

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Approval of Warren Act Contract and Renewal of Right of Way License for Westlands Water District

EA-13-042



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

1.1 Background

California is in the midst of unusually dry hydrologic conditions, which are creating a hardship for farmers in the agricultural areas of the San Joaquin Valley. In order to meet the needs of their customers, water districts are relying on exchanges, transfers and pumped groundwater to make the best use of the limited available supplies.

The Warren Act (Act of February 21, 1911; Chapter 141, 36 Stat. 925) authorizes the Bureau of Reclamation (Reclamation) to enter into contracts to impound, store, or convey non-project water in federal facilities, when excess capacity is available. Warren Act Contracts (WAC) are issued by Reclamation to allow movement of this non-federal water through federal facilities.

Westlands Water District (WWD), located in Fresno and Kings Counties (see Figure 1-1), has arranged to convey pumped groundwater from private well owners. WWD has requested permission from Reclamation to convey this water to their customers by way of the Coalinga Canal, a federal facility. WWD has requested a WAC for a period of five years to convey up to 10,000 acre-feet (AF) each year. A land use authorization is also needed to maintain and operate the necessary piping to discharge groundwater to the canal. WWD has requested a 25-year authorization for the pipes, which are already in place.



Figure 1-1 Project Location

1.2 Need for the Proposed Action

WWD has a need for additional water supplies to help their customers sustain agricultural crops. The District also needs Reclamation's permission to maintain water pipes within Reclamation Right of Way to convey pumped water to the Coalinga Canal. The purpose of Reclamation's action is to facilitate delivery of groundwater to WWD's customers.

1.3 Scope

This Environmental Assessment (EA) was prepared to examine the impacts of approving a WAC for conveyance of up to 10,000 AF of groundwater in the Coalinga Canal. The groundwater would be pumped from private wells and introduced into the Coalinga Canal and conveyed to WWD customers by way of WWD's existing infrastructure. The WAC would be for a period of five years. A land use authorization is also needed to allow the existing piping to remain in Reclamation Right of Way. Reclamation is evaluating a 25-year authorization for the pipes.

WWD is located in western Fresno and Kings County; all of the wells being considered are located in western Fresno County.

1.4 Resources of Potential Concern

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

- Water Resources
- Land Use
- Biological Resources
- Socioeconomic Resources
- Environmental Justice
- Air Quality
- Global Climate

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Section 2 Alternatives Considered

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

If no action were taken, the proponent would not be permitted to pump groundwater from the identified wells for introduction into the Coalinga Canal.

2.2 Proposed Action

Reclamation proposes to issue a WAC for the introduction of up to 10,000 AF per year (AFY) of groundwater into federal facilities by WWD growers as excess capacity is available. The groundwater would be pumped from up to nine private wells at the locations shown in Figure 2-1 for introduction into the Coalinga Canal, conveyed and delivered within WWD's boundaries through the Pleasant Valley system. The WAC would be in effect for up to five years.

Reclamation's annual approval would be contingent upon WWD's submittal of an estimated schedule of AF to be pumped and water quality reports for approved wells that introduced the non-project water from the prior year and of any pending wells that would be utilized in the current year. The AF pumped is subject to a 5% loss in the Coalinga Canal. All non-project groundwater conveyed and delivered to WWD would be used for irrigation purposes.

Additionally, Reclamation would issue a 25-year license to use, operate and maintain existing pipelines from various wells over Reclamation's right of way along the Coalinga Canal.

