

# RECLAMATION

*Managing Water in the West*

Draft Environmental Assessment

## **Reclamation Approvals associated with the Arvin-Edison Water Storage District and Westside Mutual Water Company 10-year Exchange Program**

EA-17-005



U.S. Department of the Interior  
Bureau of Reclamation  
South-Central California Area Office

June 2017

## **Mission Statements**

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

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

# Contents

	Page
<b>Section 1 Introduction .....</b>	<b>1</b>
1.1 Background .....	1
1.2 Need for the Proposed Action.....	1
<b>Section 2 Alternatives Including the Proposed Action .....</b>	<b>3</b>
2.1 No Action Alternative.....	3
2.2 Proposed Action.....	3
2.2.1 Environmental Commitments .....	4
<b>Section 3 Affected Environment and Environmental Consequences.....</b>	<b>5</b>
3.1 Resources Eliminated from Further Analysis .....	5
3.2 Biological Resources .....	5
3.2.1 Affected Environment.....	5
3.2.2 Environmental Consequences .....	<b>Error! Bookmark not defined.</b>
3.3 Water Resources .....	8
3.3.1 Affected Environment.....	8
Belridge Water District .....	8
Berrenda Water District .....	8
Lost Hills Water District.....	8
3.3.2 Environmental Consequences .....	8
<b>Section 4 Consultation and Coordination.....</b>	<b>11</b>
4.1 Public Review Period.....	11
4.2 List of Agencies and Persons Consulted.....	11
<b>Section 5 References .....</b>	<b>13</b>
 Figure 1 Proposed Action Area.....	 2
 Table 1 Environment Commitments .....	 4
Table 2 Resources Eliminated from Further Analysis .....	5
Table 3 Federally Listed Threatened and Endangered Species .....	<b>Error! Bookmark not defined.</b>
 Appendix A Cultural Resources Determination	



# Section 1 Introduction

## 1.1 Background

In 2011, the Bureau of Reclamation (Reclamation) analyzed the proposed 5-year annual exchange of up to 50,000 acre-feet (AF) of Arvin-Edison Water Storage District's (Arvin) Central Valley Project (CVP) water supplies with Westside Mutual Water Company's (Westside) California State Water Project (SWP) and other water supplies in Environmental Assessment (EA)-11-039. Under the exchange program, Arvin's CVP water supplies are transferred to Westside for use on member lands as "exchange water", based on a 1 for 1 or "bucket for bucket" basis. Westside member lands include: Cawelo Water District (Cawelo), Kern-Tulare Water District (Kern-Tulare), North Kern Water Storage District (North-Kern), Wheeler Ridge Maricopa Water Storage District (Wheeler Ridge), Dudley Ridge Water Storage District (Dudley Ridge), Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo), Semitropic Water Storage District (Semitropic), and Kern Water Bank. In exchange for Arvin's CVP water supplies, Westside would deliver up to 50,000 AF of its available water supplies to Arvin on a variable, as-needed basis. Westside's available water supplies delivered to Arvin include a combination of SWP water supply, CVP Section 215 water, Kern River water, and/or City of Bakersfield surplus Kern River water. Reclamation determined that the proposed 5-year exchange program would not significantly affect the quality of the human environment and a Finding of No Significant Impact (FONSI) was issued on October 12, 2011 (Reclamation 2011).

