

# RECLAMATION

## *Managing Water in the West*

### FINDING OF NO SIGNIFICANT IMPACT

## Central California Irrigation District Transfer of up to 20,500 acre-feet per year of Central Valley Project Water to Del Puerto, Panoche, San Luis and Westlands Water Districts

FONSI-13-059

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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 an environmental impact statement (EIS) is not required for a series of annual transfers of up to 20,500 acre-feet (AF) of Central California Irrigation District's (CCID's) Central Valley Project (CVP) water to Del Puerto Water District (DPWD), Panoche Water District (PWD), San Luis Water District (SLWD), and Westlands Water District (WWD) over a period of five years. This Finding of No Significant Impact (FONSI) is supported by Reclamation's Environmental Assessment (EA)-13-059, *Central California Irrigation District Transfer of up to 20,500 acre-feet per year of Central Valley Project Water to Del Puerto, Panoche, San Luis and Westlands Water Districts*, and is hereby incorporated by reference.

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between March 19, 2014 and April 24, 2014. One comment letter was received. The comment letter and Reclamation's response to comments are included in Appendix F of EA-13-059.

## Background

In the early 1990s, Reclamation entered into Warren Act contracts with CCID, a San Joaquin River Exchange Contractor (Exchange Contractor), to provide groundwater pumped within CCID to the same landowners that also owned land within DPWD, PWD, SLWD, and WWD (hereafter referred to as the Transfer Recipient Districts). After a few years it was determined that pumping and other costs could be saved by transferring a portion of CCID's CVP water to accomplish the same end. Under the transfers, groundwater that previously had been conveyed in Federal facilities for use by the same landowners in the Transfer Recipient Districts was used within CCID freeing up a like amount of CCID's CVP water for transfer. Similar transfers have occurred, depending on the need, since that time, the most recent of which was approved in 2012 and analyzed in EA-12-006. As the two-year transfer is set to expire soon, CCID has requested approval from Reclamation for a five-year transfer of up to 20,500 AF per year (AFY) of its CVP water to the Transfer Recipient Districts.

## Proposed Action

Reclamation proposes to approve a series of annual transfers over a five year period (2014 through 2018) of up to 20,500 AFY of CCID's CVP contract (Exchange Contract) supplies to the Transfer Recipient Districts. The proposed transfers would occur from April through December of each year water is transferred.

In order to make CCID's CVP water supplies available for the transfers, common landowners in CCID and the Transfer Recipient Districts would pump up to 85 cubic feet per second (cfs) of groundwater to meet CCID's in-district demands in lieu of taking surface water deliveries dedicated to CCID under its Exchange Contract. The pumped groundwater would be discharged into CCID's conveyance system, freeing up to 20,500 AF of CVP water under the Exchange Contract to be delivered to the Transfer Recipient Districts via the Delta-Mendota Canal (DMC) and San Luis Canal (SLC).

The Proposed Action would consist of pumping up to 25 wells interspersed throughout CCID with a total capacity of 85 cfs. The District has an “open enrollment” process and because of this, the exact well locations from which the water would be pumped over the proposed five-year period are not known; however, the wells are likely to be similar to the wells within CCID that have previously pumped groundwater for transfer as shown in Figure 2-1 in EA-13-059. It is unlikely that all 25 (plus or minus) wells would be pumping simultaneously as the CCID distribution system must be experiencing a demand equal to or greater than the local well pumps.

### **Environmental Commitments**

Reclamation, CCID and the Transfer Recipient Districts would implement the environmental protection measures included in Table 2-1 of EA-13-059 to reduce environmental consequences associated with the Proposed Action. Environmental consequences for resource areas assume the measures specified would be fully implemented.

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**

Under the Proposed Action, landowners in CCID would pump groundwater in order to transfer a like-amount of CCID’s CVP water to the Transfer Recipient Districts. Pumped groundwater for transfer would be in addition to whatever groundwater would be pumped in CCID to meet in-district needs. Similar to the No Action alternative, additional groundwater pumping may be needed in CCID due to the initial 2014 reduction in the Exchange Contractor’s CVP supply. Increased groundwater pumping could reduce water levels further and increase rates of subsidence in an area that has compacted approximately 0.23 feet between 2004 and 2010. However, CCID actively manages its surface and groundwater supplies in order to minimize water level and subsidence impacts. Programs involving groundwater pumping are only approved by CCID after evaluation of any impacts revealed by the prior year’s monitoring data. In addition, wells that would be pumped for the five-year transfer program are all from a relatively shallow level above the Corcoran clay which has contributed only a fraction of the increased compaction rates within the Mendota Pool area. Further, specific environmental commitments have been included in Section 2.2.1 of EA-13-059 in order to minimize potential impacts to groundwater levels. Following these commitments would maintain safe yield in the groundwater basin.

CVP and State Water Project facilities would not be impacted as the transferred water must be scheduled and approved by Reclamation and California Department of Water Resources. No natural streams or water courses would be affected since no additional pumping or diversion that would not have happened under the No Action Alternative would occur.

The transfer of up to 20,500 AFY over the five-year period would offset a small portion of the surface water supply deficits annually faced by the Transfer Recipient Districts which would

benefit some individual growers. Additional, surface water supplies may reduce the amount of groundwater that would need to be pumped in order to meet demands.

Water supplies in CCID would continue to meet agricultural water demand despite the transfer as the pumped groundwater would be used in-district to meet demands.

Wells that would pump for transfer credit during the five-year transfer program are required to meet specific water quality criteria (Table 2-1 of EA-13-059) in order to minimize potential water quality impacts. Similar requirements have been placed on past transfer programs including the most recent one for 2012 and 2013. As a requirement by CCID, wells that pump groundwater into its system undergo water quality testing annually at each well head before introduction. As shown in Tables 3-4 and 3-5 of EA-13-059, wells that participated in the 2012 and 2013 transfer program met all water quality criteria specified in EA-12-006. To further protect water quality in CCID's Main Canal and prevent potential impacts to the Mendota Wildlife Area, additional requirements have been placed on wells pumping in to the Main Canal for the five-year transfer program (see Table 2-1 of EA-13-059).

### **Land Use**

CCID and the Transfer Recipient Districts would not change historic land and water management practices under the Proposed Action. CCID's overall water supply would not change and irrigated acreages and crop mixes would remain the same. CCID's CVP water would move through existing facilities for delivery to lands within the Transfer Recipient Districts for use on existing crops. The water would not be used to place untilled or new lands into production, or to convert undeveloped land to other uses.

### **Biological Resources**

Most of the habitat types required by species protected by the Endangered Species Act do not occur in the Action area (see Table 3-7 of EA-13-059). The Proposed Action would not involve the conversion of any land fallowed and untilled for three or more years. In addition, the Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species or to birds protected by the Migratory Bird Treaty Act. Land within SLWD, which is considered by the Service and the California Department of Fish and Wildlife to be important for connecting kit fox populations to the south with those in the northern range, would be protected by the commitment made by the district (see Appendix B of EA-13-059). Since no natural stream courses or additional surface water 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.