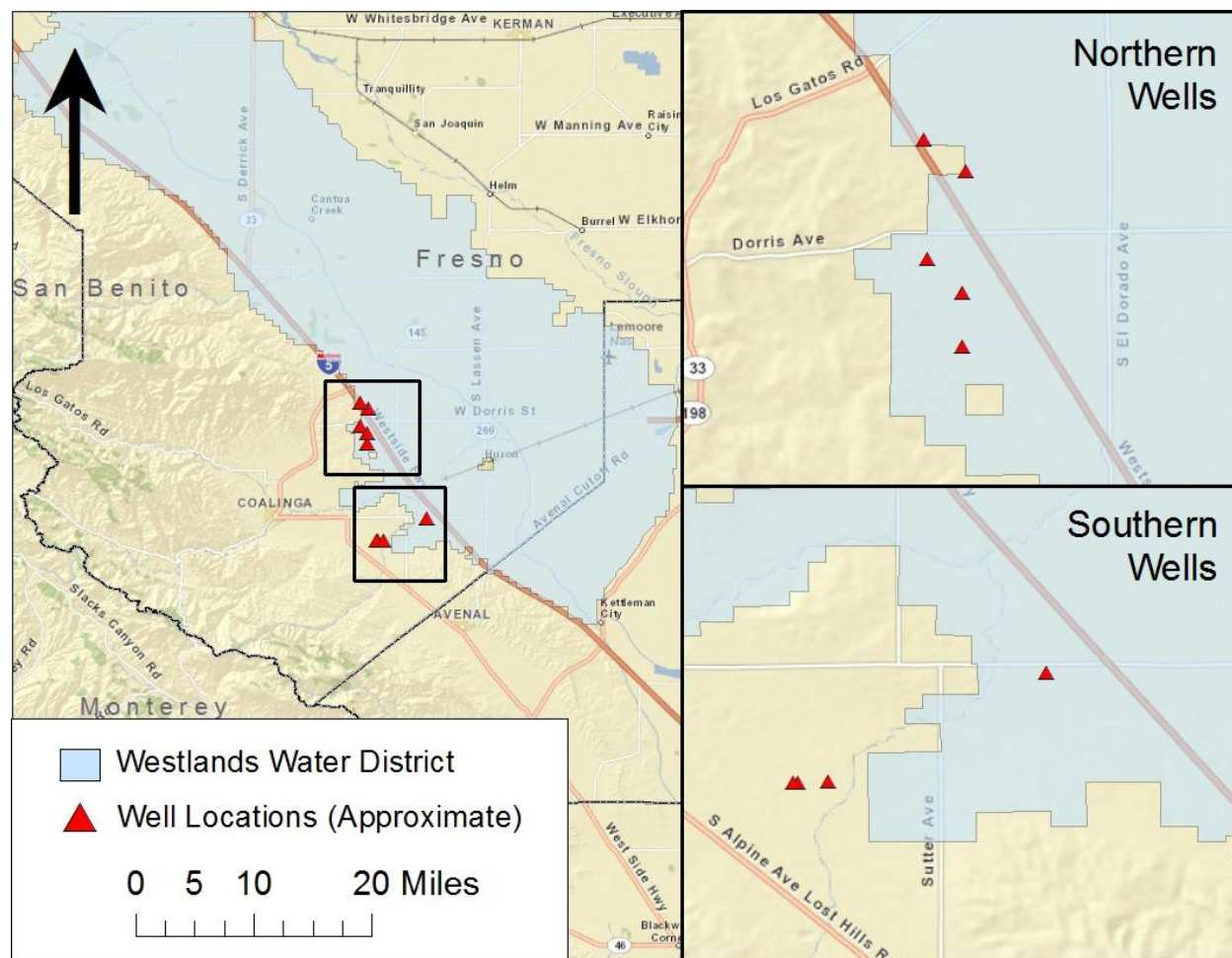


Figure 2-1 Groundwater Well Locations

2.2.1 Environmental Commitments

WWD must 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 will be fully implemented. Copies of all reports would be submitted to Reclamation.

Table 2-1 Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources	The Proposed Action does not include, nor does this EA evaluate, the conversion of any land fallowed and untilled for three or more years. The Proposed Action must not change the land use patterns of cultivated or fallowed fields that may have some value to listed species or birds protected by the Migratory Bird Treaty Act.
Water Resources	WWD's discharges will comply with then-current Reclamation's Water Quality standards. If the quality of the Non-CVP water from one or more of the wells will degrade the quality of water in or introduced into the Coalinga Canal, WWD will be required to immediately terminate pumping into the canal from the source that will cause the degradation.