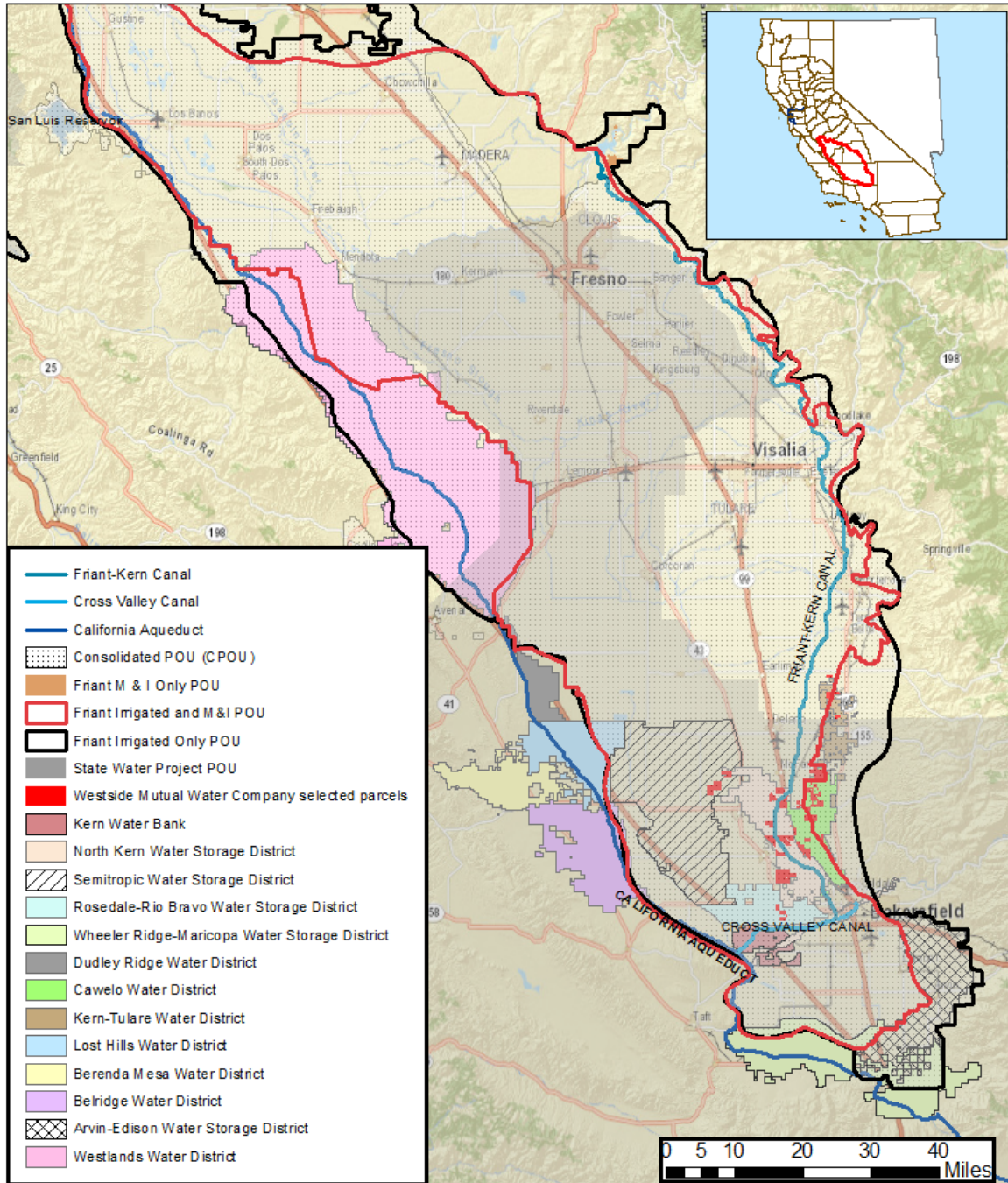
In 2012, Reclamation received a request from Westside to add member lands located in Westlands Water District (Westlands) to the existing exchange program. The additional points of delivery and additional water supplies from Westside member lands located in Westlands was the only change from the project analyzed in EA-11-039. The addition of members lands located in Westlands to the exchange program was analyzed in EA-12-030 and a FONSI was issued on July 9, 2013 (Reclamation 2013).

As the term of the five year exchange program has ended, Arvin, Westside, and Westlands have requested approval from Reclamation to extend the program another 10 years. Under this new 10-year program the following districts would also be included: Belridge Water Storage District (Belridge), Berrenda Mesa Water District (Berrenda Mesa), and Lost Hills Water District (Lost Hills). These three districts, including the districts that participated in the previous exchange program, are collectively referred to as the Exchange Districts (Figure 1).

## 1.2 Need for the Proposed Action

The need for the Proposed Action is to maximize the use of Arvin's available CVP water supplies during this very wet year and to reduce possible water supply losses in future years due to drought and San Joaquin River Restoration Program releases. The proposed exchange

program provides the participants with operational flexibility and facilitates better management of their available water supplies.



**17-005 Arvin-Edison Water Storage District and Westside Mutual Water Company 10-year Exchange Program**



U.S. Department of the Interior  
Bureau of Reclamation



Figure 1 Proposed Action Area

## 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 a series of annual transfers of up to 50,000 AF of available water supplies between Arvin, Westside, Westlands, and the Exchange Districts over a 10 year period. Transfers and/or exchanges of water among the participants would require separate approval(s) and environmental review by Reclamation as each water transfer and/or exchange became available.