The 20,500 AF of lower-quality groundwater pumped into the CCID's distribution system is required to not increase the TDS in CCID's canals to more than 700 milligram per liter, which would be low enough to protect the giant garter snake in suitable habitat in the Grasslands' wetlands. Additional requirements have been placed on the transfer program in order to protect water quality within wetlands served by CCID's Main Canal that could be used by the giant garter snake. These requirements include: (1) non-detect levels of selenium (with a detection limit of no higher than 1 microgram per liter) and (2) no pumping during the fall months

upstream of milepost (MP) 53.856. Well #128 is the only well located upstream of MP 53.856 on the Main Canal that has been used for the transfer program. This well met all the water quality requirements during the 2012-2013 transfer program (see Tables 3-5 and 3-6 of EA-13-059).

The short duration of the water availability, the requirement that no native lands be converted without consultation with the U.S. Fish and Wildlife Service, and the stringent requirements for transfers under applicable laws would preclude any impacts to wildlife, whether Federally listed or not. As such, 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.) and no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

### **Cultural Resources**

The Proposed Action would facilitate the flow of water through existing facilities to existing users. 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 C of EA-13-059 for Reclamation's determination.

### **Indian Sacred Sites**

The Proposed Action will not limit access to or ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites.

### **Indian Trust Assets**

The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. See Appendix D of EA-13-059 for Reclamation's determination.

### **Socioeconomic Resources**

The Proposed Action would have beneficial impacts on socioeconomic resources with the Transfer Recipient Districts as the transferred water would be used to help sustain existing crops and maintain farming within the districts. There would be no adverse socioeconomic impacts within CCID as water needs would still be met and agricultural practices would be unchanged.

### **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.

### **Air Quality**

The majority of CCID's wells have electric motors which do not produce emissions that impact air quality. Only two wells have diesel engines; however, both wells meet the California Air Resources Board and Environmental Protection Agency Tier 3 specifications. As such, the engines meet the emission requirements for compression engines as outlined in San Joaquin Valley Air Pollution Control District Rule 4702, Section 5.2.4. Projected emissions from these

engines would be below the *de minimis* amounts specified in 40 CFR § 93.153. As such a determination of general conformity under the Clean Air Act is not required.

### **Global Climate and Energy Use**

The Proposed Action may result in the direct emissions of greenhouse gases through the use of diesel fuel if the two wells with diesel pumps are used in a given year. However, the greenhouse gases generated would be extremely small compared to sources contributing to potential climate change. In addition, water under the Proposed Action would be conveyed mostly via electric pumps which would not result in the power plant exceeding operating capacity or its' emissions permit. The total greenhouse gas emissions from the diesel pumps would be far below the 25,000 metric tons per year threshold for reportable greenhouse gas emissions.

### **Cumulative Impacts**

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative when added to other past, present, and reasonably foreseeable future actions.

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation has reviewed existing or foreseeable projects that could affect or could be affected by the Proposed Action including those described in EA-12-006. 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 aim to 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. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

The Proposed Action and other similar projects would not hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Since the Proposed Action would not involve construction or modification, nor interfere with CVP or State Water Project operations, there would be no cumulative impacts to existing facilities or other contractors.

CCID would avoid any cumulative adverse water quality impacts involving groundwater delivered in-district by following the commitments outlined in Table 2-1 of EA-13-059. The additional commitments regarding the Main Canal would also minimize potential adverse cumulative impacts to refuge water quality. Since the transferred water delivered via the DMC and SLC would be CVP supplies, there would be no cumulative impacts to water quality delivered to the Transfer Recipient Districts.

As CCID would follow the Exchange Contractors' AB3030 Groundwater Management Plan and restrict pumping to below the safe yield and all wells would be above the Corcoran Clay layer,

there would be no cumulative impacts to groundwater levels or subsidence in the Exchange Contractors' service area as a result of the Proposed Action. Since the transfers may reduce groundwater pumping in the Transfer Recipient Districts, the Proposed Action may reduce the risks of groundwater overdraft and subsidence in their respective areas. As a result, the Proposed Action would have no potential adverse cumulative impacts.

These findings indicate that there may be slight beneficial effects, but no adverse cumulative impacts to water resources resulting from the Proposed Action.

As the Proposed Action is not expected to result in any direct or indirect adverse impacts to land use, biological resources, cultural resources, Indian Sacred Sites, Indian Trust Assets, socioeconomics, minority or disadvantaged populations, air quality or global climate and energy use, there would be no cumulative adverse impacts to these resources.



# RECLAMATION

*Managing Water in the West*

**Final Environmental Assessment**

## **Central California Irrigation District Transfer of up to 20,500 acre-feet per year of Central Valley Project Water to Del Puerto, Panoche, San Luis and Westlands Water Districts**

**EA-13-059**



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

**April 2014**

## **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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# Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between March 19, 2014 and April 24, 2014. On comment letter was received. The comment letter and Reclamation's response to comments are included in Appendix F. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

## 1.1 Background

In the early 1990s, Reclamation entered into Warren Act contracts with Central California Irrigation District (CCID), a San Joaquin River Exchange Contractor (Exchange Contractor), to provide groundwater pumped within CCID to the same landowners that also owned land within Del Puerto Water District (DPWD), Panoche Water District (PWD), San Luis Water District (SLWD), and Westlands Water District (WWD). After a few years it was determined that pumping and other costs could be saved by transferring a portion of CCID's Central Valley Project (CVP) water to accomplish the same end. Under the transfers, groundwater that previously had been conveyed in Federal facilities for use by the same landowners in DPWD, PWD, SLWD, and WWD was used within CCID freeing up a like amount of CCID's CVP water for transfer. Similar transfers have occurred, depending on the need, since that time. The most recent of which was approved in 2012 and analyzed in EA-12-006 (Reclamation 2012). EA-12-006 analyzed the affected environment for the following resources: Water Resources, Land Use, Biological Resources, Cultural Resources, Indian Sacred Sites, Indian Trusts Assets (ITA), Socioeconomic Resources, Environmental Justice, Air Quality, Energy Use and Global Climate as a result of Reclamation approving annual transfers of up to 20,500 acre-feet (AF) per year (AFY) of CCID's CVP water to DPWD, PWD, SLWD, and WWD (hereafter referred to as the Transfer Recipient Districts) over a two-year period. A FONSI was executed on July 27, 2012. FONSI/EA-12-006 is hereby incorporated by reference.

As the two-year transfer is set to expire soon, CCID has requested approval from Reclamation for a five-year transfer of up to 20,500 AFY of its CVP water to the Transfer Recipient Districts.

## 1.2 Need for the Proposed Action

The State of California is currently experiencing unprecedented water management challenges due to severe drought in recent years. Both the State and Federal water projects are forecasting very low storage conditions in all major reservoirs. In addition, South-of-Delta (SOD) CVP contractors experienced reduced water supply allocations from 2007 to 2013 due to hydrologic conditions and regulatory requirements. Based on all these factors, Reclamation declared an initial 0 percent allocation for SOD agricultural contractors for the 2014 Contract Year<sup>1</sup> and CCID has been notified of a supply reduction due to the critical year. Initially, Reclamation has

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<sup>1</sup> A Contract Year is from March 1 through February 28/29 of the following year.

estimated that only 40 percent of the Exchange Contractor's supply can be delivered even though their allocation in a critical year is 75% under the Exchange Contract. As a result, SOD water contractors have a need to find alternative sources of water to fulfill demands. The proposed transfers would allow CCID and landowners in the Transfer Recipient Districts greater flexibility to manage limited water supplies.

