatching within a few days. After spawning, the adult salamanders return to the rodent burrow complexes, and move deep underground. The cycle commences again with the first heavy rains of autumn. Larvae metamorphose in late spring, not long before the spawning pools begin to dry out.

> **California Red-Legged Frog.** California red-legged frog (*Rana draytonii*) is federally listed as threatened and is a state species of special concern. Designated critical habitat for the California red-legged frog includes 1,636,609 acres in 22 counties, extending from Butte and Mendocino counties to Merced County in the Central Valley and Los Angeles County along the coast (FR 2010).

Historically, the California red-legged frog occurred in coastal mountains at elevations up to 5,200 ft from Marin County southward to northern Baja, California, and along the floor and foothills of the Central Valley from Shasta County southward to Kern County (Jennings et al. 1992). Currently, this

subspecies persists below 3,500 ft in small numbers in some of its historic range in the Central Valley, Sacramento River Valley and foothills and south of Ventura County. It remains fairly common in many coastal areas north of Ventura County (USFWS 2002).

The California red-legged frog breeds from November to March. Egg masses are attached to emergent vegetation (Jennings and Hayes 1994), and hatch within 14 days. Metamorphosis generally occurs between July and September. This large frog is found in habitats characterized by dense, shrubby, riparian vegetation associated with deep (0.7 meter), still, or slow-moving water (Jennings 1988; Jennings and Hayes 1988). Emergent vegetation is important for cover as well as for egg attachment (Storer 1925). In aquatic habitats, this frog occurs primarily in areas having pools approximately 3 ft deep, with adjacent dense emergent or riparian vegetation (Jennings and Hayes 1988). Upland habitats are used by dispersing frogs during periods of wet weather (USFWS 2002). Adult frogs move seasonally between their egg-laying sites and foraging habitat, but generally they rarely move large distances from their aquatic habitat.

> **Southern Mountain Yellow-Legged Frog.** Southern mountain yellow-legged frog (*Rana muscosa*) is a federally and state-listed as endangered. This frog is found endemic to California, from Fresno, Tulare, and Inyo counties to Los Angeles and Riverside counties. This species occupies streams (except the smallest), ponds, and lakes at moderate to high elevations, particularly those without predatory fish. (Jennings and Hayes 1994).

Reptiles

> **Blunt-Nosed Leopard Lizard.** Blunt-nosed leopard lizard (*Gambelia sila*) is federally and state-listed as endangered and is a state fully protected species. No critical habitat has been designated for the blunt-nosed leopard lizard. The blunt-nosed leopard lizard is distributed throughout Fresno, Kern, Kings, Santa Barbara, San Luis Obispo, San Benito, Madera, and Tulare counties. The blunt-nosed leopard prefers sparsely vegetated habitats such as alkali and desert scrub in areas of low relief. This species utilizes the abandoned burrows of smaller mammals such as squirrels and kangaroo rats for cover from extreme temperatures and predators (CDFG 2012; USFWS 1998).

> **Giant Garter Snake.** Giant garter snake (*Thamnophis gigas*) is federally and state-listed as threatened. No critical habitat has been designated for giant garter snake. The giant garter snake occurs in Central Valley waterways Fresno, Sacramento, Merced, Solano, Yolo, Sutter, Butte, Glen, Colusa, and Kern Counties. The giant garter snake prefer wetlands and waterways such as fresh water marshes, irrigation canals, low gradient streams, ponds, and small lakes. This species is the most aquatic of all garter snakes in California and requires permanent water, wetland vegetation for cover and forage, and upland vegetation for basking and cover (USFWS 1999; CDFG 2012).

Birds

> **Swainson's Hawk.** Swainson's hawk (*Buteo swainsoni*) is state-listed as threatened. In California, this species is restricted to portions of the Central Valley and Great Basin regions where suitable nesting and foraging habitat is still available. Central Valley populations are densest from Colusa County to San Joaquin County (Anderson, et al., 2007).