### 2.2 Proposed Action

Under the Proposed Action, Reclamation would approve a series of annual transfers over a 10 year period of available water supplies between Arvin, Westside, Westlands, and the Exchange Districts associated with the contractors' exchange program.

Under the exchange program, up to 50,000 AF per year of Arvin's available CVP water supplies would be transferred to Westside member lands in the following Exchange Districts: Westlands, Cawelo, Kern-Tulare, North Kern, Wheeler Ridge, Dudley Ridge, Rosedale-Rio Bravo, Semitropic, Kern Water Bank, Belridge, Berrenda Mesa, and Lost Hills. In exchange for Arvin's CVP water supplies, Westside and the Exchange Districts would deliver up to 50,000 AF of their available water supplies to Arvin on a variable, as-needed basis. The exchange would be based on a 1 for 1 or "bucket for bucket" basis.

Arvin's available CVP water supplies include its allocated Friant Division Class 1 and Class 2 water supplies, as well as Friant Division water supplies provided as Section 215 (flood flows unable to be stored behind Friant Dam), Recaptured and Recirculated water provided pursuant to the San Joaquin River Restoration Program, and additional CVP water available to Arvin through exchange. Arvin's water supplies would be utilized by the Exchange Districts for recharge and/or existing agricultural purposes on Westside member's lands (Figure 1).

Westside and the Exchange Districts available water supplies delivered to Arvin include a combination of SWP water, CVP water, CVP Section 215 water, Kern River water, and/or City of Bakersfield surplus Kern River water. Arvin would use the exchanged water for recharge or to meet in-district demands.

No ground disturbance or modification of existing facilities would be needed in order to convey water under the Proposed Action. Conveyance of water from Arvin to the Exchange Districts and from the Exchange Districts to Arvin would involve existing facilities as shown in Figure 1.

Water provided to Arvin from the Exchange Districts would be from the California Aqueduct via the Cross Valley Canal. Any use of State facilities will require coordination and approval by the California Department of Water Resources (DWR). All approvals will be provided to Reclamation prior to approval of any transfer.

Any use of the Kern River channel will require coordination and approval by the Kern River Water Master. Any use of the Cross Valley Canal will require coordination and approval by the Kern County Water Agency. All approvals will be provided to Reclamation prior to approval of any transfer.

The Proposed Action and other similar projects would not hinder the normal operations of the CVP or SWP as exchanges would be coordinated by Reclamation and DWR in advance. In addition, there would be no effect on Reclamation’s obligation to deliver water to its contractors or to local fish and wildlife habitat as the supplies exchanged would be one-for-one exchanges from existing supplies between DWR and Reclamation. Since the Proposed Action would not involve construction or modification of facilities, nor interfere with CVP or SWP operations, there would be no impacts to water supplies, existing facilities, or other contractors.

**2.2.1 Environmental Commitments**

Reclamation, Arvin, Westlands, Westside, and the Exchange Districts must implement the following environmental protection measures to avoid and/or reduce environmental consequences associated with the Proposed Action (Table 1).

Table 1 Environment Commitments

<b>Resource</b>	<b>Environmental Commitments</b>
Biological Resources	No native or untilled land (fallow for three years or more) may be cultivated with the water exchanged under the Proposed Action.
Biological Resources	The Proposed Action shall not alter land use patterns of the cultivated or fallowed lands that do have some value to listed species protected under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.) or for birds protected under the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.).
Biological Resources	The Proposed Action shall not alter the flow regime of natural waterways, such as rivers, streams, creeks, ponds, pools, wetlands, etc., in a manner that would have a detrimental effect on fish, wildlife, or their habitats.
Water Resources	The water would be used for beneficial purposes and in accordance with Federal Reclamation law and guidelines as applicable.
Water Resources	No water would be used outside of the currently authorized place of use without prior approval from the State Water Resources Control Board and Reclamation.
Various Resources	No land conversions would occur as a result of the Proposed Action.

Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all commitment reports would be submitted to Reclamation.



## Section 3 Affected Environment and Environmental Consequences

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

### 3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause direct, indirect, or cumulative adverse effects to the resources listed in Table 2.

