

# RECLAMATION

*Managing Water in the West*

## FINDING OF NO SIGNIFICANT IMPACT

### Arvin Edison Water Storage District/ Westside Mutual Water Company Exchange (2011-2016)

FONSI-11-039

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# Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation), has determined that the approval of the Arvin Edison Water Storage District (AEWSD)/Westside Mutual Water Company Exchange [WMWC] (2011-2016) is not a major federal action that will significantly affect the quality of the human environment and an environmental impact statement is not required. This draft Finding of No Significant Impact is supported by Reclamation's draft Environmental Assessment (EA) Number EA-11-039, Arvin Edison Water Storage District/Westside Mutual Water Company Exchange (2011-2016), and is hereby incorporated by reference.

## Background

The State of California (State) has historically experienced periods of drought and flooding. Water agencies continually strive to prepare for varying water supply conditions to the extent possible so that agricultural or urban water supply needs can be met regardless of the fluctuating water availability conditions. In order to proactively offset the impacts of limited Central Valley Project (CVP) contract supplies due to drought and increased San Joaquin River Restoration Program (SJRRP) releases from Friant Dam into the San Joaquin River, CVP contractors from the Friant Division pursue water management options in order to maximize the beneficial uses of its varied water resources. When available, this could be accomplished by having a variety of water supply options that can be implemented as needed. For instance, the ability to regulate water supplies that exceed the current irrigation demand is one strategy that can be useful in various years. The flexibility in the timing of delivery afforded by water regulation would be advantageous to water agencies during periods of deficit.

Environmental Assessment (EA) 11-039 has been prepared to examine the potential impacts on environmental resources as a result of exchanging AEWSD's CVP water supplies with WMWC's SWP and other water supplies. 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 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; therefore, the temporal scope of this EA would be for up to 5 years.

Reclamation's finding that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following findings:

## Findings

### Water Resources

The Proposed Action would not interfere with the normal operations of any district involved with the exchange, nor would it impede any State Water Project (SWP) or CVP obligations to deliver water to other contractors or to local fish and wildlife habitat. AEWS D 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, 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

AEWS D's water transfer to WMWC would be regulated through WMWC's irrigation or other demands and similarly WMWC's transfer of water to AEWS D. 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 AEWS D's service boundary to convert to another land use or to fallow. The Proposed Action would not result in increased or decreased water supplies in AEWS D or WMWC that would induce growth or land use changes as both are fully built out and supply no water to customers other than agricultural users. There would be slight beneficial impacts from the Proposed Action as it would contribute to maintaining land use as described in the affected environment.

### Biological Resources

Most of the habitat types required by species protected by the Endangered Species Act (ESA) do not occur in the Proposed Action area. The 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 the Migratory Bird Treaty Act (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.

### Cultural Resources

The Proposed Action would not result in changes in land use within or outside service area boundaries. The implementation of the Proposed Action has no potential to cause impacts to historic properties pursuant to 36 CFR Part 800.3(a)(1). Because the Proposed Action has no potential to cause impacts to historic properties and the Proposed Action would result in no change of land use, no new construction, or require new or modification of water conveyance facilities, the Proposed Action will have no impact on cultural resources.

In the unlikely event that cultural resources or human remains are identified during the implementation of this Proposed Action there may be additional considerations pursuant to Section 106 of the National Historic Protection Act (NHPA). If inadvertent discoveries of cultural resources or human remains occur during Proposed Action implementation, work shall

temporarily stop and Reclamation cultural resources staff shall be contacted immediately. Project implementation will not resume until all issues regarding cultural resource have been resolved in accordance with the NHPA and other applicable laws. The determination by cultural resources staff is included in Appendix C to the EA.

### **Indian Trust Assets**

There are no tribes possessing legal property interests held in trust by the United States in the water involved with this action, nor is there such a property interest in the lands designated to receive the water proposed in this action.

There are no Indian Trust Assets (ITA), Indian Reservations, or public domain allotments found within the lands involved. The Proposed Action would not affect or interfere with the observation of religious or other ceremonies associated with ITA.

### **Environmental Justice**

Without the proposed exchange water, during times of low or delayed deliveries of CVP or SWP water, some field crops may not be planted or may become stressed. The proposed exchange could positively affect low income and minority populations by ensuring that seasonal crop production and related jobs predominantly held by low income or minority populations are more reliably present and thus benefit local populations that include farm workers. Therefore the proposed exchange would have a slight beneficial impact on minority and disadvantaged populations.

### **Socioeconomic Resources**

The 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 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.

### **Air Quality**

Under the Proposed Action, movement of water between WMWC and AEWSD would be done via gravity flow and/or pumped using electric motors which have no emissions. In addition, any extraction of banked groundwater from either entities' (or their designees') 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 Clean Air Act. 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, therefore the Proposed Action would have no impact to air quality.

### **Global Climate**

Greenhouse Gas (GHG) generated by the proposed exchange are 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 (i.e. minimal amounts for groundwater extraction). 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.

### **Cumulative Impacts**

There would be no net gain or loss to either district's surface water or groundwater supplies since the exchange would be "bucket for bucket". Groundwater pumping would not increase or decrease as a result of the Proposed Action. Utilization of conveyance facilities involved would require coordination with the appropriate overseeing agency to insure that the scheduling of the Proposed Action would not hinder the normal operations of those facilities. There would be beneficial impacts to the balancing of water supplies of both AEWSD and WMWC by managing supplies temporally between the two entities. Therefore there would be no contribution to cumulative impacts to water resources.

The Proposed Action would have no impact on land use, biological resources, cultural resources, and ITA; therefore, would not contribute to cumulative impacts on these resources areas. Slight beneficial impacts to socioeconomics and environmental justice would be short-term and within the historical variations, and therefore would not contribute to cumulative impacts. GHG impacts are considered to be cumulative impacts. The Proposed Action, when added to other existing and future actions, would not contribute to cumulative impacts to global climate change owing to the EPA threshold (25,000 tons/year) magnitude of GHG emissions requirement for reporting (EPA 2009) since there are no local emissions associated with the Proposed Action.

The proposed exchange would only occur within the timeframe specified. The Proposed Action, when added to other actions, does not contribute to adverse increases or decreases in environmental conditions. Overall, there would be no significant adverse cumulative impacts caused by the Proposed Action.

# RECLAMATION

*Managing Water in the West*

**Draft Environmental Assessment**

## **Arvin Edison Water Storage District/ Westside Mutual Water Company Exchange (2011-2016)**

**EA-11-039**



**U.S. Department of the Interior  
Bureau of Reclamation  
Mid Pacific Region  
South-Central California Area Office  
Fresno, California**

**September 2011**

## **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

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

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# List of Acronyms and Abbreviations

AF	Acre-feet
AF/Y	Acre-feet per year
AEWSD	Arvin-Edison Water Storage District
APE	Area of Potential Effect
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CWA	Clean Water Act
CVP	Central Valley Project
CWA	Clean Water Act
DWR	California Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Asset
KCWA	Kern County Water Agency
KDWD	Kern Delta Water District
KWBA	Kern Water Bank Authority
MBTA	Migratory Bird Treaty Act
mg/m <sup>3</sup>	Milligram per cubic meter
M&I	Municipal and Irrigation
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NO <sub>x</sub>	Nitrous Oxide
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
PM <sub>10</sub>	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
POD	Point of diversion
Reclamation	Bureau of Reclamation
ROG	Reactive Organic Gases
R/R	Recirculated and Recaptured CVP Water
SHPO	California State Historic Preservation Officer
SIP	State Implementation Plan
SJRRP	San Joaquin River Restoration Program
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO <sub>2</sub>	Sulfur Dioxide
µg/m <sup>3</sup>	Microgram per cubic meter
VOC	Volatile Organic Compound
WD	Water District
WMWC	Westside Mutual Water Company

WSD

Water Storage District

# **Section 1 Purpose and Need for Action**

## **1.1 Background**

The State of California (State) has historically experienced periods of drought and flooding. Water agencies continually strive to prepare for varying water supply conditions to the extent possible so that agricultural or urban water supply needs can be met regardless of the water availability conditions. In order to proactively offset the effects of limited Central Valley Project (CVP) contract supplies due to drought and increased San Joaquin River Restoration Program (SJRRP) releases from Friant Dam into the San Joaquin River, CVP contractors from the Friant Division pursue water management options in order to maximize the beneficial uses of its varied water resources. When available, this could be accomplished by having a variety of water supply options that can be implemented as needed. For instance, the ability to regulate water supplies that exceed the current irrigation demand is one strategy that can be useful in various years. The flexibility in the timing of delivery afforded by water regulation would be advantageous to water agencies during periods of deficit.

### **Arvin-Edison Water Storage District**

Arvin Edison Water Storage District (AEWSD) was formed in 1942 to provide a reliable water supply for its landowners for agricultural purposes. AEWSD is located in Kern County, California (Figure 1), and is situated at the extreme southern end of the San Joaquin Valley, approximately 14 miles southeast of the City of Bakersfield and near to the City of Arvin.

### **Westside Mutual Water Company**

Westside Mutual Water Company was established as a private water company to manage the water assets of its members and to provide water to its members at cost. Many of its members are located in and around the west side of the San Joaquin Valley.

## **1.2 Purpose and Need**

The purpose of the Proposed Action is to allow AEWSD to regulate its highly variable CVP water supplies, conserve and minimize overdraft of the groundwater resources within its service area and to provide a means of storage for WMWCs SWP carryover water supply until needed, particularly during low or drought years.

The need of the Proposed Action is to reduce AEWSD's possible water supply losses in future years due to drought and SJRRP diversions. The use of SWP or other water supplies for exchanges, and groundwater banking (including areas outside its contract service area) provides AEWSD with operational flexibility and facilitates better management of its CVP water supplies. There is also a need to reduce WMWCs risk of SWP carryover water supply losses.

## **1.3 Scope**

This Environmental Assessment (EA) has been prepared to examine the potential effects on environmental resources as a result of exchanging up to 50,000 acre-feet (AF) of AEWSD's CVP water supplies with WMWC's SWP and other water supplies between the date of approval (in 2011) and February 29, 2016. The Proposed Action area is located in the southern portion of the San Joaquin Valley, specifically in Kern County. Refer to Figures 1 through 5 below for reference.

## **1.4 Potential Issues**

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trusts Assets
- Environmental Justice
- Socioeconomic Resources
- Air Quality
- Global Climate

## **Section 2 Alternatives Including the Proposed Action**

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

### **2.1 No Action Alternative**

Under the No Action Alternative, Reclamation would not approve the 5 year program covering 50,000 AF water exchange between AEWS and WMWC.

### **2.2 Proposed Action**

Reclamation proposes to approve a series of exchanges between AEWS and WMWC. AEWS's supplies would include but are not limited to Class 1, Class 2, Uncontrolled Season, Section 215 Water (flood flows unable to be stored behind Friant Dam), and Recaptured and Recirculated (R/R) water (all collectively referred to as CVP water). AEWS 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.