Swainson's hawk requires large, open grasslands with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. The majority of Swainson's hawk territories in the Central Valley are associated with riparian systems adjacent to suitable foraging habitats. Swainson's hawk often nests peripherally to riparian systems, but also uses lone trees or groves of trees in agricultural fields and rangelands. Valley oak, Fremont cottonwood, walnut, and large willow with an average height of about 60 ft are the most commonly used nest trees in the Central Valley. Breeding occurs late March to late August, with peak activity from late May through July (Zeiner et al. 1990a).

- **Willow Flycatcher.** Southwestern willow flycatcher (*Empidonax traillii extimus*) is federally listed as endangered. The entire species (*Empidonax traillii*) is state-listed as endangered. No critical habitat has been designated for thus species. Although this species was formerly common throughout California in the summer, breeding populations of this species in California are now found only along the Kern, Santa Ynez, Santa Margarita, and San Luis Rey rivers in southern California, and in isolated meadows in the Sierra Nevada. The preferred habitat for this flycatcher includes dense riparian habitats along rivers, streams, or other wetlands. Vegetation is dominated by dense willow, and may include an overstory of cottonwood, tamarix, or other larger trees. Breeding habitats are less than 20 yards from water or very saturated soil.
- **California Condor.** California condor (*Gymnogyps californianus*) is federally and state-listed as endangered and is a state fully protected species. No critical habitat has been designated for the California condor. This species was a permanent resident of the semi-arid, rugged mountain ranges surrounding the southern San Joaquin Valley, including the Coast Ranges from Santa Clara County south to Los Angeles County, the Transverse Ranges, Tehachapi Mountains, and southern Sierra Nevada. The historical range of the condor included the southern Sierra foothills in Kern and Tulare Counties, where non-breeding birds often spent the spring and summer. By 1987, the condor population had declined drastically, and all remaining individuals of the species were captured from the wild and used in a captive-breeding program. In 1992, young adults were released in Ventura County. Since then, more condors have been released in Monterey, Santa Barbara and San Luis Obispo counties and in Arizona.

  The California condor requires vast expanses of open savannah, grasslands, and foothill chaparral, with cliffs, large trees, and snags for roosting and nesting. It forages over wide areas of open rangelands and roosts on cliffs and in large trees and snags. This species feeds on carcasses in open areas, as it must have room to land and take off. The condor nests in caves or on large ledges. It occurs mostly between sea level and 9,000 ft, and nests from 2,000 to 6,500 ft (Zeiner et al. 1990a).

Mammals

- **Nelson's Antelope Squirrel.** Nelson's antelope squirrel (*Ammospermophilus nelsoni*) is state-listed as threatened. Historically, this species was found from Merced County to the southern end of the San Joaquin Valley, but sizable populations currently are only found in western Kern County and eastern San Luis Obispo County. Nelson's antelope squirrel is found in sparsely vegetated areas in broken terrain, at elevations from 200 to 1,200 ft elevation. This species prefers areas with loam soils in which to burrow (CDFG 2012).
- **Giant Kangaroo Rat.** Giant kangaroo rat (*Dipodomys ingens*) is federally and state-listed as endangered. No critical habitat has been designated for giant kangaroo rat. This kangaroo rat historically was found from Merced County to Kern County and the adjacent portions of San Luis Obispo and Santa Barbara counties. This species primarily occupies annual grassland, although alkali scrub also provides marginal habitat. Giant kangaroo rat needs relatively level, sandy loam soils in which to excavate its burrows (CDFG 2012).
- **Fresno Kangaroo Rat.** Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is federally and state-listed as endangered. No critical habitat has been designated for the Fresno kangaroo rat. The Fresno kangaroo rat was historically found on the floor of the San Joaquin Valley in Fresno, Madera, and Kings Counties (CDFG 2012). Twelve known occurrences are recorded in the CNDDB, of which three are considered extirpated and another three are possibly extirpated (CDFG 2012). A single male Fresno kangaroo rat was captured twice in autumn, 1992, on the Alkali Sink Ecological Reserve, west of Fresno (USFWS 1998). Trapping in this reserve in subsequent years resulted in no captures, and trapping elsewhere in historical habitat also resulted in no captures (USFWS 1998).