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 neither Proposed Action nor the No Action Alternative have the potential to cause direct, indirect, or cumulative effects to the resources listed in Table 3-1.

Table 3-1 Resources Eliminated from Further Analysis

Resource	Reason Eliminated
Cultural Resources	Reclamation determined on January 16, 2014, that the Proposed Action has no potential to affect cultural resources. See Attachment A.
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, since the project is not located on federal lands and no new construction or ground disturbing activities would occur as part of the Proposed Action. Therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
Indian Trust Assets	Reclamation determined on January 16, 2014, that the Proposed Action has no potential to affect Indian Trust Assets. See Attachment B.

3.2 Water Resources

3.2.1 Affected Environment

Westlands Water District

WWD encompasses more than 600,000 acres of farmland located in western Fresno and Kings Counties and serves approximately 600 family-owned farms that average 900 acres in size. WWD is a Central Valley Project (CVP) contractor with a water service contract for 1,150,000 AFY. WWD, located on the west side of the San Joaquin Valley, is a part of the Delta Division/San Luis Unit of the CVP. The San Luis Unit receives water from the Delta through the DMC and the San Luis Canal (SLC). Water is delivered directly to lands in the San Luis Unit or is stored temporarily in San Luis Reservoir for later delivery. Once diverted from the CVP facilities, water is delivered to farmers through 1,034 miles of underground pipe and over 3,300 metered delivery outlets.

In addition to the CVP supply, landowners in WWD rely on groundwater pumping, water transfers, and water acquisitions to supplement the CVP supply, and if the water portfolio comes up short, land is taken out of production (fallowed).

Coalinga Canal

This federal facility, formerly called Pleasant Valley Canal, carries water from the turnout structure on the SLC to the Coalinga area in Fresno County. The 12-mile concrete-lined system includes a 1.6-mile intake channel to the Pleasant Valley Pumping Plant and 11.6 miles of canal. The initial capacity of the canal is 1,100 cfs, decreasing to 425 cfs at the terminus. Reaches 1 and 2 of the canal are operated by WWD.

Groundwater

Groundwater was the primary source of water for irrigation during the early days of agriculture in the Central Valley. Over the years, excessive pumping led to a dramatic drop in the water table as well as soil subsidence. With the introduction of surface water supplies from the CVP, pumping was reduced, and the groundwater levels recovered to some extent. Hydrologic conditions and regulatory restrictions in recent years have made surface water supplies more limited, which has led to a greater reliance on groundwater to meet demand. As of December 2012, there were 639 groundwater wells operating within WWD, of which 264 had been installed since 2000 (WWD 2013a).

Groundwater quality within WWD varies by location and depth. Depending on the quality of water, typically measured by electro-conductivity (EC), its use may be restricted to certain crops or uses, or it may not be permitted in state or federally-operated conveyance systems. Water from groundwater wells is regularly tested to demonstrate its suitability for a particular purpose or distribution system.

3.2.2 Environmental Consequences

No Action

If no action were taken, the groundwater would not be pumped into the Coalinga Canal for delivery to WWD's customers. WWD would need to pursue other water supplies to provide to their customers.

Proposed Action

The Proposed Action would not change any existing CVP water delivery diversion points. Since only excess capacity would be used, it would not interfere with normal CVP operations.

Reclamation would require the non-CVP water introduced into the Coalinga Canal to meet established water quality standards. If water degradation due to one or more of the pump-ins occurs, the responsible discharges would be terminated, and the operators would be required to reestablish acceptable quality standards before resuming discharges into the Canal.

Groundwater pumping is known to lower water tables, and over time can result in soil subsidence as water-bearing strata are dewatered and settle. WWD has estimated that their safe groundwater yield is approximately 200,000 AF per year (WWD 2013a). The quantity of water involved in the Proposed Action is a small percentage of this amount and therefore is considered to be minor in comparison to the overall aquifer capacity and water use trends in the central valley.

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.