There would be multiple points of delivery on the Friant Kern Canal (FKC), California Aqueduct, and Cross Valley Canal (CVC) for the delivery of CVP water from AEWS to WMWC, (Tables 1, 2, and Figures 2-5).

The amount of water delivered may vary according to WMWC and AEWS's needs and conveyance capacities by the WMWC's Recipient Water Districts. WMWC's Recipient Water Districts include Cawelo WD, Kern Tulare WD, North Kern WSD, Rosedale-Rio Bravo WSD, and Semitropic WSD. AEWS may also divert water via the California Aqueduct Kern Water Bank Canal turnout for delivery directly into the KWBA, to which WMWC has access and rights (Table 2).

AEWS would allow WMWC to divert and use its water through a combination of existing turnouts (Tables 1 and 2); the water would include AEWS's allotted CVP water, as determined by AEWS. The exchange program between AEWS and WMWC would begin in 2011 and be in effect through the end of 2016 contract year or 50,000 AF, whichever comes first; therefore, the temporal scope of this EA would be for up to 5 years. WMWC's "Recipient Water Districts", who could take delivery of exchange water from AEWS, and are entirely within the CVP place of use, are the following:

- Cawelo WD;
- Kern Tulare WD;
- North Kern WSD;

- Rosedale-Rio Bravo WSD;
- Semitropic WSD; and
- KWBA.

Points of diversion (PODs) for AEWSD CVP water to WMWC are described below in Tables 1 and 2:

**Table 1: PODs for AEWSD CVP supplies to WMWC**

Description	Milepost
AEWSD FKC turnout including an AEWSD to Cross Valley Canal (CVC) Intertie]	FKC MP 151.80
FKC/CVC Intertie (for direct delivery into CVC, which is in addition to the above AEWSD/CVC Intertie) then to RRBWSD, CWD, KWBA	FKC MP 151.60
Turnouts for delivery of water to the following districts from the FKC: Semitropic WSD (via the Poso Creek Wasteway or via Shafter-Wasco Irrigation District's turnouts), Cawelo WD, North Kern WSD, or Kern Tulare WD	FKC MP 130.03 or FKC MP 134.42 and FKC MP 137.17, or FKC MP 144.95, or FKC MP 120.06
FKC terminus gates into the Kern River Channel	FKC MP 152.13

**Table 2: CVP R/R water if made available in the San Luis Reservoir PODs**

Description	Milepost
California Aqueduct turnouts for SWSD and Rosedale-Rio Bravo WSD	n/a
California Aqueduct CVC (Tupman) turnout for delivery into the CVC	n/a
California Aqueduct KWB Canal turnout for delivery into the KWB	n/a

In exchange for the AEWSD supplies, WMWC would deliver up to 50,000 AF (on a variable, as-needed and available basis) from supplier Water Districts a combination of SWP Table A water supply, westside CVP Section 215 water, Kern River water, and/or City of Bakersfield Surplus Kern River water.

Any future agreements between WMWC and other CVP contractor districts would require separate environmental review.

The PODs to AEWSD for WMWC's supplies would be the following:

**Table 3: PODs for WMWC supplies returned to AEWSD**

Description	Approximate Location
WMWC SWP Supplies	California Aqueduct to AEWSD's South Canal turnout and/or the CVC/Tupman California Aqueduct turnout to AEWSD's CVC Intake Canal turnout
Kern River Supplies	Kern River turnout into the AEWSD's Intake Canal and/or an operational exchange with Kern Delta Water District (KDWD) by delivery of water to KDWD who will wheel the water to AEWSD through their existing connections to AEWSD
CVP supplies (if available)	AEWSD FKC turnout

All PODs that would be used are existing features, no new construction would be necessary as part of the Proposed Action. Additionally, the water transfer would be contingent on: 1) availability of wheeling capacity in the FKC, California Aqueduct, and the CVC, 2) wheeling

capacity in locally owned conveyances used by the Recipient Water Districts; or 3) other available capacity at AEWS. AEWS, the Recipient Water Districts, and/or WMWC would only accept the delivery of water if the action can be performed within the capacity of existing infrastructure for AEWS, the Recipient Water Districts, and WMWC and only if there are existing demands within the timeframe specified.

The Proposed Action would occur on mutually agreeable schedules of both WMWC and AEWS. Prior to the delivery of water into the Kern River, notification to Reclamation from the Kern River watermaster accepting the water will be required. Additionally, prior to the delivery of water into the CVC, appropriate coordination and approvals will take place with Kern County Water Agency (KCWA). In addition to the above, the following conditions would also apply:

- The water delivered to AEWS and WMWC would be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines, as applicable;
- Use of the water would comply with all federal, state, local, and tribal law, and requirements imposed for protection of the environment and Indian Trust Assets;
- The water would be used within the Friant permitted place of use;
- No land conversions would occur as a result of the Proposed Action;
- Neither water delivered to WMWC or returned to AEWS would be used to place untilled or new lands into production in either AEWS or WMWC or cause current agricultural lands to be fallowed; and
- The delivery and return of AEWS's water would occur with the approval of the respective agency governing said water infrastructure and would not impact the FKC, California Aqueduct, and CVC nor interfere with their respective ability to deliver water under normal operations and said deliveries will conform to the delivery and operation policies for both facilities.



Figure 1. Supplies Districts for WMWC

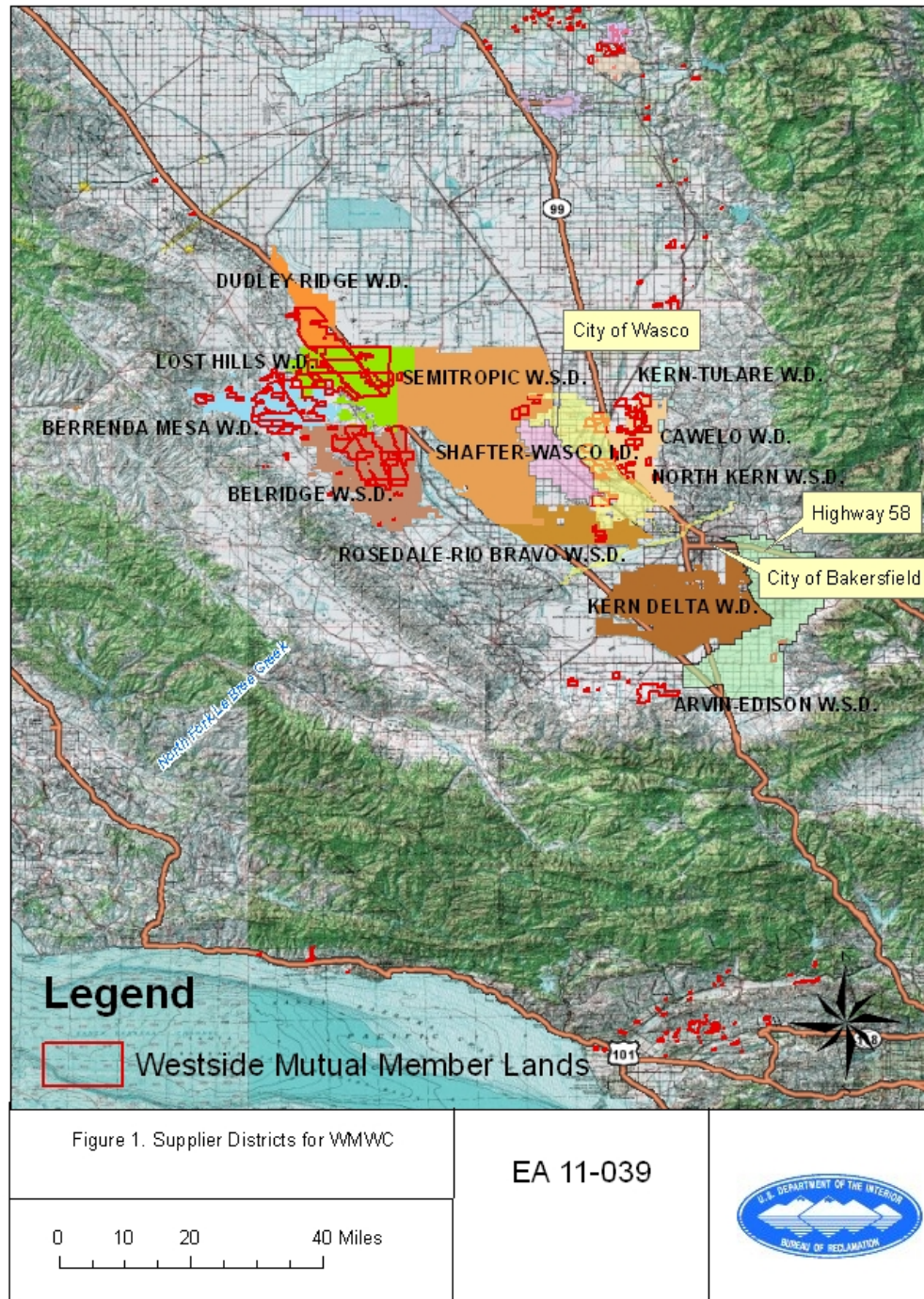
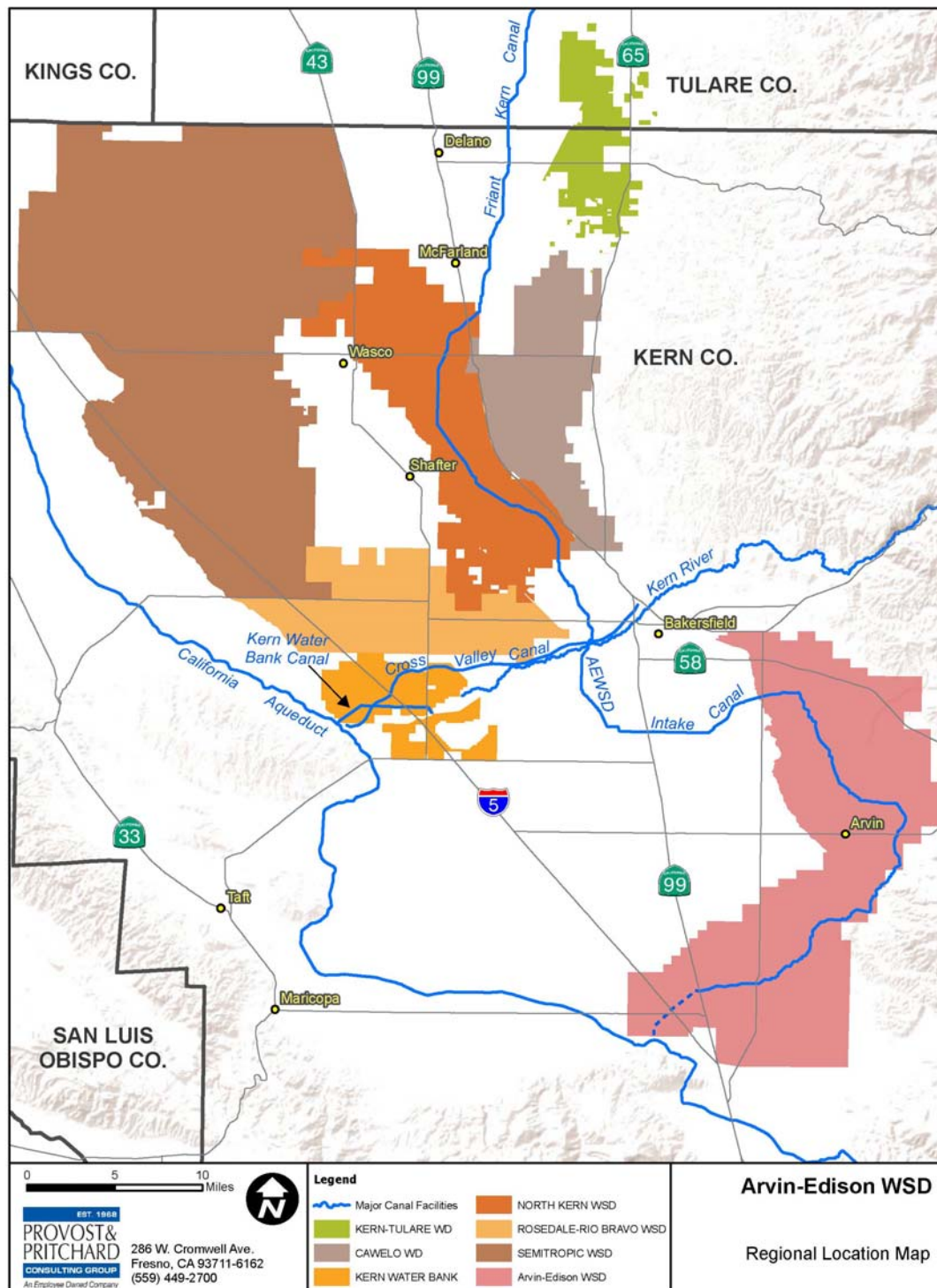