The Fresno kangaroo rat is a permanent resident of alkali sink scrub – open native grasslands in western Fresno County (Federal Register 1985). This kangaroo rat primarily feeds on seeds of annual forbs and grasses. The Fresno kangaroo rat requires somewhat level terrain composed of sandy loam soils for underground burrows and ground cover consisting of herbaceous and scrub vegetation (Zeiner et al. 1990a). In general, kangaroo rats do not prefer dense vegetation, and this is assumed to be the case for Fresno kangaroo rat. While some grazing may be beneficial to this species, heavy grazing pressure has been associated with decreased populations of the Fresno kangaroo rat (Koos 1977).

> **Tipton Kangaroo Rat.** Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) is federally and state-listed as endangered. No critical habitat has been designated for the Tipton kangaroo rat. This kangaroo rat historically was found in the Tulare Lake Basin, from Fresno County to Kern County. This species occupies saltbush scrub and sink scrub communities. In these communities, soil mounds often develop at the base of shrubs. Tipton kangaroo rat digs burrows in these mounds and needs soft soils above the zone of seasonal flooding (CDFG 2012).

> **Buena Vista Lake Ornate Shrew.** Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) is federally listed as endangered and is a state species of special concern. Critical habitat has been proposed for the Buena Vista Lake ornate shrew, but has not been designated. This shrew historically was found from Kings County to Kern County in the Tulare Lake Basin and Buena Vista Lake Basin. This subspecies occupies marshes and riparian areas with moist soil (CDFG 2012). Based on the preferences of the species in general, this subspecies is expected to prefer densely vegetated areas with logs, litter and stumps are used for cover (Bolster 1998).

> **San Joaquin Kit Fox.** San Joaquin kit fox (*Vulpes macrotis mutica*) is federally listed as endangered and state-listed as threatened. No critical habitat has been designated for the San Joaquin kit fox. The San Joaquin kit fox is found primarily in the lowlands of the San Joaquin Valley of California within Kings, Tulare, Fresno, Madera, San Benito, Merced, Stanislaus, and Monterey Counties. This fox is also found in several counties in the coast mountain ranges, extending north to San Joaquin, Alameda, and Contra Costa Counties (USFWS 1998; CDFG 2012).

The San Joaquin kit fox is a permanent resident of arid regions in southern California, preferring loose textured soils for excavation of dens. Scattered, shrubby vegetation provides suitable habitat for the San Joaquin kit fox (Zeiner et al. 1990a). This fox species relies on subterranean dens for breeding and escape cover from potential predators. Dens are excavated in loose-textured soils, generally in areas with low to moderate relief. Kit fox will also utilize existing burrows excavated by rabbits, ground squirrels, badgers (*Taxidea taxus*), and on occasion will use man-made structures for denning such as well casings, culverts, and abandoned pipelines.

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Cross Valley Contractors
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APPENDIX G

GROUNDWATER OBSERVATIONS

G.1 Introduction

Groundwater head[2] has been monitored in numerous wells in the San Joaquin Valley for many years and the historic data are available from the DWR database (DWR 2014). In a typical year, groundwater head declines in the summer and fall in response to groundwater pumping and rises in the winter and spring as pumping declines and winter runoff recharges the groundwater basins. During dry years, groundwater pumping typically increases to offset the reduced availability of surface water supplies.

G.2 Groundwater Conditions

Since 1975 (when the CVC began operations), the surface water hydrology of the region has reflected a dry period in the mid to late 1980s, a wet period in the 1990s, and mixed hydrology consisting of wet and dry periods after 2000 (Table G-1). The wet/dry cycle of increasing/decreasing head can be very pronounced, reflecting the sensitivity of the groundwater to these cycles. The historic record also suggests how the groundwater head will respond to future reliance on groundwater as a water supply for the Project Area.