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. Each water service transaction involving Reclamation undergoes environmental review prior to approval. Existing past, present and foreseeable projects, in addition to the proposed transfer, which could affect or could be affected by the Proposed Action or No Action alternative, include the following:

Central Valley Project Interim Renewal Contracts for Westlands Water District, Santa Clara Valley Water District, and Pajaro Valley Water Management Agency 2014-2016

This action consists of issuance of Interim Renewal Contracts to provide continuing water service to the affected contractors (including WWD) while long-term service contracts are being evaluated. Reclamation is evaluating this action under an EA. A similar action was analyzed for the period of 2012-2014 under EA/FONSI 11-049.

Firebaugh Water District 5 Year Transfer/Exchange Central Valley Project Water to Panoche Water District, San Luis Water District, and Westlands Water District Under this action, Firebaugh Water District would pump groundwater for in-district use, making surface water supplies available for transfer. Up to 7,500 AF of water would then be transferred to the receiving districts on an annual basis. Reclamation is preparing an EA for this action.

Five Year Annual Transfers of up to 20,500 acre-feet of Central Valley Project Water from Central California Irrigation District to San Luis, Panoche, Del Puerto and Westlands Water Districts Under this action, Central California Irrigation District would pump groundwater for in-district use, making surface water supplies available for transfer. Up to 20,500 AF of water would then be transferred to San Luis, Panoche, Del Puerto and Westlands Water Districts on an annual basis. Reclamation is preparing an EA for this action.

Merced Irrigation District Warren Act Transfer 15,000 AF Reclamation executed a WAC which allowed Merced Irrigation District to convey up to 15,000 AF of non-project water to WWD and/or San Luis Water District by way of federal facilities in the water year ending February 28, 2014. FONSI 13-035 was issued for this action on September 17, 2013.

Vista Verde Temporary Nine Year Annual Transfer of 1,140 acre-feet of Settlement Contract Water to Vista Verde-Owned Lands within Westlands Water District Under this action, the landowner requested permission to deliver their settlement contract water to different property within the boundaries of Westlands Water District in order to make use of more productive farmland. Reclamation issued FONSI 12-038 for this action on August 1, 2012.

Capacity in federal canals is limited, and if many water actions take place concurrently they could cumulatively create conflicts. However, non-project water such as would be moved under the Proposed Action would only be allowed to enter the canal system if excess capacity is available, so it would not limit the ability of other users to make use of the facility.

When low-quality groundwater is introduced into the canal system it has the potential to degrade the quality of water for all users. If many low-quality wells are allowed to discharge to the canal, dilution benefits are lost and there can be cumulative adverse impacts. However, all well owners are required to test their water before being allowed to discharge to the canal. If water quality standards are not met, discharges must stop until quality concerns are addressed. This is expected to prevent cumulative adverse impacts to canal water quality.

Large-scale groundwater pumping is known to lower water tables, and has resulted in ground subsidence in the Central Valley over the years. The effects are less pronounced in wet years, and worsen in years when surface water supplies are more limited. WWD monitors groundwater depth and quality, and reports annually on trends. If cumulative effects are determined to present an unacceptable risk to groundwater supplies, policy actions could be developed to mitigate adverse impacts.

3.3 Land Use

3.3.1 Affected Environment

WWD is located in western Fresno and Kings County. WWD is approximately 600,000 acres in size and is primarily an agricultural district with about 568,000 acres of irrigable farmland. More than 60 different crops are grown commercially in the district. The cropping patterns have changed over the years depending upon water availability, water quality and the agricultural economy and market factors. The acreage trend is toward the planting of vegetable and permanent crops while cotton and grain crops have decreased.

3.3.2 Environmental Consequences

No Action

If no action were taken, Reclamation would not permit the groundwater to be pumped and introduced into the Coalinga Canal. The proponent has indicated that lack of water would likely result in loss of permanent crops.

Proposed Action

Allowing groundwater to be pumped and conveyed in the Coalinga Canal would support current land uses by making water available for agriculture.

Cumulative Impacts

Unusually dry conditions are putting pressure on agricultural operations throughout the state. The Proposed Action would help landowners to make up for a scarcity of surface water sources, while the No Action alternative would not allow them to make up the shortfall.