## **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 over a five year period (2014 through 2018) of up to 20,500 AFY of CCID's CVP Contract supplies to the Transfer Recipient Districts. Reclamation would continue to deliver CVP water to CCID and the Transfer Recipient Districts pursuant to their CVP contracts.

### **2.2 Proposed Action**

Reclamation proposes to approve a series of annual transfers over a five year period (calendar year 2014 through 2018) of up to 20,500 AFY of CCID's CVP contract (Exchange Contract) supplies to the Transfer Recipient Districts. The proposed transfers would occur from April through December of each year that water is transferred.

In order to make CCID's CVP water supplies available for the transfers, common landowners in CCID and the Transfer Recipient Districts would pump up to 85 cubic feet per second (cfs) of groundwater to meet CCID's in-district demands in lieu of taking surface water deliveries dedicated to CCID under its Exchange Contract. The pumped groundwater would be discharged into CCID's conveyance system, freeing up to 20,500 AF of CVP water under the Exchange Contract to be delivered to the Transfer Recipient Districts via the Delta-Mendota Canal (DMC) and San Luis Canal (SLC).

The Proposed Action would consist of pumping up to 25 wells interspersed throughout CCID with a total capacity of 85 cfs. The District has an "open enrollment" process and because of this, the exact well locations from which the water would be pumped over the proposed five-year period are not known; however, the wells are likely to be similar to the wells within CCID that have previously pumped groundwater for transfer as shown in Figure 2-1. It is unlikely that all 25 (plus or minus) wells would be pumping simultaneously as the CCID distribution system must be experiencing a demand equal to or greater than the local well pump-ins.

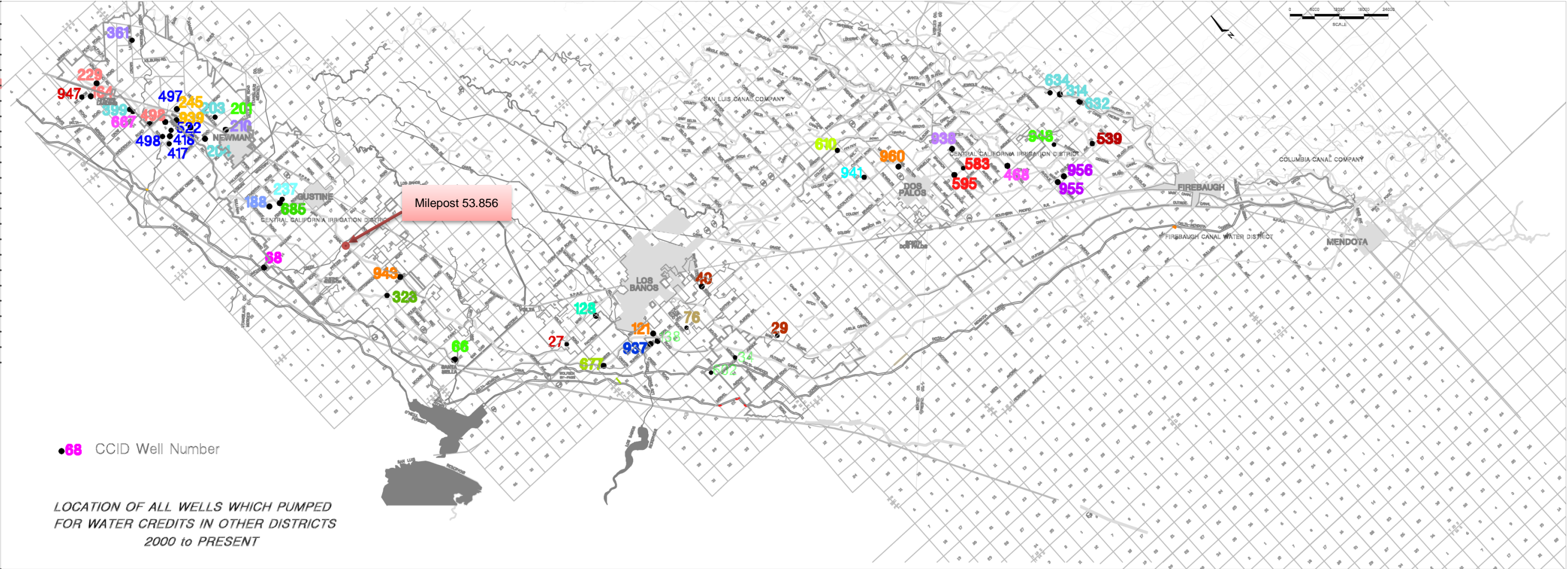


Figure 2-1 Location of Wells in CCID that Previously Pumped for Transfer Credits, 2000 to Present



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### 2.2.1 Environmental Commitments

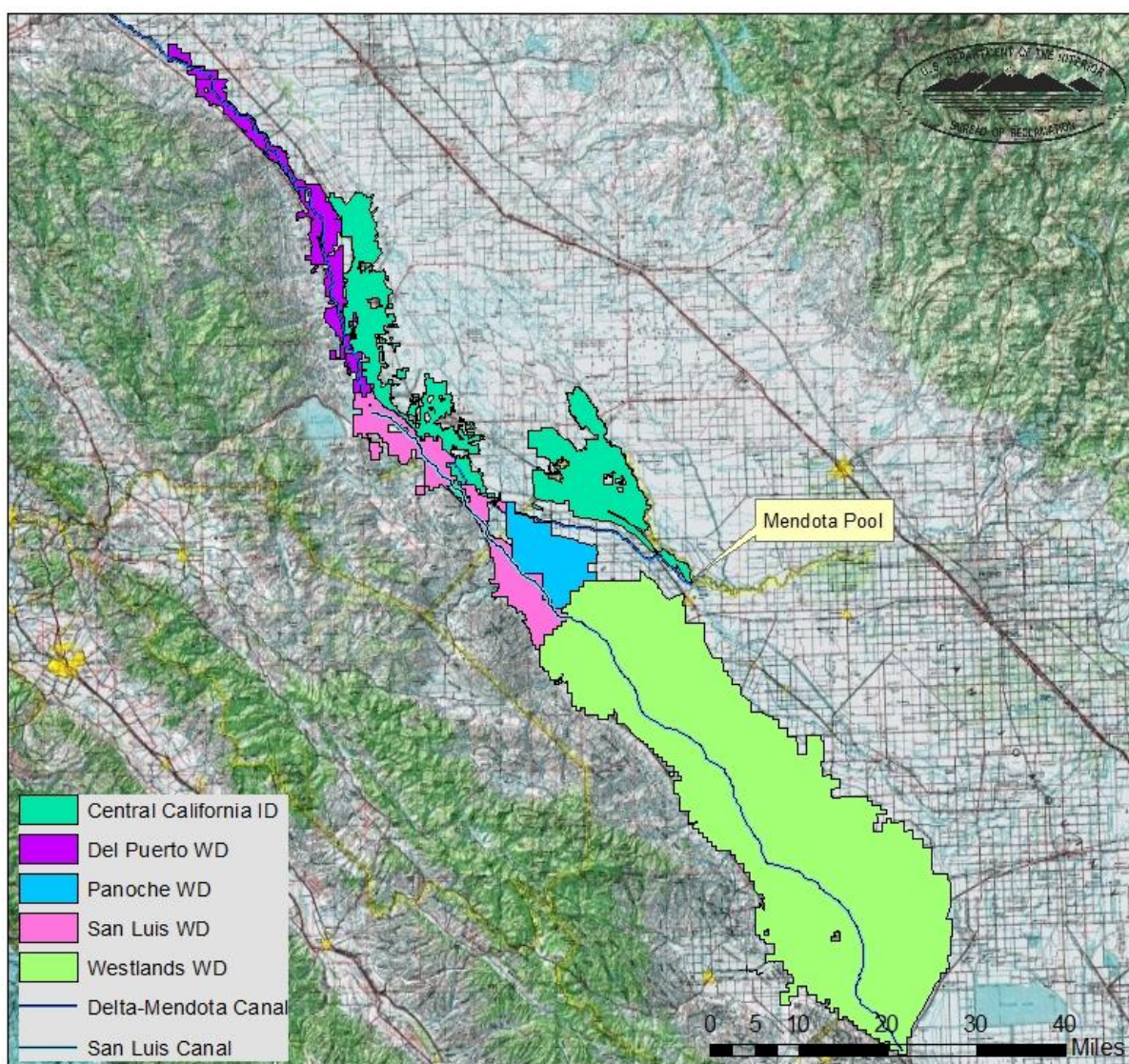
Reclamation, CCID and the Transfer Recipient Districts would implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 2-1). Environmental consequences for resource areas assume the measures specified would be fully implemented.