Table 2 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Air Quality	Conveyance of water under the Proposed Action would use gravity and/or electrical pumps, which have no direct emissions that could impact air quality.
Cultural Resources	The Proposed Action consists of water management actions that would convey through existing facilities. As no construction or modification of facilities would be needed in order to complete the Proposed Action, Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). See Appendix A for Reclamation's determination.
Environmental Justice	The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.
Global Climate change	The Proposed Action would not result in emissions of greenhouse gases as water would move in existing facilities via gravity. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. Current data are not yet clear on the hydrologic changes and how they will affect the San Joaquin Valley. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility.
Indian Sacred Sites	The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area.

### 3.2 Biological Resources

#### 3.2.1 Affected Environment

The Proposed Action Area consists of Westlands, the Kings River, San Luis Canal, and Mendota Pool. By the mid-1940s, most of the valley's native habitat had been altered by man, and as a result, was severely degraded or destroyed. It has been estimated that more than 85 percent of the valley's wetlands had been lost by 1939. When the CVP began operations, over 30% of all natural habitats in the Central Valley and surrounding foothills had been converted to urban and

agricultural land use. Prior to widespread agriculture, land within Westlands provided habitat for a variety of plants and animals. With the advent of irrigated agriculture and urban development over the last 100 years, many species have become threatened and endangered because of habitat loss. Currently of the estimated 5.6 million acres of valley grasslands and San Joaquin saltbrush scrub less than 10 percent remains (USFWS 2001). Much of the remaining habitat consists of isolated fragments supporting small, highly vulnerable populations. The Proposed Action Area is now dominated by agricultural habitat that includes field crops, orchards, and pasture. The vegetation in the project area is primarily agricultural crops and areas of weedy non-native annual and perennial plants.

Reclamation requested an official species list for the entire Proposed Action Area from the U.S. Fish and Wildlife Service (USFWS) on May 22, 2017, by accessing their database: <https://ecos.fws.gov/ipac/> (USFWS 2017). Reclamation further queried the California Department of Fish and Wildlife, California Natural Diversity Database (CNDDDB) for records of Federally listed species within 10 miles of the project location (CNDDDB 2017). The two lists, in addition to other information within Reclamation's files were combined to create the following list (Table 3). There is no proposed or designated critical habitat in the Proposed Action Area. The Western Burrowing Owl and Swainson's Hawk, and other raptors, such as Red-tailed Hawks, and White-tailed Kites, may also use the Proposed Action Area, for foraging and nesting.

Table 3 Federally Listed Threatened and Endangered Species

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
<b>Amphibians</b>			
California red-legged frog <i>Rana draytonii</i>	FT, X	NE	<b>Absent.</b> Species no longer occurs on the valley floor.
California tiger salamander <i>Ambystoma californiense</i>	FT, X	NE	<b>Absent.</b> Vernal pool and other breeding ponds are absent in the Proposed Action Area.
<b>Birds</b>			
California Condor <i>Gymnogyps californianus</i>	FE, X	NE	<b>Absent.</b> Roosting and foraging habitat is lacking in the Proposed Action Area.
California Least Tern <i>Sterna antillarum brownii</i>	FE, X	NE	<b>Present.</b> Recorded at the Lemoore Naval Air Station using sewage ponds in small numbers (last record was from 2010). The Proposed Action would not change the availability of foraging habitat, or water quality in the foraging habitat.
Western Snowy Plover <i>Charadrius alexandrinus nivosus</i>	FT, X	NE	<b>Absent.</b> Not known from the Proposed Action Area, and suitable habitat is lacking.
Western Yellow-billed Cuckoo <i>Coccyzus americanus</i>	FT, PX	NE	<b>Possible.</b> Foraging and nesting habitat (large stands of cottonwood/willow riparian forest) are lacking, but it is possible that birds could fly overhead enroute to or from breeding habitat along the Sacramento River. The Proposed Action would not interfere with their migration.
<b>Fish</b>			
delta smelt <i>Hypomesus transpacificus</i>	FT, X	NE	<b>Absent.</b> The Proposed Action would not change pumping or water quality within the Sacramento-San Joaquin Delta.
Central Valley steelhead <i>Oncorhynchus mykiss</i>	FT, X	NE	<b>Absent.</b> The Proposed Action would not change pumping or water quality within the Sacramento-San Joaquin Delta, or impact stream habitat used by the steelhead.
<b>Invertebrates</b>			