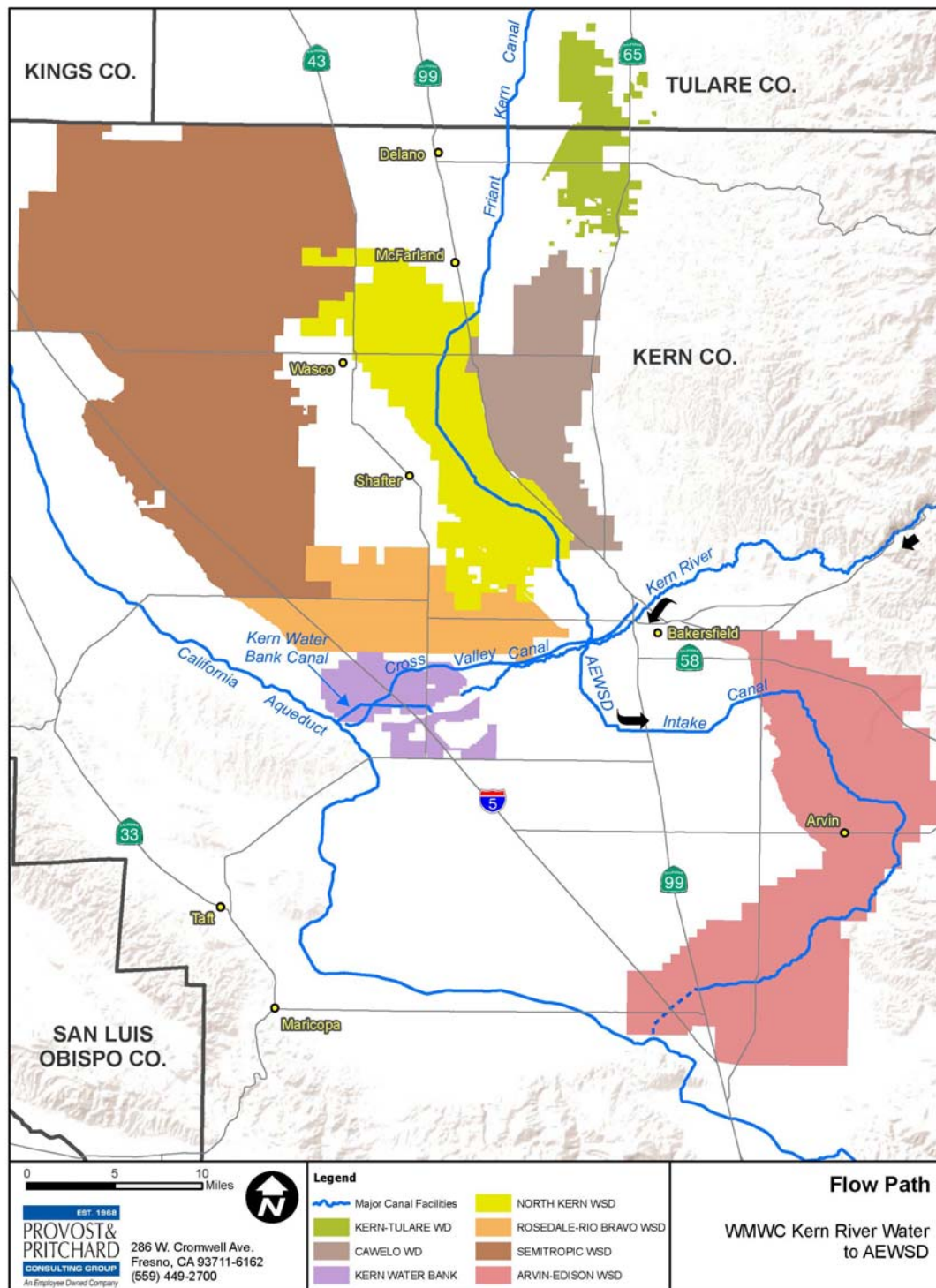
Figure 2. Regional Location Map



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Figure 3. WMWC Kern River Water to AEWSD



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Figure 4. WMWC SWP Water to AEWSO