Figure G-1 compares the average historical minimum springtime groundwater levels between 1900 and 1998 to more recent average minimum springtime levels between spring 2008 and 2014 for individual wells in the Project Area. Since spring 2008, groundwater levels are at all-time historical lows (for the period of record) in most areas of the state especially in the southern San Joaquin Valley. Some of these areas exhibit groundwater levels more than 50 feet below average minimum elevation experienced prior to 1998. There are many areas of the San Joaquin Valley where recent groundwater levels are more than 100 feet below previous historical lows (DWR 2014).

Figure G-2 presents the change in minimum groundwater level based on groundwater basin area for the same 1900 and 1998 periods and more recent 2008 and 2014 periods. For the Project Area, the average minimum springtime groundwater elevation has declined by over 30 percent, and in some areas over 50 percent from historic conditions.

The percentage of wells with current groundwater levels (2008–2014) at or below historical low spring levels was calculated for each groundwater basin. This was accomplished by dividing the wells currently at or below historical lows to all long-term wells in the groundwater basin (DWR 2014). 55 percent of the long-term wells (1,718 of 3,124) in the San Joaquin Valley are at or below the historical spring low levels (DWR 2014). These results are displayed on Figure G-3.

G.3 References

California Department of Water Resources (DWR). 2014. Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California. DWR Website Accessed December 30, 2014: http://www.water.ca.gov/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf

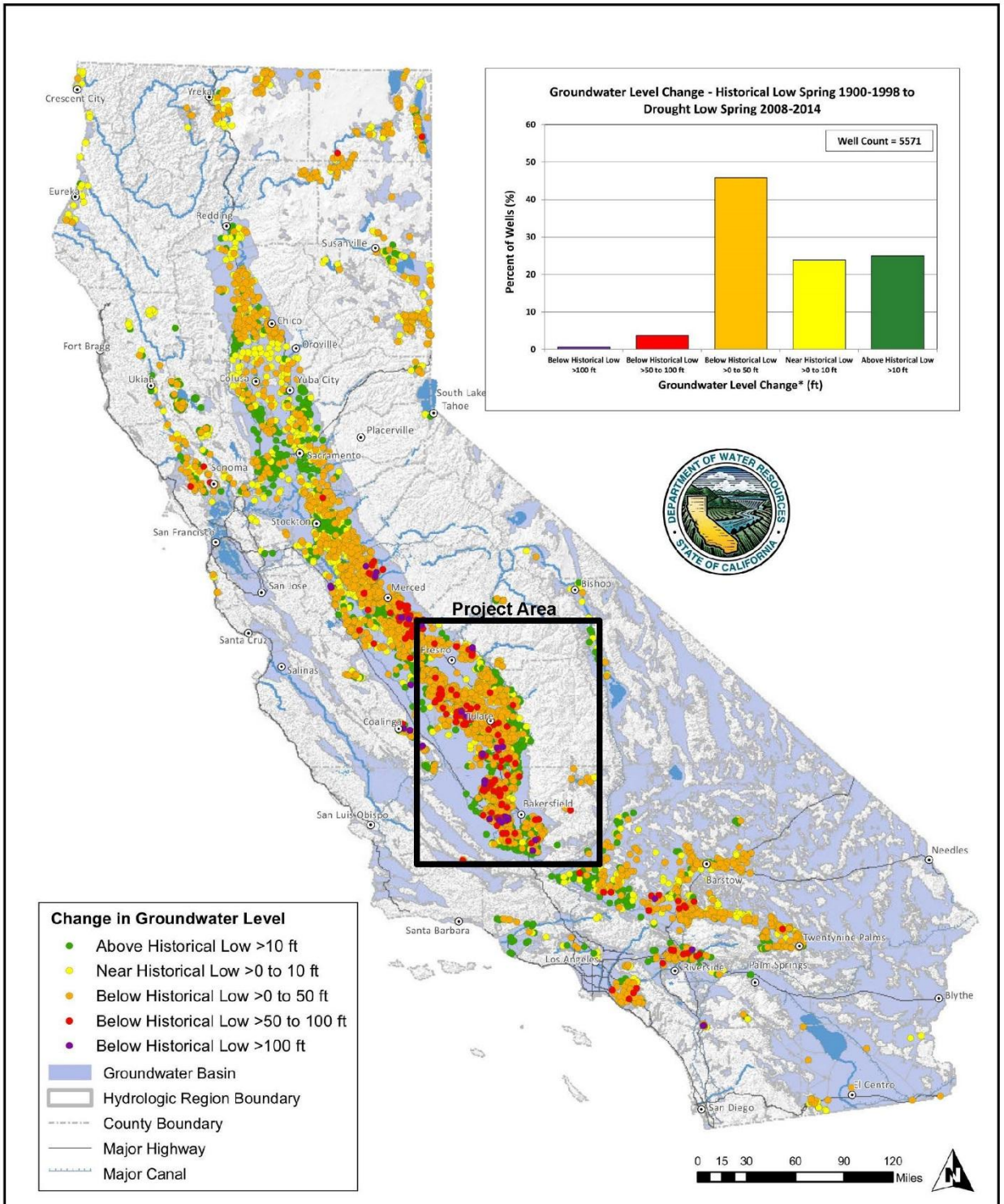
[2] The elevation of the water table surface.