Species	Status <sup>1</sup>	Effects <sup>2</sup>	Potential to occur and summary basis for ESA determination <sup>3</sup>
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT, X	NE	<b>Possible.</b> There may be elderberry shrubs present near Mendota Pool, but the Proposed Action would not involve any land use change or construction.
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT, X	NE	<b>Absent.</b> There is no vernal pool or other seasonal wetland habitat in the Proposed Action Area.
vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE, X	NE	<b>Absent.</b> There is no vernal pool habitat in the Proposed Action Area.
<b>Mammals</b>			
Buena Vista Lake shrew <i>Sorex ornatus relictus</i>	FE, X	NE	<b>Absent.</b> There is critical habitat very near, but outside the southeastern part of Westlands. The species' range does not quite extend into the Proposed Action Area.
Fresno kangaroo rat <i>Dipodomys nitratooides exilis</i>	FE, X	NE	<b>Absent.</b> There was a population of San Joaquin kangaroo rats at Lemoore Naval Air Station that was genetically intermediate between both the Fresno and Tipton kangaroo rat, but this population has been extirpated in the last few years. This was the last known population within Westlands.
giant kangaroo rat <i>Dipodomys ingens</i>	FE	NE	<b>Absent.</b> The Proposed Action Area is outside of the species' current range, which lies in the hills to the west.
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE	NE	<b>Present.</b> There are a number of records of kit foxes in the Proposed Action Area, and they are known to forage in agricultural lands, when those lands are near more natural habitat (Warrick et al. 2007). However, the Proposed Action would not result in any land use change or involve any construction.
Tipton kangaroo rat <i>Dipodomys nitratooides nitratooides</i>	FE	NE	<b>Absent.</b> There was a population of San Joaquin kangaroo rats at Lemoore Naval Air Station that was genetically intermediate between both the Fresno and Tipton kangaroo rat, but this population has been extirpated in the last few years. This was the last known population within Westlands.
<b>Plants</b>			
California jewelflower <i>Caulanthus californicus</i>	FE	NE	<b>Absent.</b> This species once occurred within Westlands, but was extirpated by habitat conversion many years ago.
palmate-bracted bird's beak <i>Cordylanthus palmatus</i>	FE	NE	<b>Absent.</b> This species may have historically had suitable habitat within Westlands, but no longer.
San Joaquin woolly-threads <i>Monolopia congdonii</i>	FE	NE	<b>Possible.</b> There are records of this species in Westlands, and some small fragments of suitable habitat may persist, especially on the western edge. However, the Proposed Action would not involve any land use change or construction.
<b>Reptiles</b>			
blunt-nosed leopard lizard <i>Gambelia sila</i>	FE	NE	<b>Possible.</b> There are records of this species in Westlands, and some small fragments of suitable habitat may persist, especially on the western edge. However, the Proposed Action would not involve any land use change or construction.
giant garter snake <i>Thamnophis gigas</i>	FT	NE	<b>Present.</b> The giant garter snake occurs in small numbers at Mendota Pool. However, the Proposed Action would not change the amount of habitat available, and would not impact water quality, due to the source of the water and the water quality restrictions in the environmental commitments.

## **3.3 Water Resources**

### **3.3.1 Affected Environment**

The affected environment is the same as described in Section 3.1 of EA-11-039 (Reclamation 2011), Section 3.2 and in EA-12-030 (Reclamation 2012) which are incorporated by reference into this EA. Rather than repeating the same information, the affected environment and environmental consequences section in this EA will focus on updates or changes.

#### ***Belridge Water District***

Belridge is a non-CVP contractor located in Western Kern County. Belridge receives 121,508 AF of SWP firm entitlement per year. This water supply is the only source of water for Belridge. They participate in several groundwater-banking programs in Kern County for the purpose of providing additional water supplies in years of shortage. Currently the majority of Belridge's water deliveries are for agricultural purposes and small amount of water is delivered for industrial purposes.

#### ***Berrenda Water District***

Berrenda is a non-CVP contractor located in the northwestern corner of Kern County. Berrenda receives 92,800 AF of SWP firm entitlement per year. This water supply is the only source of water for Berrenda. Currently the majority of Berrenda's water deliveries are for agricultural purposes and small amounts of water are delivered for municipal and industrial purposes.

#### ***Lost Hills Water District***

Lost Hills is a non-CVP contractor located in the Northwestern corner of Kern County. Lost Hills receives 119,110 AF of SWP firm entitlement per year. This water supply is the only source of water for Lost Hills. Currently the majority of Lost Hill's water deliveries are for agricultural purposes and small amounts of water are delivered for municipal and industrial purposes.