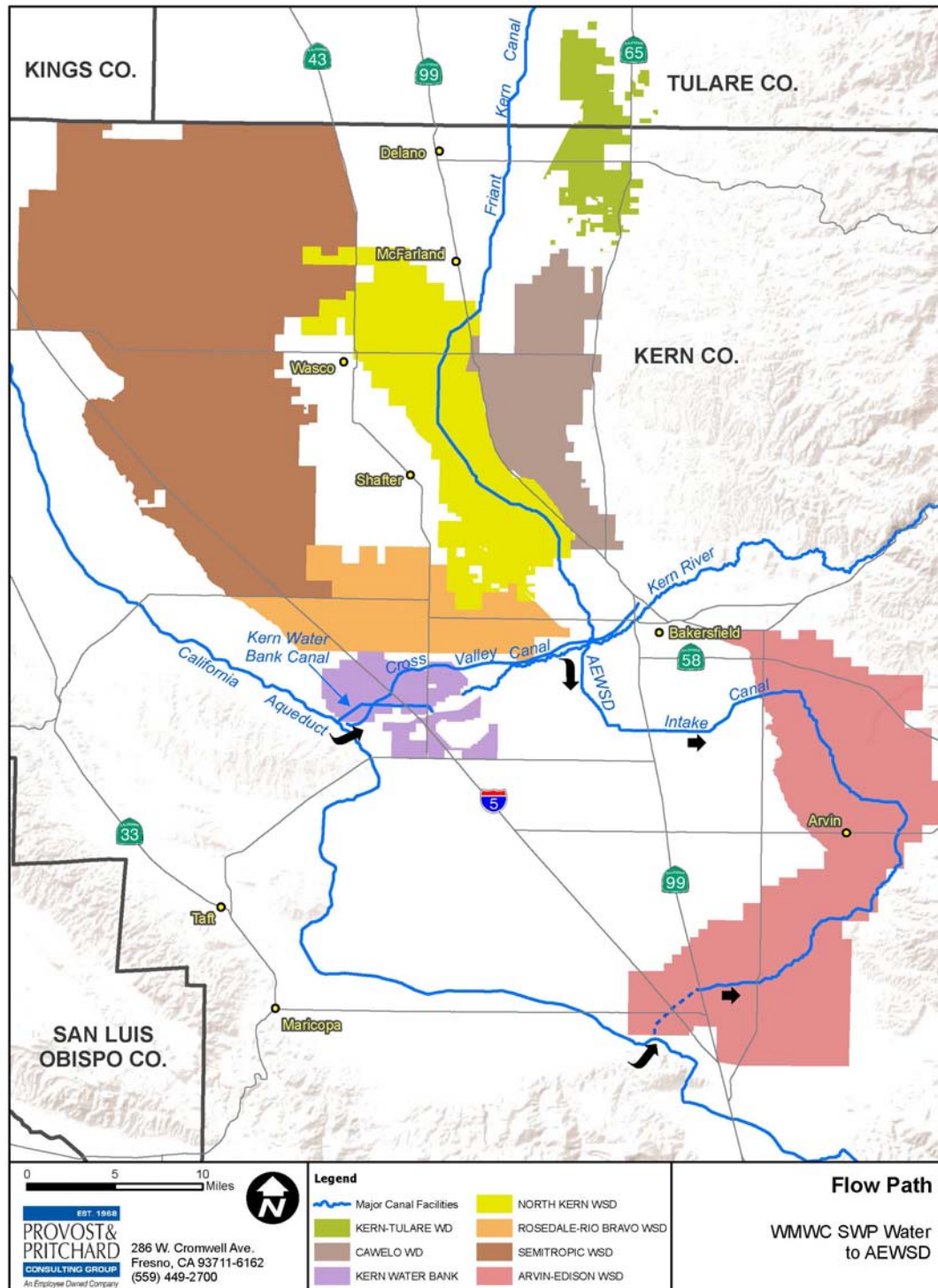


Figure 5. AEWSO Friant Water to WMWC

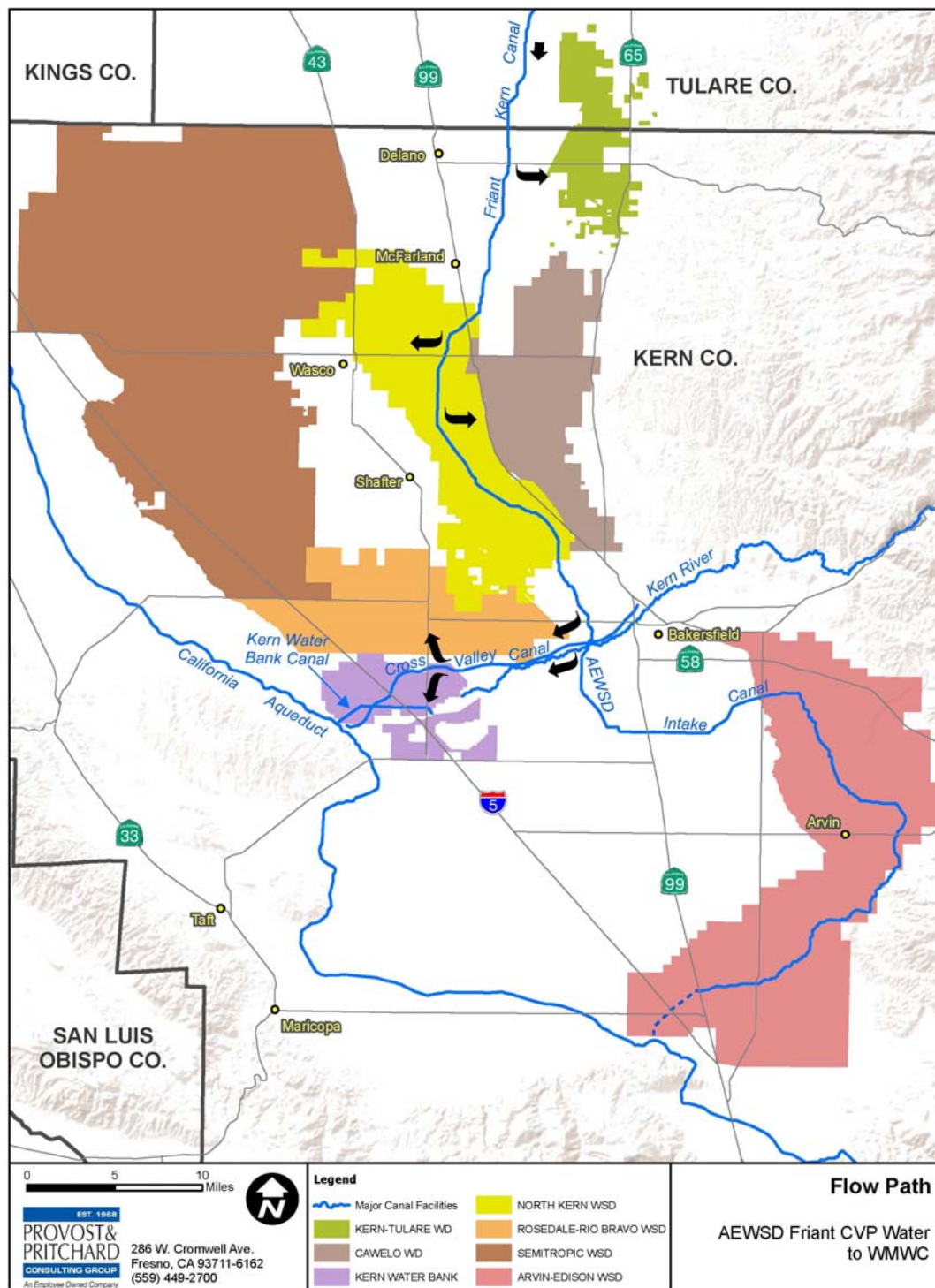
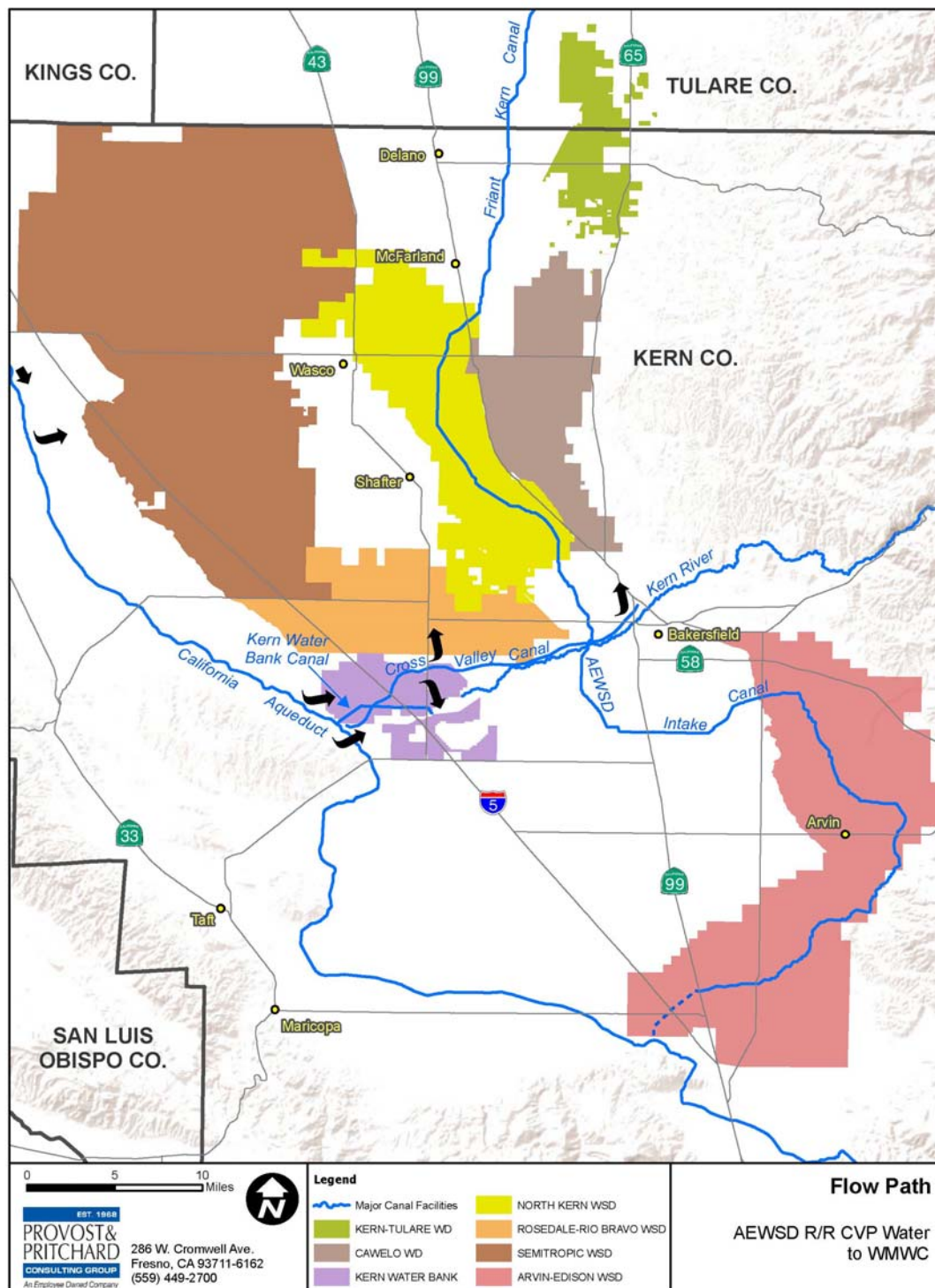


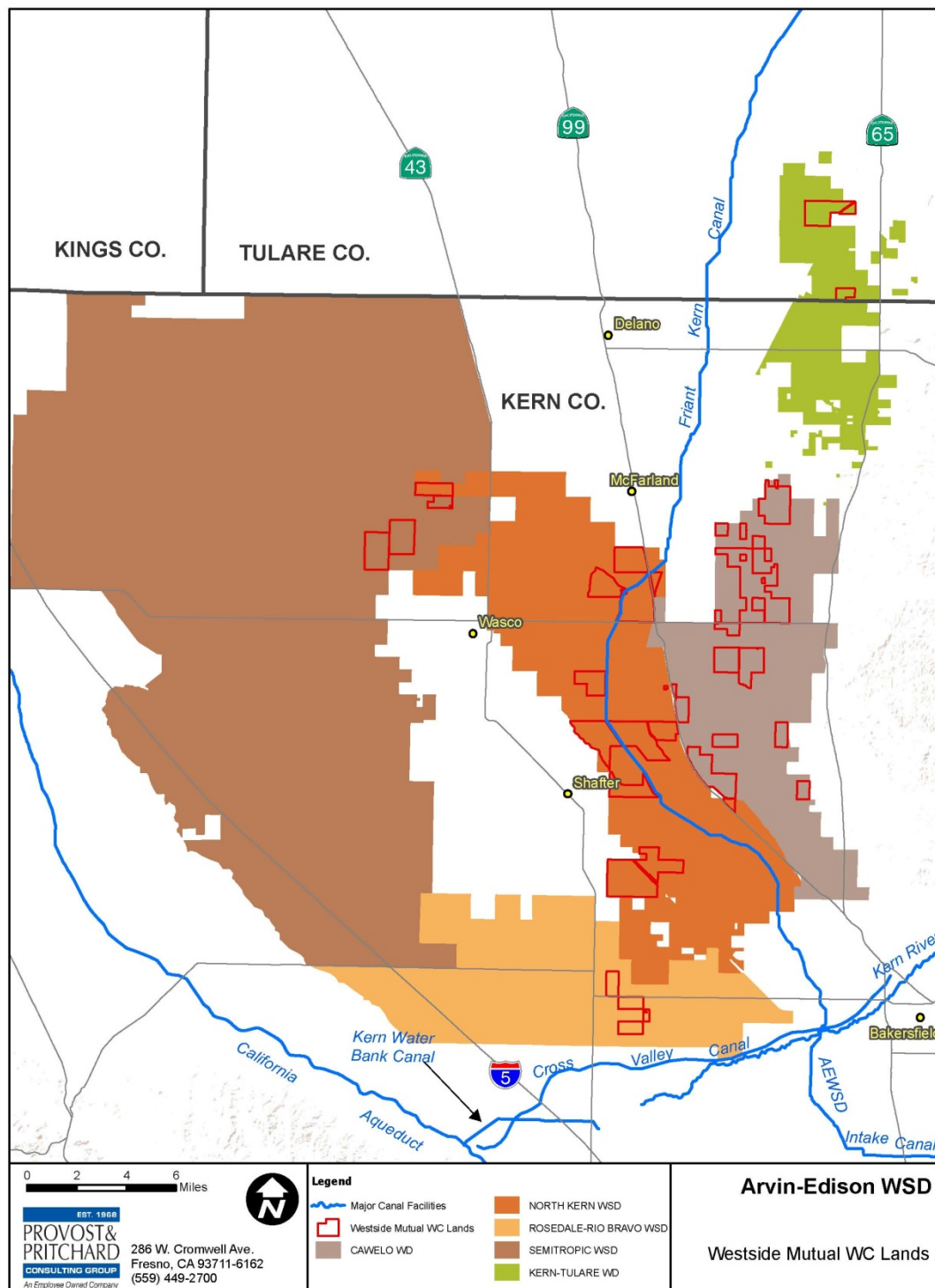


Figure 6. AEWS R/R CVP Water to WMWC



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Figure 7. Westside Mutual member lands to receive CVP water



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## Section 3 Affected Environment and Environmental Consequences

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

### 3.1 Water Resources

#### 3.1.1 Affected Environment

##### ***Arvin-Edison Water Storage District***

AEWSD is a long term CVP-Contractor; its current facilities were primarily constructed in the 1960s and are based on the conjunctive use of surface water imported from the CVP, SWP, Kern River, including other supplies (i.e. flood flows from northern rivers/creek on FKC) and groundwater resources that underlie AEWSD (Figure 1). AEWSD owns and operates spreading/percolation/recharge basins and groundwater extraction wells, which are used to supply previously banked groundwater to its landowners within its service area when surface water supplies are deficient. AEWSD facilities (recharge and extraction) are also made available to other water agencies for their utilization through water management programs/agreements on a second priority basis.