Table G-1 San Joaquin River Basin Water Year Type

Year	Water Year Type	Year	Water Year Type	Year	Water Year Type	Year	Water Year Type
1975	W	1985	D	1995	W	2005	W
1976	C	1986	W	1996	W	2006	W
1977	C	1987	C	1997	W	2007	C
1978	W	1988	C	1998	W	2008	C
1979	AN	1989	C	1999	AN	2009	BN
1980	W	1990	C	2000	AN	2010	AN
1981	D	1991	C	2001	D	2011	W
1982	W	1992	C	2002	D	2012	D
1983	W	1993	W	2003	BN	2013	C
1984	AN	1994	C	2004	D	2014	C

Source: DWR, California Water Exchange Center. http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST

AN = Above Normal
BN = Below Normal
C = Critical
D = Dry
W = Wet



Source: DWR, *Summary of Recent, Historical, and Estimate Potential for Future Land Subsidence in Californina*, 2014.
Can be accessed at: http://www.water.ca.gov/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf

Note: Groundwater level change determined from water level measurements in wells.
Map and chart based on available data from the DWR Water Data Library as of 05/19/2014.
Data subject to change without notice.

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Figure G-1: Groundwater Level Change Historical Low Spring 1900-1998 to Drought Low Spring 2008-2014