3.4 Biological Resources

3.4.1 Affected Environment

The biological resources in WWD are similar to biological resources found in other agricultural areas of the San Joaquin Valley (CDC 2011). The project areas are dominated by agricultural habitat that includes field crops, orchards, and pasture (CDC 2008).

Reclamation requested a list of endangered, threatened, and sensitive species from the U.S. Fish and Wildlife Service (USFWS) on January 24, 2014 via the Sacramento Field Office's website: http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm (Document No. 140124030814). The list is for the following U.S. Geological Survey 7½-minute topographic quadrangles which underlie WWD: Stratford, Westhaven, Kettleman City, Huron, Gujarral Hills, Avenal, La Cima, Coalinga, Burrel, Vanguard, Lemoore, Five Points, Westside, Harris Ranch, Calfax, Tres Pecos Farms, Lillis Ranch, Domengine Ranch, San Joaquin, Helm, Tranquillity, Coit Ranch, Levis, Cantua Creek, Chaney Ranch, Chounet Ranch, Tumey Hills, Monocline Ridge, Firebaugh, Hammonds Ranch, and Broadview Farms. Reclamation also queried the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDDB) for records of special-status species within 10 miles of the action area (CNDDDB 2014). This information, in addition to other information in Reclamation's files, was reviewed to determine the potential for special-status species to occur in the action area (Table 3-2).

Table 3-2 Special-Status Species with the Potential to Occur in the Action Area

Species	Status ¹	Effects ²	Summary basis for ESA determination
INVERTEBRATES			
Vernal pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	T	NE	No individuals recorded and habitat absent from area of effect.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T	NE	No individuals recorded and habitat absent from area of effect.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E	NE	No individuals recorded and habitat absent from area of effect.
FISH			
Delta smelt (<i>Hypomesus transpacificus</i>)	T	NE	No individuals and no natural waterways within the species' range would be affected by the proposed project.
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	T, NMFS	NE	No individuals and no natural waterways within the species' range would be affected by the proposed project.

Species	Status ¹	Effects ²	Summary basis for ESA determination
AMPHIBIANS			
California tiger salamander, central population (<i>Ambystoma californiense</i>)	T	NE	No individuals recorded and habitat absent from area of effect. Irrigated agriculture does not provide suitable habitat for this species.
California red-legged frog (<i>Rana draytonii</i>)	T	NE	No individuals recorded and habitat absent from area of effect. Irrigated agriculture does not provide suitable habitat for this species.
REPTILES			
Blunt-nosed leopard lizard (<i>Gambelia sila</i>)	E	NE	There are multiple reports of this species from the 1990s along the western border of WWD. Much of the natural lands near the action area (Ciero-Panoche area in particular) are unsuitable due to dense vegetation and high clay soils, but the remaining portions are optimal (5-year review). However, irrigated agriculture does not support this species. No change in land use as a result of the Proposed Action.
Giant garter snake (<i>Thamnophis gigas</i>)	T	NE	There are multiple CNDDDB records of giant garter snakes within 10 miles of the action area. This species may occur in the DMC, the San Luis Canal or other irrigation ditches/canals within the action area. No land use changes would occur as a result of this action, no adverse water quality changes, no conversion of habitat, and no new facilities.
BIRDS			
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	T	NE	There are 2 CNDDDB-recorded occurrences from 1987 near the southeastern edge of WWD (not in WWD). No change in land use as a result of the Proposed Action.
California condor (<i>Gymnogyps californianus</i>)	E	NE	No change in land use as a result of the Proposed Action and habitat absent from area of effect.
MAMMALS			
Giant kangaroo rat (<i>Dipodomys ingens</i>)	E	NE	There are CNDDDB-recorded occurrences along the northwestern border of WWD. The Ciero-Panoche natural area overlaps the western portion of the action area. Irrigated agriculture not provide suitable habitat for this species. No change in land use as a result of the Proposed Action.
Fresno kangaroo rat (<i>Dipodomys nitratoides exilis</i>)	E, X	NE	There are multiple records to the east of WWD and one CNDDDB occurrence in WWD near Lemoore; however there is uncertainty about whether this population is really the Fresno Kangaroo rat or another subspecies. No extant populations of Fresno kangaroo rats have been found since 1998, which indicates that they may be extirpated; however, not all areas of suitable habitat have been surveyed (5 year review). There is no critical habitat for this species within the action area. No change in land use as a result of the Proposed Action.
Tipton kangaroo rat (<i>Dipodomys nitratoides nitratoides</i>)	E	NE	There is one CNDDDB-recorded occurrence in the southern-most portion of WWD from 1951. Other records within 10 miles of WWD, most recent from 2008. No change in land use as a result of the Proposed Action.