AEWSD has a Contract with Reclamation for 40,000 AF per year (AF/Y) of Class 1 and 311,675 AF/Y of Class 2 CVP supplies to meet an annual irrigation demand of about 150,000 AF/Y. The Class 2 supplies comprise a large fraction of their Contract allocation; however, the Class 2 CVP supply is variable depending on availability. AEWSD manages this supply by using an underlying groundwater reservoir to regulate water availability and to stabilize water reliability by percolating water through its spreading basins in addition to water management programs (i.e. transfers/exchanges) with other water agencies outside its service area. AEWSD takes Friant CVP water from their Intake Canal located at the terminus of the FKC and serves landowners within its district through 45 miles of lined canals and 170 miles of pipeline.

AEWSD currently engages in Article 5 exchanges of CVP water with Cross Valley contractors. Over the last 5 years, up to 30,000 AF/Y has been exchanged with various entities via the CVC and/or Kern River. The CVP water is diverted from the Sacramento-San Joaquin River Delta through the California Aqueduct and then to the CVC. In exchange, the Friant CVP water that would have flowed down the FKC to AEWSD is taken upstream by a Cross Valley contractor off of the FKC.

##### ***Westside Mutual Water Company***

WMWC's water supplies consist of the contracts of its current member landowners, which include the following:

- Paramount Land Company LLC,
- Paramount Farming Company, LLC,



- Paramount Citrus II, LLC
- Paramount Pomegrante Orchards LLC,
- Paramount Citrus LLC,
- Paramount Farms International LLC.

As described above in Section 1.1 “Background”, these member landowners have arrangements (either short-term or long-term contracts or other contractual agreements for water service) with various water agencies for access to SWP Table A allocations, CVP Section 215 contract water, Friant Flood water, Kern River Flood water, City of Bakersfield Surplus Kern River water, and SWP Article 21 water. These contracts or arrangements are with various water agencies (Figure 1). These include the following agencies:

- Belridge Water Storage District;
- Berrenda Mesa Water District;
- Dudley Ridge Water District;
- Lost Hills Water District;
- Cawelo Water District (Cawelo WD);
- Kern Tulare Water District (Kern Tulare WD);
- North Kern Water Storage District (North Kern WSD);
- Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo WSD); and
- Semitropic Water Storage District (Semitropic WSD).

In total, the aforementioned landowners have arrangements for a total of 228,798 AF/Y of surface water and approximately 147,689 AF/Y (equivalent to 204 cubic feet/second annually) from the KWBA (see Appendix B for a more detailed breakdown of allotments by landowner and district).

### ***Conveyance Facilities and Rivers***

#### **Cross Valley Canal**

The CVC, a locally-financed facility completed in 1975, extends from the California Aqueduct near Tupman to Bakersfield. It consists of four reaches consisting of 6 pumping lifts, which has a capacity of 1,400 cubic-feet per second (cfs) from the California Aqueduct to AEWS’s Intake Canal (also near the FKC terminus and Kern River). The CVC “extension”, an unlined canal, continues past AEWS Intake Canal, of which is rated at 342 cfs and has an additional 2 pumping lifts. The CVC is a joint-use facility owned by various “Participants”, of which AEWS is but one participant, and operated by the KCWA that could convey water from the Aqueduct to the CVC, to the KWB, the City of Bakersfield 2800 acres groundwater recharge facility, the Berrenda Mesa Property, the Pioneer Banking Project, the Kern River channel, to AEWS’s Intake Canal or to the various member units of KCWA. The CVC is also capable of conveying water, in reverse flow gravity mode, to the Aqueduct. In 2008, as part of the CVC expansion project, an additional 500 cfs turnout was constructed from the FKC that can deliver water by gravity into either the AEWS Intake Canal or the CVC. The FKC/CVC Intertie is also capable of moving water from the CVC into the FKC via pumping.

### **Friant-Kern Canal**

The FKC carries water over 151.8 miles in a southerly direction from Friant Dam to its terminus at the Kern River, four miles west of Bakersfield. The FKC has an initial capacity of 5,000 cfs that gradually decreases to 2,000 cfs at its terminus in the Kern River (Reclamation, 2010). The water conveyed in the FKC is from the San Joaquin River and is considered to be of good quality because it originates from the Sierra Nevada. The water is used for municipal and industrial, and agricultural purposes in Fresno, Tulare, and Kern Counties. The FKC is a part of the CVP, which annually delivers about seven million AF of water for agricultural, urban, and wildlife use.

### **Kern River**

The Kern River is about 165 miles long and is the southernmost river in the San Joaquin Valley. The river originates from the Sierra Nevada Mountains on the eastern side of Tulare County and terminates on the west side of Kern County where it is mainly diverted for local water supplies. When the Kern River enters Kern County, it deposits into Lake Isabella which was created as a result of Isabella Dam. Below the dam, the river is highly diverted through a series of canals to irrigate farms in the southern San Joaquin Valley and provide municipal water supplies to the City of Bakersfield and surrounding areas. The Kern River is one of the few rivers in the Central Valley which does not contribute water to the CVP; however, the FKC terminates into the river approximately four miles west of downtown Bakersfield.

### **Groundwater Resources**

The AEWS D service area overlies the Kern County Groundwater Sub-basin of the San Joaquin Valley Basin, and confined within the Tulare Lake Hydrologic Region. In general, groundwater quality throughout the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high nitrate, arsenic, and organic compounds (DWR, 2005).

### **Kern County Groundwater Sub-basin**

AEWS D is located within the Kern County Groundwater Sub-basin, which has a surface area of approximately 1,945,000 acres. Review of the literature indicates that except for seasonal variation resulting from recharge and pumping, the groundwater levels wells have remained relatively unchanged from 1970 to 2000 (DWR, 2006). However, the Kern County Groundwater Sub-basin has been identified by DWR as being critically overdrafted. By definition, “a basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economical impacts (Reclamation, 2005).”

Natural recharge is primarily from stream seepage along the eastern sub-basin and the Kern River; recharge of applied irrigation water, however, is the largest non-natural contributor (DWR, 2006). In addition to other water providers in Kern County, AEWS D adopted a Groundwater Management Plan in 2003 pursuant to State Assembly Bill 3030 and in compliance with Senate Bill 1938 to help offset overdraft conditions in the county. AEWS D is currently working with numerous other Kern County districts and public agencies to develop an Integrated Regional Water Management Plan.

### **3.1.2 Environmental Consequences**

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

Under the No Action Alternative, the Proposed Action would not be implemented and neither entity would benefit from the regulation of various supplies, additional dry-season supplemental water supplies or potential groundwater banking water supplies from the exchange. AEWS D would retain their water supplies under contract with Reclamation, as would WMWC with their Supplier Water Districts and neither supplies would be managed to meet a higher priority need.

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

Under the Proposed Action, both WMWC and AEWS D would not experience an overall net gain or loss in their respective water supplies since the exchange would be “bucket for bucket” over the five-year contract period. Since the agreement would only allow transfers on an “as available and feasible” basis, both entities would still have sufficient water resources to provide to their landowners/agricultural customers for agricultural purposes and WMWC would use this water to supplement their reduced SWP supplies in order to meet its members’ demand for agricultural use. WMWC intends to use only surface water to return water to AEWS D which could then be used for direct delivery for irrigation and/or additional groundwater banking in AEWS D’s existing recharge facilities. With the ability to regulate its water supplies by controlling the timing of delivery, the Proposed Action would provide AEWS D with surface water reliability and may decrease reliance on groundwater pumping by AEWS D and its landowners during drought years.

The Proposed Action would not interfere with the normal operations of any district involved with the exchange, nor would it impede any SWP or CVP obligations to deliver water to other contractors or to local fish and wildlife habitat. AEWS D has delivery rights under various contracts and/or exchange programs in the FKC, CVC, Kern River, and California Aqueduct and would operate the exchange within those rights and capacities. There would not be a noticeable direct effect on groundwater resources, however, there would be slight beneficial effects 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.

## **3.2 Land Use**

### **3.2.1 Affected Environment**

Agriculture, in the form of row crops, orchards and vineyards, is the primary land use in the region. Supplemental irrigation is required for these activities as the area receives an average of only 8.5 inches of rainfall per year. Under the County General Plan, the minimum parcel size is 20 acres and permitted uses include, but are not limited to, irrigated cropland, orchards, vineyards, horse ranches, beekeeping, ranch and farm facilities, and related uses. One single-family dwelling unit is permitted per 20-acre parcel.

AEWS D and WMWC lands (within the action area) are both approximately 40-50 miles east of the Coast Range and approximately 12 miles west of the Sierra Nevada Mountain Range. Agriculture in the area includes permanent and row crops, dairies, and fruit orchards, most of

which rely heavily on a combination of groundwater and surface water resources to support irrigation demands.

### **Arvin-Edison Water Storage District Service Area**

AEWSD includes the City of Arvin and is located in the proximity of the unincorporated communities of Edison, Lamont, Mettler, and DiGiorgio.

### **Westside Mutual Water Company and Recipient Water Districts**

WMWC members own agricultural land holdings in various parts of the San Joaquin Valley and specifically in Kern County. As described in Section 1.1, the lands are located in various portions and are within (and served by) various Recipient Water Districts boundaries, shown on Figures 1-5. These lands are all used for agricultural production historically and are anticipated to remain in agricultural production. The following is a summary of the crops currently grown within each respective Recipient Water Districts boundary on the WMWC member lands:

- Cawelo WD service area, approximately 7,725 acres of the following crops: almonds, pistachios, pomegranates, and citrus fruits;
- Kern Tulare WD: approximately 985 acres of almonds and citrus fruit crops;
- North Kern WSD: approximately 8,988 acres of almonds and pomegranates;
- Rosedale Rio Bravo WSD: approximately 947 acres of almonds;
- Semitropic WSD: approximately 1,979 acres of almonds.

## **3.2.2 Environmental Consequences**

### ***No Action***

No changes to land use would occur to WMWC's land holdings or AEWSD's service areas under the No Action Alternative and conditions would likely remain the same as existing conditions as described above in the affected environment. Adverse effects to crops in WMWC or AEWSD could occur without supplemental water during dry hydrological years, but the overall land use would be within historical conditions.

### ***Proposed Action***

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. The Proposed Action would not result in increased or decreased water supplies in AEWSD or WMWC that would induce growth or land use changes as both are fully built out and supply no water to customers other than agricultural users. There would be slight beneficial effects from the Proposed Action as it would contribute to maintaining land use as described in the affected environment.

## **3.3 Biological Resources**

### **3.3.1 Affected Environment**

A Special Status species list for the affected area was obtained from the U.S. Fish and Wildlife Service (Service) on August 8, 2011 (File Number 110808060219). As the lands involved in the Proposed Action are agricultural lands, they could only be used by two of the special-status species in the list below. These are the San Joaquin kit fox and Swainson's hawk. Swainson's

hawks would only utilize row and field croplands in the AEWS service area, as they cannot use citrus groves or nut orchards.