### **3.3.2 Environmental Consequences**

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

Under the No Action Alternative Arvin, Westside, and Westlands would no longer be able to exchange up to 50,000 AF of CVP, SWP or other water supplies. Belridge, Berrenda Mesa, and Lost Hills would not be able to participate in the exchange program.

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

The exchange of CVP and SWP water supplies would be one-for-one and would utilize existing facilities. No new infrastructure, modifications of existing facilities, or ground disturbing activities would be required in order to facilitate the exchange. The exchanged water would be used for existing agricultural and industrial uses within the CVP and SWP place of use. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

The proposed Action would allow Arvin, Westlands, Westside, and the Exchange districts to have greater long term flexibility in their water management actions before using existing water supplies and existing facilities.

The Proposed Action would not interfere with Reclamation's obligation to deliver water to its contractors, local fish and wildlife habitat, nor would it impede any SWP or CVP obligations to deliver water to other contractors or to local fish and wildlife habitat. Since the Proposed Action would not involve construction or modification of facilities, there would be no adverse impacts to existing facilities or other contractors.

### ***Cumulative Impacts***

Reclamation has reviewed existing or foreseeable projects in the same geographic area that could affect or could be affected by the Proposed Action. Reclamation and CVP contractors have been working on various water management projects, including this one, in order to better manage limited water supplies due to changing hydrologic conditions and regulatory requirements. This and similar projects would have a cumulative beneficial effect on water supply during dry years.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drive requests for water service actions. Water districts provide water to their customers based on available water supplies and timing, while attempting to minimize costs. Farmers irrigate and grow crops based on these conditions and factors, and a myriad of water service actions are approved and executed each year to facilitate water needs. It is likely that over the course of the Proposed Action, districts will request water supply exchanges. And as such, each water service transaction involving Reclamation would undergo environmental review prior to approval.

The Proposed Action would allow Arvin, Westlands, Westside, and the Exchange Districts to have greater long term flexibility in their water management actions, use existing water supplies in a timely manner, and provide overall all better management of their water supply. This would provide a cumulatively beneficial impact to water supplies within the Districts.

THIS PAGE IS INTENTIONALLY LEFT BLANK

## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation intends to provide the public with an opportunity to comment on the Draft FONSI and Draft EA during a 30-day public review period.

### **4.2 List of Agencies and Persons Consulted**

Reclamation and DWR consulted with the State Water Resources Control Board for a long-term water exchange program for the exchanges covered in EA-11-039, EA-12-30, and this EA.

- Arvin-Edison Water Storage District
- Belridge Water District
- Berrenda Mesa Water District
- Lost Hills Water District
- Westlands Water District
- Westside Water District
- Cawelo Water District
- Kern Tulare Water District
- North Kern Water Supply District
- Wheeler Ridge Maricopa Water Supply District
- Dudley Ridge Water Supply District
- Rosedale-Rio Bravo Water Supply District
- Semitrophic Water Supply District
- Kern Water Bank

THIS PAGE IS INTENTIONALLY LEFT BLANK



## Section 5 References

Bureau of Reclamation (Reclamation). 2011. Finding Of No Significant Impact/Environmental Assessment Arvin Edison Water Storage District/Westside Mutual Water Company Exchange 11-039. Mid-Pacific Region South-Central California Area Office. Fresno, California.  
[https://www.usbr.gov/mp/nepa/nepa\\_projdetails.cfm?Project\\_ID=8272](https://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=8272)

Bureau of Reclamation (Reclamation). 2013. Finding Of No Significant Impact/Environmental Assessment Addition of Westlands Water District to the Arvin-Edison District and Westside Mutual Water Company Exchange Program 12-030. Mid-Pacific Region South-Central California Area Office. Fresno, California.  
[https://www.usbr.gov/mp/nepa/nepa\\_projdetails.cfm?Project\\_ID=8272](https://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=8272)

California Natural Diversity Database (CNDDDB). 2017. California Department of Fish and Wildlife's Natural Diversity Database, February, 2017.

U.S. Fish and Wildlife Service (Service). 2017. Federal Species List. Website:  
<https://ecos.fws.gov/ipac/>. Accessed March 10, 2017.

Warrick, G. D., H. O. Clark, Jr., P. A. Kelly, and B. Cypher. 2007. Use of agricultural lands by San Joaquin kit foxes. *W. N. Am. Naturalist*. 67:270-277.