**Table 2-1 Environmental Protection Measures and Commitments**

Resource	Protection Measure
Water Resources	CCID would comply with the requirements for surface water transfers in the Exchange Contractor's AB3030 Groundwater Management Plan (Appendix A).
Water Resources	CCID and its landowners would follow the policy entitled " <i>Central California Irrigation District Water Transfer Policy</i> " attached to the Exchange Contractor's AB3030 Groundwater Management Plan (Appendix A).
Water Resources	CCID and its landowners would follow the policy entitled " <i>Central California Irrigation District Rules Governing Pumping of Private Wells for Credits in Other Districts</i> ." attached to the Exchange Contractor's AB3030 Groundwater Management Plan (Appendix A).
Water Resources	CCID would not increase the salinity in CCID's Main Canals above 700 milligrams per liter (mg/L) total dissolved solids (TDS), and would apply these commitments for any wells that would pump groundwater into CCID's Main Canal upstream of Milepost (MP) 53.856.
Biological Resources	No native or untilled land (fallow for three consecutive years or more) may be cultivated with CVP water without additional environmental analysis and approval.
Biological Resources	No wells upstream of MP 53.856 would be authorized to pump for transfer from September 15 through December 15 of each year when there is reduced flow and water quality for some wildlife refuges is most critical.
Biological Resources	Only wells with a non-detect for selenium would be allowed to pump for transfer credit under the Proposed Action. Groundwater at each well will be tested at least annually for selenium at the wellhead, by a method with a detection limit of no more than 1 microgram/liter (µg/L).
Biological Resources	SLWD would not deliver CVP water to developments or other habitat conversions without evidence of Endangered Species Act (ESA) compliance. SLWD has committed to this requirement (see Appendix B).
Various Resources	No new construction or modification of existing facilities may occur in order to complete the Proposed Action.
Various Resources	The Proposed Action cannot alter the flow regime of natural waterways or natural watercourses such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to have a detrimental effect on fish or wildlife or their habitats.
Various Resources	The Proposed Action must comply with all applicable Federal, State and local laws, regulations, permits, guidelines and policies.
Various Resources	The Proposed Action would not increase or decrease water supplies that would result in development.

## Section 3 Affected Environment and Environmental Consequences

The areas in which impacts may occur are the same as those analyzed in EA-12-006 and include the CVP service area boundaries of CCID, the Transfer Recipient Districts, as well as the DMC and SLC (Figure 3-1).



**Figure 3-1 Proposed Action Area**

The environmental impacts analyzed within Section 3 of EA-12-006 are still valid and adequately assesses the environmental effects from this Proposed Action, which is hereby incorporated by reference. Potential impacts to the following resources were re-considered as a result of this proposal and were still found to be minor. Brief explanations of impacts are provided in Table 3-1.

**Table 3-1 Resources Eliminated from Further Analysis**

<b>Resource</b>	<b>Reason Eliminated</b>
Land Use	CCID and the Transfer Recipient Districts would not change historic land and water management practices under the Proposed Action. CCID's overall water supply would not change and irrigated acreages and crop mixes would remain the same. CCID's CVP water would move through existing facilities for delivery to lands within the Transfer Recipient Districts for use on existing crops. The water would not be used to place untilled or new lands into production, or to convert undeveloped land to other uses.
Cultural Resources	The Proposed Action would facilitate the flow of water through existing facilities to existing users. 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 C for Reclamation's determination.
Indian Sacred Sites	The Proposed Action would not limit access to or ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites.
Indian Trust Assets	The Proposed Action would not impact ITA as there are none in the Proposed Action area. See Appendix D for Reclamation's determination.
Socioeconomics	The Proposed Action would have beneficial impacts on socioeconomic resources with the Transfer Recipient Districts as the transferred water would be used to help sustain existing crops and maintain farming within the districts. There would be no adverse socioeconomic impacts within CCID as water needs would still be met and agricultural practices would be unchanged.
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.
Air Quality	The majority of CCID's wells have electric motors which do not produce emissions that impact air quality. Only two wells have diesel engines; however, both wells meet the California Air Resources Board and Environmental Protection Agency Tier 3 specifications. As such, the engines meet the emission requirements for compression engines as outlined in San Joaquin Valley Air Pollution Control District Rule 4702, Section 5.2.4. Projected emissions from these engines would be below the <i>de minimis</i> amounts specified in 40 CFR § 93.153. As such a determination of general conformity under the Clean Air Act is not required.
Global Climate and Energy Use	The Proposed Action may result in the direct emissions of greenhouse gases through the use of diesel fuel if the two wells with diesel pumps are used in a given year. However, the greenhouse gases generated would be extremely small compared to sources contributing to potential climate change. In addition, water under the Proposed Action would be conveyed mostly via electric pumps which would not result in the power plant exceeding operating capacity or its' emissions permit. The total greenhouse gas emissions from the diesel pumps would be far below the 25,000 metric tons per year threshold for reportable greenhouse gas emissions.

## 3.1 Water Resources

### 3.1.1 Affected Environment

The affected environment for CCID, the Transfer Recipient Districts, Mendota Pool, and CVP conveyance facilities is the same as described in Section 3.1 of EA-12-006. Rather than repeating the same information that has been incorporated by reference into this document, the affected environment and environmental consequences section in this EA will focus on updates or changes.

#### ***Central California Irrigation District***

As described in Section 1.1, CCID has provided supplemental water supplies to the Transfer Recipient Districts, when needed, since the early 1990s. As shown in Table 3-2, the portion of CCID's CVP Exchange Contract supplies provided to the Transfer Recipient Districts has varied

dependent on CVP SOD allocations. Generally, the lower the CVP allocation the greater the amount of water transferred.