**Table 4. Special-status species that could potentially occur within the affected area.**

<u>Species</u>	<u>Status<sup>1</sup></u>	<u>Effects<sup>2</sup></u>	<u>Occurrence in the Study Area</u>
<b>Amphibians</b>			
California red-legged frog ( <i>Rana draytonii</i> )	FT, X	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
California tiger salamander ( <i>Ambystoma californiense</i> )	FT, X, ST	NE	<b>Absent.</b> No land use change as a result of the Proposed Action.
mountain yellow-legged frog ( <i>Rana muscosa</i> )	FC, SC	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
<b>Birds</b>			
California condor ( <i>Gymnogyps californianus</i> )	FE, X, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE, SE	NE	<b>Possible.</b> May fly over the project area, but ground habitat is not suitable for foraging or nesting, so the species is unlikely to occupy.
southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	FE, X, SE	NE	<b>Possible.</b> May fly over the project area, but ground habitat is not suitable for foraging or nesting, so the species is unlikely to occupy.
Swainson's hawk ( <i>Buteo swainsoni</i> )	ST	NE	<b>Possible.</b> May fly over the project area, but ground habitat is not suitable for foraging or nesting, so the species is unlikely to occupy.
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT	NE	<b>Possible.</b> May fly over the project area, but ground habitat is not suitable for foraging or nesting, so the species is unlikely to occupy.
western yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FC, SE	NE	<b>Possible.</b> May fly over the project area, but ground habitat is not suitable for foraging or nesting, so the species is unlikely to occupy.
<b>Invertebrates</b>			
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	FE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Kern primrose sphinx moth ( <i>Euproserpinus euterpe</i> )	FT	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area (species has a restricted range).
longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> )	FE, X	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area, but elderberry shrubs may occur there.
vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT, X	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
<b>Mammals</b>			
Buena Vista Lake shrew ( <i>Sorex ornatus relictus</i> )	FE, X	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Fisher ( <i>Martes pennanti</i> )	FC, SC	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.

<b><u>Species</u></b>	<b><u>Status<sup>1</sup></u></b>	<b><u>Effects<sup>2</sup></u></b>	<b><u>Occurrence in the Study Area</u></b>
giant kangaroo rat ( <i>Dipodomys ingens</i> )	FE, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Nelson's antelope squirrel ( <i>Ammospermophilus nelsoni</i> )	ST	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	FE, ST	NE	<b>Present.</b> CNDDDB records indicate this species occurs in the project area. No construction of new facilities; no conversion of lands from existing uses.
Sierra Nevada bighorn sheep ( <i>Ovis canadensis californiana</i> )	FE, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Tipton kangaroo rat ( <i>Dipodomys nitratoides nitratoides</i> )	FE, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
<b>Plants</b>			
Bakersfield cactus ( <i>Opuntia treleasei</i> )	FE, SE	ME	<b>Absent.</b> No individuals or habitat in Proposed Action area.
California jewelflower ( <i>Caulanthus californicus</i> )	FE, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Keck's checkermallow ( <i>Sidalcea keckii</i> )	FE, X	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
Kern mallow ( <i>Eremalche kernensis</i> )	FE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area..
San Joaquin adobe sunburst ( <i>Pseudobahia peirsonii</i> )	FT, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
San Joaquin woollythreads ( <i>Monolopia congdonii</i> )	FE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
<b>Reptiles</b>			
blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	FE, SE	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
giant garter snake ( <i>Thamnophis gigas</i> )	FT, ST	NE	<b>Absent.</b> No individuals or habitat in Proposed Action area.
<sup>1</sup> FE: Federally endangered; FT: Federally threatened; FC: Federal candidate for listing; X: designated critical habitat; SE: State endangered; ST: State threatened <sup>2</sup> NE: no effect on species or critical habitat			

### 3.3.2 Environmental Consequences

#### **No Action**

Under the No Action Alternative, there would be no effects to biological resources since conditions would remain the same as existing conditions.

#### **Proposed Action**

Effects are similar to the No Action Alternative. Most of the habitat types required by species protected by the Endangered Species Act (ESA) do not occur in the Proposed Action area. The 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 the Migratory Bird Treaty Act (MBTA). Since no natural stream courses or additional pumping would occur, there would be no effects 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 affected.

### **3.4 Cultural Resources**

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

#### **3.4.1 Affected Environment**

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the San Joaquin Valley have been limited. The conversion of land and intensive farming practices over the last century has probably disturbed many Native American cultural sites.

Resources within the scope of this Proposed Action include historic features of the built environment, primarily those of the CVP. Components of the CVP have been determined eligible for inclusion in the National Register and have been prepared for inclusion in the National Register through a multiple property nomination. The CVP multiple property nomination is currently being reviewed for submission to the Keeper of the National Register for inclusion in the National Register. The FKC has been determined eligible through consensus with the California State Historic Preservation Officer (SHPO).

#### **3.4.2 Environmental Consequences**

**No Action**

Under the No Action Alternative, existing conditions would persist. Reclamation would not have an undertaking as defined by Section 301(7) of the NHPA and thus there would be no Federal nexus on Reclamation's part to initiate Section 106 review. As a result, implementation of the No Action alternative would result in no effects to cultural resources by Reclamation.

**Proposed Action**

The Proposed Action would not result in changes in land use within or outside service area boundaries. The implementation of the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). Because the Proposed Action has no potential to cause effects to historic properties and the Proposed Action would result in no change of land use, no new construction, or require new or modification of water conveyance facilities, the Proposed Action will have no effect on cultural resources.

In the unlikely event that cultural resources or human remains are identified during the implementation of this Proposed Action there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during Proposed Action implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately. The cultural resources effects determination is included in Appendix C.

### **3.5 Indian Trust Assets**

Indian Trust Assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITA cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

#### **3.5.1 Affected Environment**

The nearest ITA is a Public Domain Allotment approximately 20 miles NE of the location of the Proposed Action.

#### **3.5.2 Environmental Consequences**



**No Action**

Under the No Action Alternative there are no effects to ITA, since conditions would remain the same as existing conditions.

**Proposed Action**

There are no tribes possessing legal property interests held in trust by the United States in the water involved with this action, nor is there such a property interest in the lands designated to receive the water proposed in this action.

There are no ITA, Indian Reservations, or public domain allotments found within the water districts involved. The nearest ITA is a Public Domain Allotment approximately 20 miles NE of the location of the Proposed Action. The Proposed Action would not affect or interfere with the observation of religious or other ceremonies associated with ITA.

## **3.6 Environmental Justice**

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

### **3.6.1 Affected Environment**

The February 11, 1994, Executive Order 12898 requires all federal agencies to address potentially disproportionate impacts to economically disadvantaged and minority populations. Many cities and towns in the San Joaquin Valley are steeped in the agricultural community, and include high percentages of minority and/or low-income populations. Some of these communities support centers of migrant laborers, and populations tend to increase during the late summer harvest. The San Joaquin Valley's migrant workers are typically of Hispanic origin, from Mexico and Central America. Migrant workers depend exclusively on seasonal agricultural practices to provide sufficient income to support themselves and their families. The agricultural industry and agricultural businesses are the main industry in the Proposed Action area, and thus, are the main industries to provide employment opportunities for minority and/or disadvantaged populations.

### **3.6.2 Environmental Consequences**

**No Action**

The No Action Alternative would allow the economic conditions in portions of AEWSD's and WMWC's service areas to worsen due to lack of water in times of low supply. As some agricultural workers are almost entirely made up of individuals from disadvantaged communities and poor economic conditions in the agricultural economy have disproportionate effects on those that work on the farm, conditions of harm to minority or disadvantaged populations in this region could occur.

**Proposed Action**

Without the proposed exchange water, during times of low or delayed deliveries CVP or SWP water, some field crops may not be planted or may become stressed. The proposed exchange could positively affect low income and minority populations by ensuring that seasonal crop

production and related jobs are more reliably present and thus benefit local populations that include farm workers. Therefore the proposed exchange would have a slight beneficial effect on minority and disadvantaged populations.

## **3.7 Socioeconomic Resources**

### **3.7.1 Affected Environment**

The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. The CVP allocations each year allow farmers to plan for the types of crops to grow and to secure loans to purchase supplies. Depending upon the variable hydrological and economical conditions, water transfers and exchanges could be prompted. The economic variances may include fluctuating agricultural prices, insect infestation, changing hydrologic conditions, increased fuel and power costs.

### **3.7.2 Environmental Consequences**

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

Under the No Action Alternative economic conditions in the vicinity of WMWC and AEWSO would remain the same.

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

The proposed exchange primarily results in regulation of water supplies with virtually no changes in flow path. This will provide WMWC and AEWSO water supply reliability by maximizing WMWC's SWP water and AEWSO's CVP water supply contract with Reclamation and thus provide reliability to the farming industry and its attendant supplies and thus economics. There would be a slight beneficial effect to the local economic conditions within the two entities' service areas due to increased stability of the water supply for agriculture.

## **3.8 Air Quality**

Section 176 (C) of the Clean Air Act [CAA] (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C. 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

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

exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

### 3.8.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide (CO), ozone (O<sub>3</sub>), O<sub>3</sub> precursors such as volatile organic compounds (VOC) or reactive organic gases (ROG), and inhalable particulate matter between 2.5 and 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>). The SJVAB has reached Federal and State attainment status for CO, nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>). Federal attainment status has been reached for PM<sub>10</sub> but is in non-attainment for O<sub>3</sub>, PM<sub>2.5</sub>, and VOC/ROG (see Table 4). There are no established standards for nitrogen oxides (NO<sub>x</sub>); however, NO<sub>x</sub> does contribute to NO<sub>2</sub> standards (SJVAPCD 2011).

**Table 5. San Joaquin Valley Attainment Status**

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
O <sub>3</sub>	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	Nonattainment	0.075 ppm	Nonattainment
	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Nonattainment	--	--
CO	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	Attainment	9.0 ppm (10 mg/m <sup>3</sup> )	Attainment
	1 Hour	20.0 ppm (23 mg/m <sup>3</sup> )	Unclassified	35.0 ppm (40 mg/m <sup>3</sup> )	Unclassified
NO <sub>2</sub>	Annual arithmetic mean	0.030 ppm (56 µg/m <sup>3</sup> )	Attainment	0.053 ppm (100 µg/m <sup>3</sup> )	Attainment
	1 Hour	0.18 ppm (338 µg/m <sup>3</sup> )	Attainment	--	--
SO <sub>2</sub>	Annual average	--	--	0.03 ppm (80 µg/m <sup>3</sup> )	Attainment
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	Attainment	0.14 ppm (365 µg/m <sup>3</sup> )	Attainment
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Attainment	--	--
PM <sub>10</sub>	Annual arithmetic mean	20 µg/m <sup>3</sup>	Nonattainment	--	--
	24 Hour	50 µg/m <sup>3</sup>	Nonattainment	150 µg/m <sup>3</sup>	Attainment
PM <sub>2.5</sub>	Annual Arithmetic mean	12 µg/m <sup>3</sup>	Nonattainment	15 µg/m <sup>3</sup>	Nonattainment
	24 Hour	--	--	35 µg/m <sup>3</sup>	Attainment
Lead	30 day average	1.5 µg/m <sup>3</sup>	Attainment	--	--
	Rolling-3 month average	--	--	0.15 µg/m <sup>3</sup>	Unclassified

Source: CARB 2011; SJVAPCD 2011; 40 CFR 93.153  
 ppm = parts per million  
 mg/m<sup>3</sup> = milligram per cubic meter  
 µg/m<sup>3</sup> = microgram per cubic meter  
 -- = No standard established

### **3.8.2 Environmental Consequences**

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

Under the No Action Alternative, AEWS would continue to engage in banking and exchange opportunities to maximize management of their water supply within the facilities available to them either in-district or utilizing other district facilities as approved by Reclamation and reduce the effects of critical dry year shortages. Conditions would be the same as the existing conditions; therefore, no additional effects are associated with this alternative.