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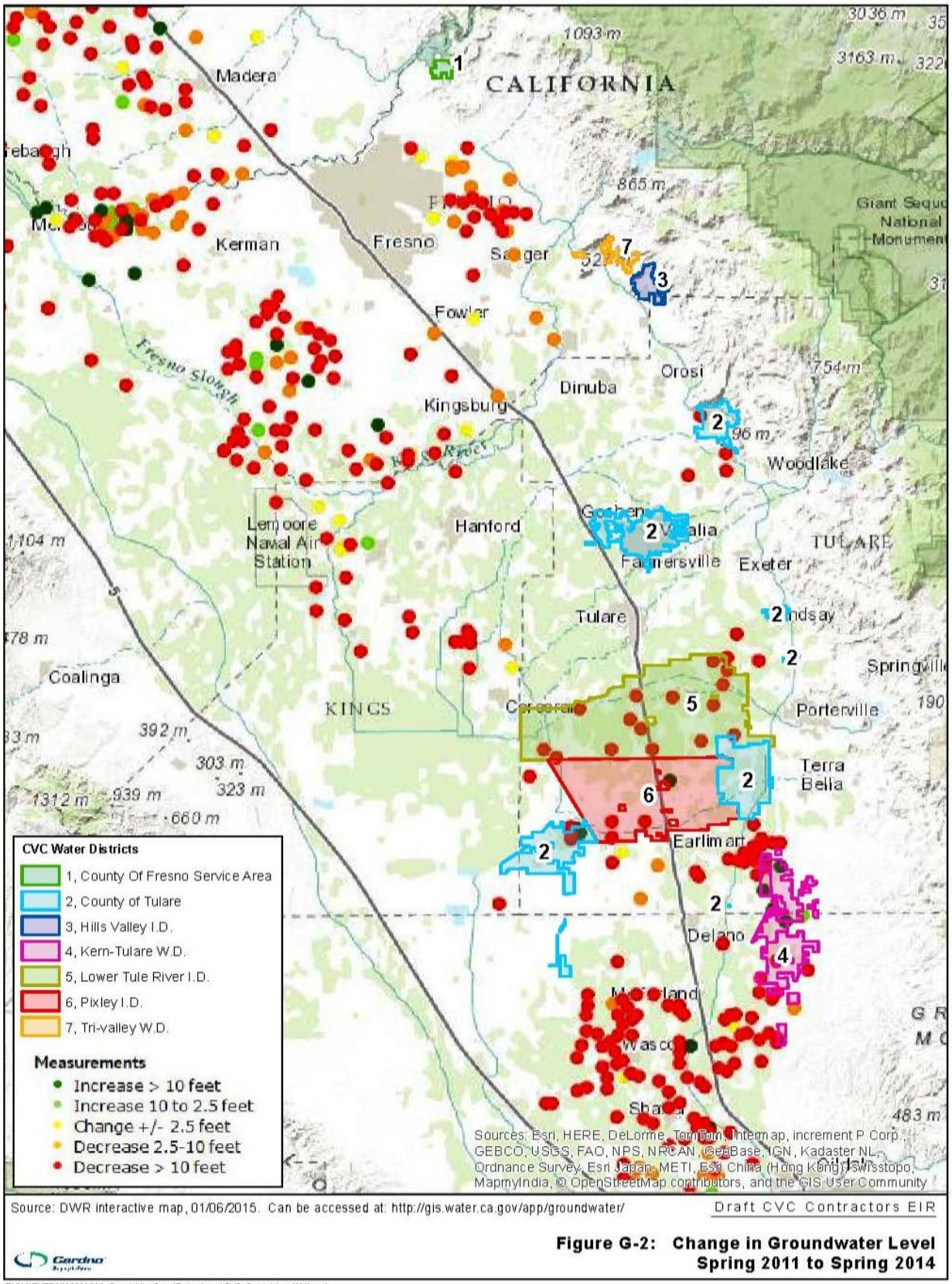
CALIFORNIA
Madera
Fresno
Kerman
Sanger
Fowler
Dinuba
Orosi
Kingsburg
Woodlake
Lemoore Naval Air Station
Hanford
Visalia
Farmersville
Exeter
TULARE
Tulare
Lindsay
Coalinga
KINGS
Porterville
Terra Bella
Earlimart
Delano
Wasco
Shafter
Fresno Slough
CVC Water Districts
1, County Of Fresno Service Area
2, County of Tulare
3, Hills Valley I.D.
4, Kern-Tulare W.D.
5, Lower Tule River I.D.
6, Pixley I.D.
7, Tri-valley W.D.
Measurements
Increase > 10 feet
Increase 10 to 2.5 feet
Change +/- 2.5 feet
Decrease 2.5-10 feet
Decrease > 10 feet
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Source: DWR interactive map, 01/06/2015. Can be accessed at: http://gis.water.ca.gov/app/groundwater/
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Figure G-2: Change in Groundwater Level Spring 2011 to Spring 2014