**Table 3-2 Transfer Water Pumped Since 2002 in Relation to SOD CVP Agricultural Allocations**

Year	SOD CVP Agricultural Allocation (% of Contract Total)	Transfer Quantity Approved (AF)	Quantity Actually Pumped (AF)
2013	20	20,500	14,757
2012	40	20,500	1,936
2011	80	20,500	0
2010	45	20,500	350
2009	10	21,000	18,078
2008	40	8,900	7,953
2007	50	14,000	6,202
2006	100	0	0
2005	85	0	0
2004	70	7,629	3,982
2003	75	5,143	1,957
2002	70	5,700	4,410
<b>Average</b>	<b>57</b>	<b>12,031</b>	<b>4,910</b>

Water quality within CCID's distribution system is reflected by water quality analyses in CCID's Main Canal. The 10-year monthly averages for TDS at the headworks of CCID's Main Canal are included in Table 3-3. These values are in the typical range for deliveries from the DMC, with some variation due to additional sources of water such as flood flows.

**Table 3-3 CCID Main Canal Headworks Monthly Average TDS (mg/L)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
<b>2004</b>	290	347	345	277	280	262	214	210	277	304	300	307	<b>284</b>
<b>2005</b>	348	356	356	58	56	91	163	210	248	223	285	NA	<b>218</b>
<b>2006</b>	69	211	168	65	51	50	186	198	199	187	209	311	<b>159</b>
<b>2007</b>	337	329	272	288	276	281	216	255	332	302	321	341	<b>296</b>
<b>2008</b>	416	364	376	330	320	326	248	305	357	334	341	NA	<b>338</b>
<b>2009</b>	488	479	392	332	337	343	204	286	324	322	309	437	<b>354</b>
<b>2010</b>	474	370	282	154	174	196	182	213	285	308	248	315	<b>267</b>
<b>2011</b>	95	207	158	68	68	57	103	173	174	166	195	NA	<b>133</b>
<b>2012</b>	385	385	340	326	219	257	215	226	333	331	292	272	<b>298</b>
<b>2013</b>	141	375	332	220	305	333	253	335	411	392	346	317	<b>313</b>
<b>Avg TDS</b>	<b>304</b>	<b>342</b>	<b>302</b>	<b>212</b>	<b>209</b>	<b>220</b>	<b>198</b>	<b>241</b>	<b>294</b>	<b>287</b>	<b>285</b>	<b>329</b>	
Notes: Values originate from the average of each daily value recorded for that month by CCID and Reclamation NA - No TDS data because the Mendota Pool was dewatered for routine maintenance of Mendota Dam													

As described in Section 2.2, CCID would allow “open enrollment” in the transfer program of up to a maximum of 25 wells, which would pump an aggregate of up to 85 cfs. Although specific wells that would be used during the proposed transfer program are unknown, the location of wells that could be used at some point in the program is shown in Figure 2-1. These wells have previously been pumped (either for transfer or for in-district use) as part of CCID’s conjunctive use program.

As a requirement of the transfer program and to protect groundwater levels, wells that have pumped for three consecutive years cannot be used for the transfer program. In addition, CCID actively manages its surface and groundwater supplies through tiered water price incentives and disincentives. Programs involving groundwater pumping are only approved by CCID after evaluation of any impacts of the prior year’s monitoring data. Table 3-4 provides a list of wells used in 2012 and 2013 for the transfer program analyzed in EA-12-006. Canals or ditches within CCID that received groundwater for transfer credit in 2012 and 2013 include: Branch 4, Cemetery Ditch, Central Canal, Colony Canal, Helm Canal, Main Canal, Outside Canal, Parnell Bypass, Parsons Canal, Poso Canal, SLC, and one that was used on-farm only (see Table 3-4).

**Table 3-4 Summary of Wells used in 2012 and 2013 for Transfer**

<b>Well #</b>	<b>Location</b>	<b>Amount Pumped for Transfer Credit in 2013 (AF)</b>	<b>Amount Pumped for Transfer Credit in 2012 (AF)</b>
40	Mile Post 2.025 CCID's San Luis Canal	1,827	0
65	Mile Post 1.000 Helm Canal	0	0
66	Mile Post 1.800 Helm Canal	540	0
66	Mile Post 46.150 Outside Canal	0	0
128	Mile Post 39.401 Main Canal	190	0
188	Mile Post 58.600 Main Canal	0	331
204	Cemetery Ditch	747	0
210	On farm use only	441	0
268	Mile Post 8.311 Parsons Canal	441	0
311	Mile Post 67.790 Main Canal	129	0
315	Mile Post 9.394 Poso Canal	0	0
323	Mile Post 48.883 Outside Canal	809	0
448	Mile Post 1.862 Parsons Canal	1,781	0
539	Mile Post 3.492 Central Canal	668	442
610	Mile Post 14.163 Colony Canal	323	0
632	Mile Post 8.690 Poso Canal	0	0
634	Mile Post 10.290 Poso Canal	3,140	0
736	Mile Post 38.165 Outside Canal	170	0
941	Mile Post 2.112 Branch 4	111	0
943	Parnell Bypass	23	0
947	Mile Post 69.810 Main Canal	431	0
948	Mile Post 3.755 Parsons Canal	470	0
955	Mile Post 2.231 Colony Canal	2,033	1,163
956	Mile Post 2.807 Colony Canal	0	0

Well #	Location	Amount Pumped for Transfer Credit in 2013 (AF)	Amount Pumped for Transfer Credit in 2012 (AF)
960	Mile Post 10645 Colony Canal	117	0
1038	Mile Post 2.468 Parsons Canal	366	0
1111	Mile Post 1.856 Parsons Canal	0	0
1112	Mile Post 48.706 Outside Canal	0	0
<b>Total</b>		<b>14,757</b>	<b>1,936</b>

As in the past, each well used for transfer credit is tested for water quality at the wellhead prior to introduction into its respective receiving waters. A summary of water quality testing for 2013 is provided in Appendix E. Specific results by well for TDS and selenium in 2013 are included in Table 3-5.

**Table 3-5 2013 TDS and Selenium Results by Well**

Well #	TDS (mg/L)	Selenium (µg/L)	Location Relative to Mile Post 53.856 on Main Canal
40	590	Non-Detect	Not on the Main Canal
65	330	Non-Detect	Not on the Main Canal
(Helm Canal) 66	420	Non-Detect	Not on the Main Canal
(Outside Canal) 66	740	Non-Detect	Not on the Main Canal
128	930	Non-Detect	Above
188	800	Non-Detect	Below
204	900	Non-Detect	Not on the Main Canal
210	680	1.7	Not on the Main Canal
268	700	Non-Detect	Not on the Main Canal
311	760	7.5	Below
315	680	Non-Detect	Not on the Main Canal
323	960	Non-Detect	Not on the Main Canal
448	950	Non-Detect	Not on the Main Canal
539	690	Non-Detect	Not on the Main Canal
610	920	Non-Detect	Not on the Main Canal
632	500	Non-Detect	Not on the Main Canal
634	620	Non-Detect	Not on the Main Canal
736	800	Non-Detect	Not on the Main Canal
941	890	Non-Detect	Not on the Main Canal
943	580	Non-Detect	Not on the Main Canal
947	1100	12	Below
948	810	Non-Detect	Not on the Main Canal
955	1200	Non-Detect	Not on the Main Canal
956	1000	Non-Detect	Not on the Main Canal
960	1100	Non-Detect	Not on the Main Canal
1038	760	Non-Detect	Not on the Main Canal
1111	970	Non-Detect	Not on the Main Canal
1112	690	Non-Detect	Not on the Main Canal

As described in Section 2.2.3 of EA-12-006, specific water quality restrictions were placed on wells above MP 53.856 on the Main Canal that would participate in the 2012 or 2013 transfer program. These requirements included:

- wells would not increase the receiving water's salinity above 700 mg/L TDS;

- wells would not be authorized to pump for transfer during the fall months (September 15 through December); and
- wells would be non-detect for selenium, by a method with a detection limit of no more than 1 µg/L.