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

Under the Proposed Action, movement of water between WMWC and AEWS would be done via gravity flow and/or pumped using electric motors which have no emissions. In addition, any extraction of banked groundwater from either entities' (or their designees') extraction wells would be pumped using electric motors and therefore there would be no effect on local air quality and a conformity analysis is not required under the CAA. 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, therefore the Proposed Action would have no effect to air quality.

## **3.9 Global Climate**

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO<sub>2</sub>), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO<sub>2</sub>, methane, nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO<sub>2</sub> and methane, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

### **3.9.1 Affected Environment**

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

### **3.9.2 Environmental Consequences**

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

Implementation of the No Action Alternative would have no change on the composition of the atmosphere and therefore would have no direct or indirect effects to climate change.

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

GHG generated by the proposed exchange are 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 (i.e. minimal amounts for conveyance or extraction). 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.

### **3.10 Cumulative Impacts**

There would be no net gain or loss to either district's surface water or groundwater supplies since the exchange would be "bucket for bucket". Groundwater pumping would not increase or decrease as a result of the Proposed Action. Utilization of conveyance facilities involved would require coordination with the appropriate overseeing agency to insure that the scheduling of the Proposed Action would not hinder the normal operations of those facilities. There would be beneficial effects to the balancing of water supplies of both AEWSD and WMWC by managing supplies temporally between the two entities. Therefore there would be no contribution to cumulative impacts to water resources.

The Proposed Action would have no impact on land use, biological resources, cultural resources, and ITA; therefore, would not contribute to cumulative impacts on these resources areas. Slight beneficial impacts to socioeconomics and environmental justice would be short-term and within the historical variations, and therefore would not contribute to cumulative impacts. GHG impacts are considered to be cumulative impacts. The Proposed Action, when added to other existing and future actions, would not contribute to cumulative impacts to global climate change owing to the EPA threshold (25,000 tons/year) magnitude of GHG emissions requirement for reporting (EPA 2009) since there are no emissions associated with the Proposed Action.

The proposed exchange would only occur within the timeframe specified. The Proposed Action, when added to other actions, does not contribute to adverse increases or decreases in environmental conditions. Overall, there would be no adverse cumulative impacts caused by the Proposed Action.

## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA for 15 days due to the lack of known controversy.

### **4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)**

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve an impoundment, diversion, modification, or controlling of any water body. Therefore, the FWCA does not apply to the Proposed Action.

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

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Since the Proposed Action would not affect Federally listed or proposed species or critical habitat, no consultation is necessary. Refer to Appendix B for the determination of effect to Biological Resources.

### **4.4 National Historic Preservation Act (16 U.S.C. § 470 et seq.)**

The NHPA of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation determined that the Proposed Action would have no potential to affect historic properties or other cultural resources. Refer to Appendix C for the determination of effect to Cultural Resources.

## **4.5 Executive Order 13007 – Indian Sacred Sites**

Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. It also requires agencies to develop procedures for reasonable notification of proposed actions or land management policies that may restrict access to or ceremonial use of, or adversely affect, sacred sites. There would be no affect to access of an Indian Sacred site as a result of the Proposed Action; therefore Executive Order 13007 would not apply to the Proposed Action.

## **4.6 Indian Trust Assets**

ITA are legal interests in property held in trust by the United States for federally-recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITA can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land; the United States is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the United States. The characterization and application of the United States trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions.

The Proposed Action would not affect ITA because there are none located in the Proposed Action area. The nearest ITA is a Public Domain Allotment approximately 20 miles northeast of the Proposed Action area. See Appendix D for ITA concurrence.

## **4.7 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)**

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns. There would be no land conversions or effects to migratory bird habitats or individuals as part of the Proposed Action.

## **4.8 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands**

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The Proposed Action would not affect either concern.

## **4.9 Clean Air Act (42 U.S.C. § 7506 (C))**

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 U.S.C. § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken. There are no emissions associated with the movement of this water in the proposed exchange; therefore a conformity analysis is not required and there are no adverse effects to air quality associated with the Proposed Action.

## **4.10 Clean Water Act (33 U.S.C. § 1251 et seq.)**

### **Section 404**

Section 404 of the Clean Water Act (CWA) authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of “dredged or fill materials into waters of the United States” (33 U.S.C. § 1344). There would be no discharge of dredged or fill materials in waters of the United States as a result of the Proposed Action, therefore, no permit would be necessary.

### **Section 401**

Section 401 of the CWA (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 U.S.C. § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling. No 404 permit would be necessary, therefore no 401 water quality certification would be necessary.



## Section 5 List of Preparers and Reviewers

### Reclamation

Mike Eng, Natural Resources Specialist, South Central California Area Office (SCCAO)  
Shauna McDonald, Wildlife Biologist, SCCAO  
Scott Williams, Archaeologist, MP-153  
Patricia Rivera, ITA, MP-400  
Rena Ballew, Repayment Specialist, SCCAO  
Rain Healer, Natural Resources Specialist, SCCAO - Reviewer  
Michael Inthavong, Natural Resources Specialist, SCCAO – Reviewer

### AEWSD

Jeevan Muhar, Staff Engineer, Arvin-Edison Water Storage District  
Richard M. Moss, P.E., Provost & Prichard Consulting Group  
Kimberly Brown, Paramount Farming Company

## Section 6 References

Anderson, J, F Chung, M Anderson, L Brekke, D Easton, M Ejetal, R Peterson, and R Snyder. 2008. Progress on Incorporating Climate Change into Management of California's Water Resources. *Climatic Change* 87(Suppl 1):S91–S108 DOI 10.1007/s10584-007-9353-1

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U.S. Fish and Wildlife Service (USFWS). 2011. Species List

## **Appendix A Table of WMWC SWP and Other Water Allocations and Detailed Land Use of WMWC's Land Holdings**

WMWC Member Water Supplies						
WMWC Member	Contract/Allocated Supply	District	District Contract Quantity (AF)	WMWC Member Contract/Allocated Quantity (AF)	Percent of District Contract Supply	Other Supplies Available to this WMWC Member (See notes below)
Paramount Land Company LLC				179,153		Paramount Land Company LLC
	SWP Table A	Belridge Water Storage District	121,508	66,636.93	55%	Article 21 Water (1)
	SWP Table A	Berrenda Mesa Water District	92,600	45,644.88	49%	CVP Section 215 Non-Contractor Water (2)
	SWP Table A	Dudley Ridge Water District	50,343	15,243.60	30%	Friant Flood Water (3)
	SWP Table A	Lost Hills Water District	119,110	51,627.18	43%	Kern River Flood Water (4)
						City of Bakersfield Surplus Kern River Water (5)
Paramount Pomegranate Orchards LLC				39,230		
	SWP Table A	Berrenda Mesa Water District	92,600	3,925.44	4%	Article 21 Water (1)
	SWP Table A	Dudley Ridge Water District	50,343	7,069.27	14%	CVP Section 215 Non-Contractor Water (2)
	SWP Table A	Lost Hills Water District	119,110	28,235.44	24%	Friant Flood Water (3)
						Kern River Flood Water (4)
						City of Bakersfield Surplus Kern River Water (5)
Paramount Citrus LLC				8,758		
	SWP Table A	Belridge Water Storage District	121,508	8,758.13	7%	Article 21 Water (1)
						CVP Section 215 Non-Contractor Water (2)
						Friant Flood Water (3)
						Kern River Flood Water (4)
						City of Bakersfield Surplus Kern River Water (5)
Paramount Farms International LLC				1,657		
	BM	Berrenda Mesa Water District	92,600	1,335.00	1%	Article 21 Water (1)
	SWP Table A	Lost Hills Water District	119,110	322.00	0.3%	CVP Section 215 Non-Contractor Water (2)
						Friant Flood Water (3)
						Kern River Flood Water (4)
						City of Bakersfield Surplus Kern River Water (5)
TOTAL MEMBER CONTRACT SUPPLY				228,798		
Other WMWC Water Assets						
	District/Entity	Asset	Quantity			
Westside Mutual Water Company LLC						
	Kern Water Bank Authority (KWBA)	Annual Firm Return Capacity (CFS)	204		Estimated recovery capacity is 425 cfs (5 cfs/well, 85 wells).	(6)
		Total Storage (AF)	720,900		Total storage is estimated at 1.5MAF.	(6)

- (1) High-flow, SWP water allocated based on Table A contract quantities.
- (2) High-flow CVP water available through the Kern County Water Agency (Agency) annual contract with USBR. Allocated by Agency to member units and by member units based on Table A contract quantities.
- (3) Flood water allocated by the Kern County Water Agency (Agency) to member units and by member units based on Table A contract quantities.
- (4) Flood water allocated by the Kern County Water Agency (Agency) to member units and by member units based on Table A contract quantities.
- (5) Variable supply available through an annual contract with the City of Bakersfield.
- (6) WMWC is a Member Entity in the KWBA with a 48.06% interest as stated on page 13 of the "Joint Powers Agreement for the Kern Water Bank Authority," dated July 19, 1999.