Species	Status ¹	Effects ²	Summary basis for ESA determination
Buena Vista Lake shrew (<i>Sorex ornatus relictus</i>)	X	NE	Critical habitat absent from area of effect and suitable habitat absent from area of effect.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	E	NE	There are multiple CNDDB-recorded occurrences of San Joaquin kit fox in and near the action area. The Ciervo-Panoche Core population area overlaps the western portion of the WWD. No land use changes would occur as a result of this action, no conversion of habitat, and no new facilities.
PLANTS			
California jewelflower (<i>Caulanthus californicus</i>)	E	NE	Extirpated from the area. No change in land use as a result of the Proposed Action.
Plamate-bracted bird's-beak (<i>Cordylanthus palmatus</i>)	E	NE	A few occurrences about 3 miles east of WWD on Mendota Wildlife Area. No change in land use as a result of the Proposed Action.
San Joaquin woolly-threads (<i>Monolopia congdonii</i>)	E	NE	Multiple occurrences along western border of WWD. No change in land use as a result of the Proposed Action.
1 Status= Listing of Federally special status species E: Listed as Endangered NMFS: Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service T: Listed as Threatened X: Critical Habitat designated for this species 2 Effects = Effect determination NE: No Effect from the Proposed Action to federally listed species NT: No Take would occur from the Proposed Action to migratory birds			

Historically, San Joaquin kit fox occurred throughout the Central Valley. They currently inhabit western and southern San Joaquin valley in grassland and scrubland communities on the valley floor and surrounding foothills (USFWS 1998, Warrick et al. 2007). Optimal habitat is characterized as being sparse or containing no shrub cover, sparse ground cover with patches of bare ground, short vegetative structure (herbaceous vegetation < 18 inches tall), and sandy to sandy-loam soils. Agricultural fields do provide some habitat values for the San Joaquin kit fox, which has been reported in the area.

Giant garter snake historically occurred throughout the Central Valley of California, but the current range of the species is primarily confined to the Sacramento Valley, with a few isolated sites in the San Joaquin Valley (Hansen and Brode 1980, USFWS 1999). The southernmost populations, at the Mendota Wildlife Area (Fresno County) and at the Grassland Wetlands Area (Merced County), are small, fragmented, unstable, and probably decreasing (USFWS 2012). The giant garter snake can potentially be affected by low water quality (USFWS 1993, USFWS 1999).

3.4.2 Environmental Consequences

No Action

Under the No Action alternative, groundwater would not be pumped into the Coalinga Canal to irrigate preexisting agriculture. WWD would look for other water supplies to augment their

water supply portfolio. Most likely none would be available at a suitable economic rate, and crops would be fallowed.

Proposed Action

Under the Proposed Action, the water would be conveyed in existing facilities to established agricultural lands. No native lands or lands fallowed and untilled for three or more years would be disturbed as this water would be used on existing farmed lands. WWD would comply with Reclamation's Water Quality Monitoring Plan in effect when the WAC is issued. The Proposed Action would not affect protected migratory birds, imperiled species, unique habitats, or species and habitats.

The requirement that no native lands be converted without consultation with the USFWS, and the stringent water quality standards for conveyance of pumped water into the Coalinga Canal, would preclude any impacts to wildlife, whether Federally listed or not.

Cumulative Impacts

The Proposed Action would not contribute cumulatively to any impacts to special-status species because no land use change or change in the WWD operations would result from the action.