Only four of the 28 wells tested in 2013 were located on the Main Canal (Table 3-5). Out of these, only Well #128 is located upstream of MP 53.856 on the Main Canal. As shown in Table 3-6, Well #128 had a TDS of 930 mg/L and was non-detect for selenium. This well did not pump in 2012 but did pump 190 AF in 2013; however, all pumping ceased prior to September 15, 2013. Although Well #128 had a TDS of 930 mg/L, introduction of this water did not increase the TDS level in the Main Canal above 700 mg/L (see Table 3-6).

**Table 3-6 2013 Measurements on Main Canal at Volta Road (MP 40.568)**

Date	pH	EC at 25°C	Boron	TDS
3/5/2013	7.6	747	0.37	463
3/15/2013	7.7	851	0.51	528
3/21/2013	7.9	912	0.60	565
3/28/2013	8.0	874	0.55	542
4/3/2013	7.9	796	0.42	494
4/12/2013	7.8	720	0.48	446
4/17/2013	7.6	597	0.33	370
4/25/2013	7.4	574	0.30	356
5/2/2013	7.5	636	0.43	394
5/7/2013	7.4	584	0.39	362
5/17/2013	7.7	617	0.45	383
5/23/2013	7.7	642	0.37	398
5/31/2013	7.5	742	0.38	460
6/7/2013	7.5	775	0.37	481
6/14/2013	7.7	927	0.55	575
6/21/2013	7.5	931	0.53	577
6/28/2013	7.8	793	0.44	492
7/15/2013	8.0	734	0.34	455
7/21/2013	7.7	607	0.35	376
7/18/2013	7.5	540	0.35	335
7/25/2013	7.6	651	0.29	404
8/1/2013	7.6	728	0.30	451
8/6/2013	7.7	754	0.34	467
8/16/2013	7.4	801	0.34	497
8/29/2013	7.7	754	0.35	467
9/3/2013	7.8	853	0.46	529
9/13/2013	7.9	829	0.43	514
9/20/2013	7.9	881	0.40	546
9/27/2013	8.1	820	0.42	508
10/1/2013	8.1	878	0.48	544
<b>Average</b>	<b>7.7</b>	<b>752</b>	<b>0.41</b>	<b>466</b>
<b>Minimum</b>	<b>7.4</b>	<b>540</b>	<b>0.29</b>	<b>335</b>
<b>Maximum</b>	<b>8.1</b>	<b>931</b>	<b>0.60</b>	<b>577</b>

### ***Subsidence***

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater



pumping, hydrocompaction caused by application of water to dry soils, and oil mining (Poland and Lofgren 1984). Large withdrawal of groundwater within the San Joaquin Valley between the 1920s and 1960s for agricultural irrigation caused significant overdraft within the central west side of the valley and most of the southern valley causing substantial land subsidence within those areas (Poland and Lofgren 1984). Importation of surface water from the CVP and State Water Project decreased the rate of groundwater withdrawal allowing aquifer levels to recover subsequently reducing subsidence rates (Poland and Lofgren 1984, USGS 2013). Recently, groundwater pumping rates have increased throughout the San Joaquin Valley due to regulatory and drought-related curtailments placed on water deliveries from the CVP and State Water Project, resulting in water level declines and renewed compaction (USGS 2013).

In 2013, the U.S. Geological Survey (USGS), in cooperation with Reclamation and the San Luis Delta Mendota Water Authority, published a Scientific Investigations Report (2013-5142) which assessed land subsidence and water levels in the vicinity of the DMC from 2003-2010 (USGS 2013). Analysis of land surface deformation determined that the northern portion of the DMC was relatively stable between 2003-2010 but that the area around Checks 15-21 (below O'Neill Forebay to the Mendota Pool) was part of a large area of subsidence located south of the town of El Nido indicating a shift northeast of the area of maximum subsidence previously recorded for 1926-1970. Approximately 80 millimeters (0.26 feet) of subsidence was recorded at Mendota between 2004 and 2010 with the majority (0.23 feet or 70 millimeters) occurring after 2006, a rate of nearly 0.066 feet (20 millimeters) per year. The vast majority of compaction within this area was determined to be beneath the Corcoran Clay layer (USGS 2013).

Various entities, including Reclamation, USGS, California Department of Water Resources (DWR), San Luis Delta-Mendota Water Authority, and the Exchange Contractors have monitored subsidence in the Mendota Pool area. In addition, the Mendota Pool Group has collected subsidence data for the area as part of their exchange program with Reclamation. Their data indicate that shallow wells do not substantially contribute to inelastic subsidence, defined as a permanent reduction in aquifer capacity. Their most recent report indicates that inelastic compaction in the Mendota Pool area for 2012 was 0.01 feet above and 0.089 feet in and below the Corcoran clay layer (Luhdorff & Scalmanini and Kenneth D. Schmidt and Associates 2013).

### **3.1.2 Environmental Consequences**

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

Under the No Action Alternative Reclamation would not approve a series of annual transfers over the five-year period between CCID and the Transfer Recipient Districts. Reclamation would continue to convey and deliver CVP water to CCID and the Transfer Recipient Districts pursuant to their respective CVP contracts as water is available. CCID's CVP water would continue to be used in CCID to meet in-district irrigation demands or for other water transfers as it has in the past. Due to the initial reduction in the Exchange Contractors' CVP contract supply for 2014, it is possible that additional groundwater pumping may be needed in CCID; however, no additional groundwater would be pumped due to this project. Current subsidence trends would be unchanged.

Without the Proposed Action, the Transfer Recipient District's options to mitigate the current surface water supply deficits would be limited. Landowners in the Transfer Recipient Districts

that have available groundwater supplies would likely pump available groundwater or acquire other surface water supplies in order to meet water supply needs. Landowners may also need to abandon crops or fallow lands beyond what has been part of their historic practice if additional water supplies cannot be found.