## Land Use and Acreage Summary Table

<u>Potential Recipient Water District</u>	<u>WMWC Affiliate Landowners Within the District</u>	<u>Crop Type</u>	<u>Net Acres</u>
<b><u>Cawelo WD</u></b>			<b><u>7,725.06</u></b>
	Paramount Land Company LLC	Almonds	2,031.12
	Paramount Land Company LLC	Pistachios	1,441.37
	Paramount Pomegranate Orchards LLC	Pomegranates	241.58
	Paramount Citrus LLC	Citrus	1,272.94
	Famosa Partners	Citrus	625.14
	Paramount Citrus II LLC	Citrus	2,112.91
<b><u>Kern Tulare WD</u></b>			<b><u>986.44</u></b>
	Tulare Acquisition Company LLC	Almonds	787.07
	Paramount Citrus LLC	Citrus	199.37
<b><u>North Kern WSD</u></b>			<b><u>8,987.58</u></b>
	Paramount Land Company LLC	Almonds	8,673.02
	Paramount Pomegranate Orchards LLC	Pomegranates	314.56
<b><u>Rosedale Rio Bravo WSD</u></b>			<b><u>947.40</u></b>
	Paramount Land Company LLC	Almonds	947.40
<b><u>Semitropic WSD</u></b>			<b><u>1,978.50</u></b>
	Paramount Land Company LLC	Almonds	1,978.50

## **Appendix B Endangered Species Act Determinations**



# United States Department of the Interior

BUREAU OF RECLAMATION  
1243 "N" Street  
Fresno, CA 93721



IN REPLY REFER TO:

Friant Division  
ENV 7.00  
SCC-424

August 12, 2011

## MEMORANDUM

To: Mike Eng  
Natural Resource Specialist

From: Shauna McDonald  
Wildlife Biologist

Subject: No-Effect Determination for Arvin Edison Water Storage District 5-Year Water Exchange with Westside Mutual Water Company (EA-11-039)

Reclamation proposes to approve a series of exchanges of water supplies over time as necessarily dictated by the Arvin Edison Water Storage District (AEWSD) and Westside Mutual Water Company (WMWC). AEWSD's supplies would include but are not limited to Class 1, Class 2, Uncontrolled Season, Section 215 Water (flood flows unable to be stored behind Friant Dam), Recaptured and Recirculated (R/R) water (collectively referred to as Central Valley Project water) by delivery of such water to lands otherwise served with other water supplies contracted, owned or controlled by WMWC or its members. AEWSD supplies would be delivered to WMWC member lands as exchange water to WMWC, based on a one for one or "bucket for bucket" basis up to 10,000 AF. Please see the attached map for the lands in WMWC that would be involved in the Proposed Action.

There is no critical habitat in the action area. Most of the habitat types required by species protected by the Endangered Species Act do not occur in the project area. As the lands involved in the Proposed Action are agricultural lands, they could only be used by the San Joaquin kit fox and Swainson's hawk. Swainson's hawks would only utilize row and field croplands in the AEWSD service area, as they cannot use citrus groves or nut orchards. The 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 the Migratory Bird Treaty Act. Since no natural stream courses or additional pumping would occur, there would be no effects 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 affected.

With the above limitations and based upon the nature of this action Reclamation has determined

there would be No Effect to proposed or listed species or critical habitat under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et. seq.).

Attachment

**U.S. Fish & Wildlife Service**  
**Sacramento Fish & Wildlife Office**  
**Federal Endangered and Threatened Species that Occur in**  
**or may be Affected by Projects in the Counties and/or**  
**U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 110808060219

Database Last Updated: April 29, 2010

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No quad species lists requested.

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### County Lists

#### Kern County

##### Listed Species

##### Invertebrates

*Branchinecta conservatio*

Conservancy fairy shrimp (E)

*Branchinecta longiantenna*

Critical habitat, longhorn fairy shrimp (X)

longhorn fairy shrimp (E)

*Branchinecta lynchi*

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

*Desmocerus californicus dimorphus*

valley elderberry longhorn beetle (T)

*Euproserpinus euterpe*

Kern primrose sphinx moth (T)

##### Amphibians

*Ambystoma californiense*

California tiger salamander, central population (T)

Critical habitat, CA tiger salamander, central population (X)

*Rana draytonii*

California red-legged frog (T)

Critical habitat, California red-legged frog (X)

##### Reptiles

*Gambelia (=Crotaphytus) sila*

blunt-nosed leopard lizard (E)



*Thamnophis gigas*  
giant garter snake (T)

## Birds

*Charadrius alexandrinus nivosus*  
western snowy plover (T)

*Empidonax traillii extimus*  
Critical habitat, southwestern willow flycatcher (X)  
southwestern willow flycatcher (E)

*Gymnogyps californianus*  
California condor (E)  
Critical habitat, California condor (X)

*Vireo bellii pusillus*  
Least Bell's vireo (E)

## Mammals

*Dipodomys ingens*  
giant kangaroo rat (E)

*Dipodomys nitratoide nitratoide*  
Tipton kangaroo rat (E)

*Ovis canadensis californiana*  
Sierra Nevada (=California) bighorn sheep (E)

*Sorex ornatus relictus*  
Buena Vista Lake shrew (E)  
Critical habitat, Buena Vista Lake shrew (X)

*Vulpes macrotis mutica*  
San Joaquin kit fox (E)

## Plants

*Caulanthus californicus*  
California jewelflower (E)

*Eremalche kernensis*  
Kern mallow (E)

*Monolopia congdonii* (=Lembertia congdonii)  
San Joaquin woolly-threads (E)

*Opuntia treleasei*

Bakersfield cactus (E)

*Pseudobahia peirsonii*

San Joaquin adobe sunburst (T)

*Sidalcea keckii*

Critical habitat, Keck's checker-mallow (X)

Keck's checker-mallow (=checkerbloom) (E)

## Proposed Species

### Amphibians

*Rana draytonii*

Critical habitat, California red-legged frog (PX)

## Candidate Species

### Amphibians

*Rana muscosa*

mountain yellow-legged frog (C)

### Birds

*Coccyzus americanus occidentalis*

Western yellow-billed cuckoo (C)

### Mammals

*Martes pennanti*

fisher (C)

## Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](http://www.noaa.gov/). Consult with them directly about these species.

*Critical Habitat* - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.  
  
During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

## Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

## Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

## Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be November 06, 2011.

## **Appendix C NHPA Section 106 Cultural Resources Determination**

**From:** [Williams, Scott A](#)  
**To:** [Eng, Michael S](#)  
**Cc:** [Perry, Laureen \(Laurie\) M](#); [Overly, Stephen A](#); [Bruce, Brandee E](#); [Dunay, Amy L](#); [Nickels, Adam M](#); [Goodsell, Joanne E](#); [Soule, William E](#); [Fogerty, John A](#); [Barnes, Amy J](#)  
**Subject:** RE: Request for CR/ITA determinations Westside Mutual Water Company Exchange with Arvine Edison Water Storage District EA 11-039  
**Date:** Wednesday, July 20, 2011 1:11:24 PM  
**Attachments:** [image001.jpg](#)

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Dear Mr. Eng,

Your project has been assigned tracking number 11-SCAO-216  
I will be your contact for Section 106.

The proposed undertaking for the Arvin Edison Water Storage District 5 Year Water Exchange with Westside Mutual Water Exchange will result in actions that have no potential to cause effects to historic properties pursuant to the regulations at 36 CFR Part 800.3(a)(1).

The Environmental Assessment (EA) provided described exchanging up to 10,000 acre-feet (AF) of AEWS D's CVP water supplies with WMWC's State Water Project and other water supplies. AEWS D's supplies would include but are not limited to Class 1, Class 2, Uncontrolled Season, Section 215 Water (flood flows unable to be stored behind Friant Dam), Recaptured and Recirculated (R/R) water, collectively referred to as CVP water, by delivery of such water to lands otherwise served with other water supplies contracted, owned or controlled by WMWC or its members. AEWS D supplies would be delivered to WMWC member lands or KWB lands, as exchange water to WMWC, based on a 1 for 1 or "bucket for bucket" basis up to 10,000 AF. This exchange would not require the new construction or modification of any conveyance or diversion facilities.

The Proposed Action would occur on mutually agreeable schedules and within capacity available to both WMWC and AEWS D in the Kern River, CVC, and FKC. In addition, the following conditions would also apply:

- No land conversions that would degrade the suitability of habitat for native fish and wildlife species shall be supported by the delivery of the banked or returned water;
- Neither water delivered to WMWC or returned to AEWS D would be used to place untilled or new lands into production in either AEWS D or WMWC; and
- The delivery and return of AEWS D's water would not impact the FKC and CVC nor interfere with their respective ability to deliver water under normal operations and said deliveries will conform with the delivery and operation policies for both facilities.

The project as described has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). As the proposed action has no potential to cause effects to historic properties, no additional consideration under Section 106 of the National Historic Preservation Act is required.

This concludes the Section 106 review process. Please retain a copy of this e-mail with the administrative record for this action. If the project activities change or circumstances are altered after this review, there may be additional Section 106 review responsibilities up to and including consultation with the California State Historic Preservation Officer.

Sincerely,

Scott A. Williams, M.A. Archaeologist

Bureau of Reclamation, Mid-Pacific Region  
2800 Cottage Way, MP-153  
Sacramento, CA 95825  
916-978-5042

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**From:** Eng, Michael S  
**Sent:** Wednesday, July 20, 2011 10:29 AM  
**To:** Rivera, Patricia L; Robbins, Eleanor J (Ellie); Williams, Mary D (Diane); Perry, Laureen (Laurie) M; Williams, Scott A; Williams, Patrick E; Nickels, Adam M; Bruce, Brandee E; Barnes, Amy J; Goodsell, Joanne E; Overly, Stephen A  
**Subject:** Request for CR/ITA determinations Westside Mutual Water Company Exchange with Arvine Edison Water Storage District EA 11-039

Hello,

I'd like to request CR/ITA determinations for the aforementioned project. There is no construction associated with the water exchange project. In terms of footprint I do have the attached maps which provide an overview of the service boundaries (i.e. place of use) of the Arvin Edison Water District and the service boundaries of the Westside Mutual Water company involved in this exchange are forthcoming (I've attached one, but I'm hoping for one of better scale from the proponent). I'm not sure if this will be enough, once this assigned, please advise, thanks. Maps and draft Project Description attached. I've also requested an exhibit from the proponents displaying all the existing possible points of diversion/exchange. We are targeting the final environmental document by early October. If the attached is not enough information, please contact me once this project request is assigned.

Cost authority is: A1R-1752-9652-220-04-5-7.

Thanks for your help,

Mike

Mike Eng  
Natural Resources Specialist  
United States Department of the Interior  
Bureau of Reclamation  
1243 N Street  
Fresno, CA 93721  
(559) 487-5127  
[meng@usbr.gov](mailto:meng@usbr.gov)



## **Appendix D Indian Trust Assets Determination**



**From:** [Rivera, Patricia L](#)  
**To:** [Eng, Michael S](#)  
**Subject:** RE: Request for CR/ITA determinations Westside Mutual Water Company Exchange with Arvine Edison Water Storage District EA 11-039  
**Date:** Wednesday, July 20, 2011 2:08:34 PM

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Mike,

I reviewed the proposed action to approve the Westside Mutual Water Company's (WMWC) desires to enhance its allotted water resources by banking or exchanging supplies that are surplus to the needs of its members. AEWS D desires to supplement its own conjunctive use program, protect the groundwater resources within its service area, and mitigate possible Contract water supply losses in future years due to drought and losses associated with the Act and as mandated by legislation. The use of SWP or Kern River water for the purpose of regulating available supplies, including but not limited to transfers and exchanges, and groundwater banking (including areas outside its contract service area) provides AEWS D with operational flexibility and facilitates water management of its CVP water supplies.

The proposed action does not have a potential to affect Indian Trust Assets. The nearest ITA is a Public Domain Allotment approximately 20 miles NE of the project location.

Patricia