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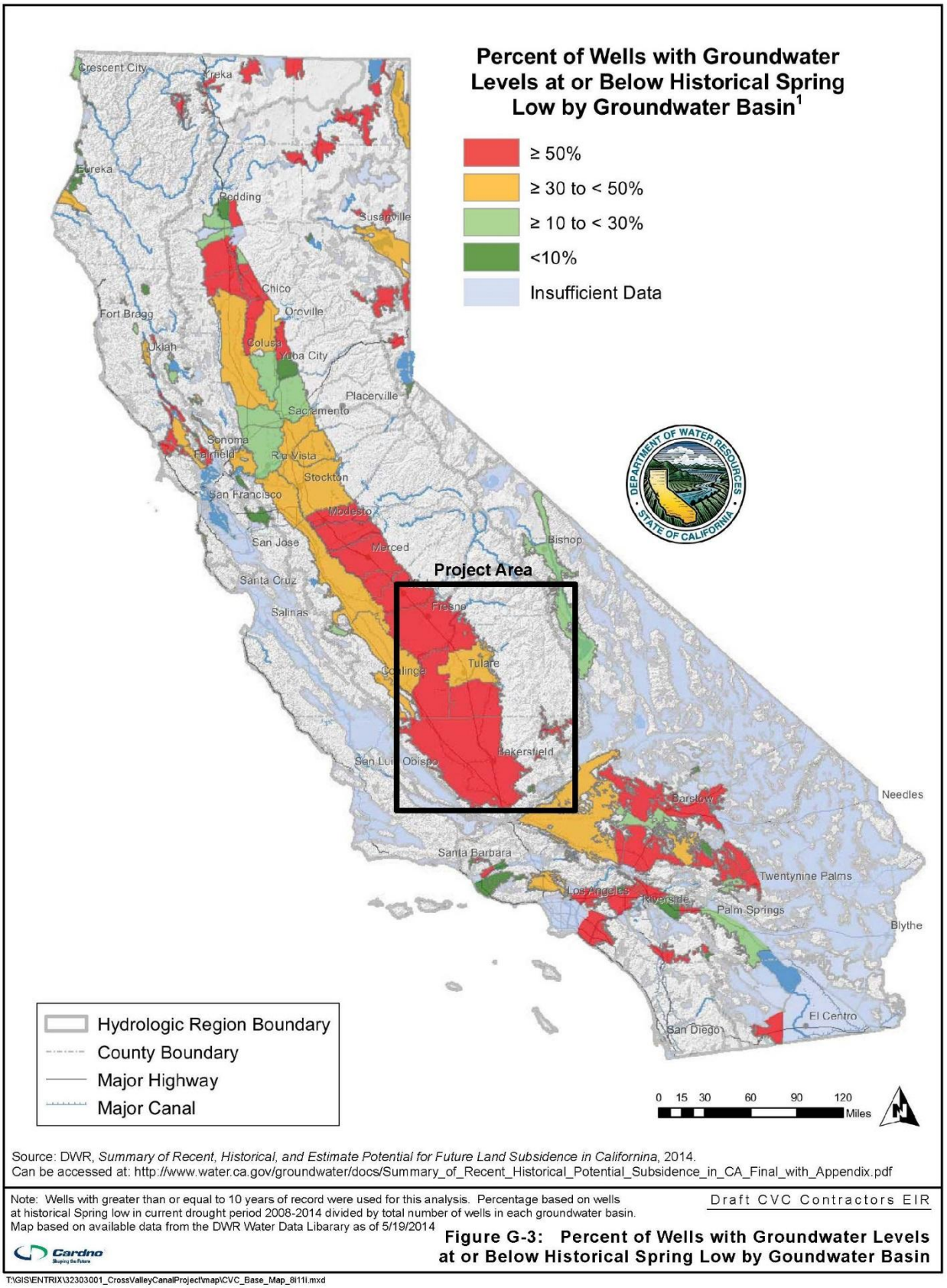

Source: DWR, *Summary of Recent, Historical, and Estimate Potential for Future Land Subsidence in Californina*, 2014.
Can be accessed at: http://www.water.ca.gov/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_CA_Final_with_Appendix.pdf

Note: Wells with greater than or equal to 10 years of record were used for this analysis. Percentage based on wells at historical Spring low in current drought period 2008-2014 divided by total number of wells in each groundwater basin.
Map based on available data from the DWR Water Data Libarary as of 5/19/2014

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Figure G-3: Percent of Wells with Groundwater Levels at or Below Historical Spring Low by Goundwater Basin

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