***Proposed Action***

Under the Proposed Action, landowners in CCID would pump groundwater in order to transfer a like-amount of CCID's CVP water to the Transfer Recipient Districts. Pumped groundwater for transfer would be in addition to whatever groundwater would be pumped in CCID to meet in-district needs. Similar to the No Action alternative, additional groundwater pumping may be needed in CCID due to the initial 2014 reduction in the Exchange Contractor's CVP supply. Increased groundwater pumping could reduce water levels further and increase rates of subsidence in an area that has compacted approximately 0.23 feet between 2004 and 2010 (USGS 2013). However, as described previously, CCID actively manages its surface and groundwater supplies in order to minimize water level and subsidence impacts. Programs involving groundwater pumping are only approved by CCID after evaluation of any impacts of the prior year's monitoring data. In addition, wells that would be pumped for the five-year transfer program are all from a relatively shallow level above the Corcoran clay which has contributed only a fraction of the increased compaction rates within the Mendota Pool area (USGS 2013). Further, specific environmental commitments have been included in Section 2.2.1 in order to minimize potential impacts to groundwater levels. Following these commitments would maintain safe yield in the groundwater basin.

CVP and State Water Project facilities would not be impacted as the transferred water must be scheduled and approved by Reclamation and DWR. No natural streams or water courses would be affected since no additional pumping or diversion that would not have happened under the No Action Alternative would occur.

The transfer of up to 20,500 AFY over the five-year period would offset a small portion of the surface water supply deficits annually faced by the Transfer Recipient Districts which would benefit some individual growers. Additional, surface water supplies may reduce the amount of groundwater that would need to be pumped in order to meet demands.

Water supplies in CCID would continue to meet agricultural water demand despite the transfer as the pumped groundwater would be used in-district to meet demands.

Wells that would pump for transfer credit during the five-year transfer program are required to meet specific water quality criteria (Table 2-1) in order to minimize potential water quality impacts. Similar requirements have been placed on past transfer programs including the most recent one for 2012 and 2013. As a requirement by CCID, wells that pump groundwater into its system undergo water quality testing annually at each well head before introduction. As shown in Tables 3-4 and 3-5, wells that participated in the 2012 and 2013 transfer program met all water quality criteria specified in EA-12-006. To further protect water quality in CCID's Main Canal and prevent potential impacts to the Mendota Wildlife Area, additional requirements have been placed on wells pumping in to the Main Canal for the five-year transfer program (see Table 2-1).

***Cumulative Impacts***

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation has reviewed existing or foreseeable projects that could affect or could be affected by the Proposed Action including those described in EA-12-006. 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 aim to 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. Each water service transaction involving Reclamation undergoes environmental review prior to approval.

The Proposed Action and other similar projects would not hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Since the Proposed Action would not involve construction or modification, nor interfere with CVP or State Water Project operations, there would be no cumulative impacts to existing facilities or other contractors.

CCID would avoid any cumulative adverse water quality impacts involving groundwater delivered in-district by following the commitments outlined in Table 2-1. The additional commitments regarding the Main Canal would also minimize potential adverse cumulative impacts to refuge water quality. Since the transferred water delivered via the DMC and SLC would be CVP supplies, there would be no cumulative impacts to water quality delivered to the Transfer Recipient Districts.

As CCID would follow the Exchange Contractors' AB3030 Groundwater Management Plan and restrict pumping to below the safe yield and all wells would be above the Corcoran Clay layer, there would be no cumulative impacts to groundwater levels or subsidence in the Exchange Contractors' service area as a result of the Proposed Action. Since the transfers may reduce groundwater pumping in the Transfer Recipient Districts, the Proposed Action may reduce the risks of groundwater overdraft and subsidence in their respective areas. As a result, the Proposed Action would have no potential adverse cumulative impacts.

These findings indicate that there may be slight beneficial effects, but no adverse cumulative impacts to water resources resulting from the Proposed Action.

## 3.2 Biological Resources

### 3.2.1 Affected Environment

Table 3-7 was prepared using a list obtained on December 12, 2013 by accessing the U.S. Fish and Wildlife Service (Service) Database:

[http://www.fws.gov/sacramento/es\\_species/Lists/es\\_species\\_lists-form.cfm](http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm) (Document No. 131212033215). The database was last updated on September 18, 2011. The list is for San Joaquin, Stanislaus, Merced, Madera, Fresno, and Kings Counties.

**Table 3-7 Federal Status Species Potentially Found in the Proposed Action Area**

Species	Federal Status under the ESA	Determination of Effect under ESA	Summary Basis for ESA Determination
<b>AMPHIBIANS</b>			
California red-legged frog ( <i>Rana draytonii</i> )	T, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
California tiger salamander ( <i>Ambystoma californiense</i> )	T, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Mountain yellow legged frog ( <i>Rana muscosa</i> )	Proposed E, Proposed CH	No Effect	Does not occur in Proposed Action Area.
Sierra Nevada yellow legged frog ( <i>Rana sierrae</i> )	PE	No Effect	Does not occur in Proposed Action Area.
Yosemite toad ( <i>Anaxyrus canorus</i> )	Proposed T, Proposed CH	No Effect	Does not occur in Proposed Action Area.
<b>BIRDS</b>			
California condor ( <i>Gymnogyps californianus</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	E	No Effect	Might fly over but would not stop in area of effect.
western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	T	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
western yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	Proposed T	No Effect	Might fly over but would not stop in area of effect.
<b>FISH</b>			
Central Valley spring-run chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	T	No Effect	No effect on natural stream systems.
Central Valley steelhead ( <i>Oncorhynchus mykiss</i> )	T, CH	No Effect	No effect on natural stream systems.
delta smelt ( <i>Hypomesus transpacificus</i> )	T, CH	No Effect	No downstream effects from action.
Green sturgeon, North American DPS ( <i>Acipenser medirostris</i> )	T	No Effect	No downstream effects from action.
Lahontan cutthroat trout ( <i>Oncorhynchus clarki henshawi</i> )	T	No Effect	Does not occur in Proposed Action Area.
Owens tui chub ( <i>Gila bicolor snyderi</i> )	E	No Effect	Does not occur in Proposed Action Area.
Paiute cutthroat trout	T	No Effect	Does not occur in Proposed Action

Species	Federal Status under the ESA	Determination of Effect under ESA	Summary Basis for ESA Determination
( <i>Oncorhynchus clarki seleniris</i> )			Area.
Sacramento River winter-run chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	E, CH	No Effect	No effect on Sacramento-San Joaquin Delta.
South Central California steelhead ( <i>Oncorhynchus mykiss</i> )	T	No Effect	Does not occur in Proposed Action Area.
<b>INVERTEBRATES</b>			
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	E, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Delta green ground beetle ( <i>Elaphrus viridis</i> )	T	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> )	E, CH	No Effect	Species does not occur in Proposed Action Area. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	T	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	T, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	E, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
<b>MAMMALS</b>			
Buena Vista Lake shrew ( <i>Sorex ornatus relictus</i> )	E, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities. Critical Habitat does not occur in Proposed Action Area (Lemoore unit is outside WWD).
fisher ( <i>Martes pennanti</i> )	C	No Effect	Does not occur in Proposed Action Area.
Fresno kangaroo rat ( <i>Dipodomys nitratoideis exilis</i> )	E, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
giant kangaroo rat ( <i>Dipodomys ingens</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Riparian brush rabbit ( <i>Sylvilagus bachmani riparius</i> )	E	No Effect	Does not occur in Proposed Action Area.
Riparian woodrat ( <i>Neotoma fuscipes riparia</i> )	E	No Effect	Does not occur in Proposed Action Area.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.

Species	Federal Status under the ESA	Determination of Effect under ESA	Summary Basis for ESA Determination
Sierra Nevada bighorn sheep ( <i>Ovis canadensis californiana</i> )	E	No Effect	Does not occur in Proposed Action Area.
Tipton kangaroo rat ( <i>Dipodomys nitratoide nitratoide</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
<b>PLANTS</b>			
California jewelflower ( <i>Caulanthus californicus</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Chinese Camp brodiaea ( <i>Brodiaea pallida</i> )	T	No Effect	Does not occur in Proposed Action Area.
Colusa grass ( <i>Neostapfia colusana</i> )	T, CH	No Effect	Does not occur in Proposed Action Area.
Greene's tuctoria ( <i>Tuctoria greenei</i> )	E, CH	No Effect	Does not occur in Proposed Action Area.
hairy Orcutt grass ( <i>Orcuttia pilosa</i> )	E, CH	No Effect	Does not occur in Proposed Action Area.
Hartweg's golden sunburst ( <i>Pseudobahia bahiifolia</i> )	E	No Effect	Does not occur in Proposed Action Area.
Hoover's spurge ( <i>Chamaesyce hooveri</i> )	T, CH	No Effect	Does not occur in Proposed Action Area.
lone manzanita ( <i>Arctostaphylos myrtifolia</i> )	T	No Effect	Does not occur in Proposed Action Area.
Keck's checker-mallow ( <i>Sidalcea keckii</i> )	E, CH	No Effect	Does not occur in Proposed Action Area.
Large-flowered fiddleneck ( <i>Amsinckia grandiflora</i> )	E	No Effect	Does not occur in Proposed Action Area.
Mariposa pussy-paws ( <i>Calyptidium pulchellum</i> )	T	No Effect	Does not occur in Proposed Action Area.
palmate-bracted bird's-beak ( <i>Cordylanthus palmatus</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Red Hills vervain ( <i>Verbena californica</i> )	T	No Effect	Does not occur in Proposed Action Area.
Sacramento Orcutt grass ( <i>Orcuttia viscida</i> )	E, CH	No Effect	Does not occur in Proposed Action Area.
San Benito evening-primrose ( <i>Camissonia benitensis</i> )	T	No Effect	Does not occur in Proposed Action Area.
San Joaquin adobe sunburst ( <i>Pseudobahia peirsonii</i> )	T	No Effect	Does not occur in Proposed Action Area.
San Joaquin Valley Orcutt grass ( <i>Orcuttia inaequalis</i> )	T, CH	No Effect	Does not occur in Proposed Action Area.
San Joaquin woolly-threads ( <i>Monolopia congdonii</i> )	E	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
Santa Clara Valley dudleya ( <i>Dudleya setchellia</i> )	E	No Effect	Does not occur in Proposed Action Area.
succulent owl's-clover ( <i>Castilleja campestris</i> ssp. <i>succulenta</i> )	T, CH	No Effect	No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities. Critical Habitat does not occur in Proposed Action Area.
<b>REPTILES</b>			
blunt-nosed leopard lizard	E	No Effect	No land use changes would occur

Species	Federal Status under the ESA	Determination of Effect under ESA	Summary Basis for ESA Determination
( <i>Gambelia sila</i> )			as a result of this action, no conversion of habitat, and no new facilities.
giant garter snake ( <i>Thamnophis gigas</i> )	T	No Effect	No land use changes would occur as a result of this action, no adverse water quality changes in refuge water supply channels; no conversion of habitat, and no new facilities.
ESA: Endangered Species Act E: Listed as Endangered T: Listed as Threatened CH: Critical Habitat designated for the species			

The action area consists of agricultural fields that provide some habitat values for a few species listed above, particularly the San Joaquin kit fox. However there is routine disturbance due to on-going farming practices, and so even the San Joaquin kit fox would have very limited use of the area and would generally not be able to den there.

The giant garter snake can potentially be affected by low water quality, and in this portion of its range, the species is threatened with extirpation. Its status has been detailed in the biological opinion issued by the Service for the third use agreement for the Grassland Bypass Project (Service 2010). The biological opinion explains the risks that elevated selenium pose for the giant garter snake and specifically states that snakes should not be exposed to water with selenium concentrations that exceed 2 parts per billion in order to avoid selenium toxicosis. Low quality groundwater would be an issue for the giant garter snake for any canal that serves as a water supply channel for Grasslands' wetlands. The only canal within the Proposed Action area that would serve wetlands is the Main Canal upstream of MP 53.856. The giant garter snake, because of extensive losses of suitable natural wetlands, now relies on rice fields in parts of its range. No rice is grown in CCID. A giant garter snake was found in the Mendota Pool vicinity (Mendota Wildlife Area) in 2008 (Hansen 2008).

### 3.2.2 Environmental Consequences

#### **No Action**

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

#### **Proposed Action**

Most of the habitat types required by species protected by the Endangered Species Act do not occur in the Action area (see Table 3-7). The Proposed Action would not involve the conversion of any land fallowed and untilled for three or more years. In addition, the Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species or to birds protected by the Migratory Bird Treaty Act. Land within SLWD, which is considered by the Service and the California Department of Fish and Wildlife to be important for connecting kit fox populations to the south with those in the northern range, would be protected by the commitment made by the district (see Appendix B). Since no natural stream courses or additional surface water 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.

The 20,500 AF of lower-quality groundwater pumped into the CCID's distribution system is required to not increase the TDS in CCID's canals to more than 700 mg/L, which would be low enough to protect the giant garter snake in suitable habitat in the Grasslands' wetlands.

Additional requirements have been placed on the transfer program in order to protect water quality within wetlands served by CCID's Main Canal that could be used by the giant garter snake. These requirements include: (1) non-detect levels of selenium (with a detection limit of no higher than 1 µg/L) and (2) no pumping during the fall months upstream of MP 53.856. Well #128 is the only well located upstream of MP 53.856 on the Main Canal that has been used for the transfer program. This well met all the water quality requirements during the 2012-2013 transfer program (see Tables 3-5 and 3-6).

The short duration of the water availability, the requirement that no native lands be converted without consultation with the Service, and the stringent requirements for transfers under applicable laws would preclude any impacts to wildlife, whether Federally listed or not.

***Cumulative Impacts***

As the Proposed Action is not expected to result in any direct or indirect impacts to biological resources, there would be no cumulative impacts.



## **Section 4 Consultation and Coordination**

### **4.1 Public Review Period**

Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between March 19, 2014 and April 24, 2014. One comment letter was received. The comment letter and Reclamation's response to comments are included in Appendix F.

### **4.2 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 there would be no ground disturbance, no adverse water quality changes in giant garter snake habitat, no change in rice acreage, and because water would move in existing facilities, there would be no effect on the giant garter snake. No habitat for anadromous fishes would be impacted. As described in Table 3-3, 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.). Therefore, no consultation with the Service or with the National Marine Fisheries Service is necessary.

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

The Migratory Bird Treaty Act 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.

The Proposed Action would not affect birds protected under the Migratory Bird Treaty Act. As such, Reclamation has determined there would be no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C §703 et seq.).

## Section 5 Preparers and Reviewers

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## Section 6 References

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