3.5 Socioeconomic Resources

3.5.1 Affected Environment

The area located within WWD is primarily rural agricultural land which provides farm-related jobs. There are small businesses that support agriculture, for example: feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, marketing, etc. within the surrounding area. Per capita income is lower in Fresno and Kings County than in California as a whole, and the unemployment and poverty rates are also considerably higher. See Table 3-3, below.

Table 3-3 2012 Employment and Economic Data

	Per Capita Income	Unemployment Rate	Poverty Rate
Fresno County	\$20,391	15.7%	24.8%
Kings County	\$18,566	16.5%	20.7%
California	\$29,551	11.4%	15.3%
Source: Census Bureau 2012 , Census Bureau 2013			

3.5.2 Environmental Consequences

No Action

Without supplemental water, landowners in WWD growing permanent crops would have to find alternative sources of water, likely at greater cost. If alternative sources of water could not be found then crops could fail. This would be an adverse impact to farmers and agriculture-dependent businesses in the area.

Proposed Action

The Proposed Action would provide supplemental water to WWD to sustain existing crops. Socioeconomic conditions within the region as described in the affected environment would be

within historical fluctuations in conditions. Conditions would remain the same as existing conditions and there would be no impacts to socioeconomic resources.

Cumulative Impacts

Unusually dry conditions are putting pressure on agricultural operations throughout the state. The Proposed Action would help landowners to make up for a scarcity of surface water sources, while the No Action alternative would not allow them to make up the shortfall. Without the ability to make use of a variety of water supplies, already-difficult economic conditions would worsen.

3.6 Environmental Justice

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

3.6.1 Affected Environment

The market for seasonal workers on local farms draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, into the San Joaquin Valley. Agriculture and related businesses are the main industry in WWD, providing employment opportunities for these minority and/or disadvantaged populations. Demographic data for Fresno and Kings Counties are shown below in Table 3-4.

Table 3-4 2012 Demographic Data

	Total Population	White (not Hispanic)	Black or African American	American Indian	Asian	Native Hawaiian/ Pacific Islander	Hispanic or Latino
Fresno County	947,895	77.5%	5.9%	3.0%	10.4%	0.3%	51.2%
Kings County	151,364	81.4%	7.5%	3.0%	4.3%	0.3%	52.0%
California	38,041,430	73.7%	6.6%	1.7%	13.9%	0.5%	38.2%

Source: Census Bureau 2013

3.6.2 Environmental Consequences

No Action

Without supplemental water, landowners in WWD growing permanent crops would have to find alternative sources of water, likely at greater cost. If alternative sources of water could not be found then crops may be taken out of production. This could be an adverse impact to low-income wage earners in the area, since it would reduce employment opportunities.

Proposed Action

Under the Proposed Action, the availability of additional replacement water would help maintain agricultural production and local employment in WWD. Employment opportunities for low-income wage earners and minority population groups would be consistent with historical conditions. Disadvantaged populations would not be subject to disproportionate impacts.

Cumulative Impacts

Unusually dry conditions are putting pressure on agricultural operations throughout the state. The Proposed Action would help landowners to make up for a scarcity of surface water sources, while the No Action alternative would not allow them to make up the shortfall. Without the ability to make use of a variety of water supplies, already-difficult economic conditions would worsen. Since farm laborers often come from minority and low-income populations, environmental justice populations would disproportionately be affected by any changes in the area's agricultural conditions.

3.7 Air Quality

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

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

3.7.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide (CO), ozone (O₃), O₃ precursors such as volatile organic compounds (VOC), inhalable particulate matter between 2.5 and 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}). The SJVAB has reached federal and State attainment status for CO, nitrogen dioxide (NO₂), and sulfur dioxide (SO₂). Although federal attainment status has been reached for PM₁₀ the State standard has not been met, and the basin is in non-attainment under both standards for O₃ and PM_{2.5} (Table 3-5). There are no established standards for nitrogen oxides (NO_x); however, NO_x does contribute to exceedences of NO₂ standards.

Table 3-5 Air Quality Attainment Status for the San Joaquin Valley

Pollutant	California Attainment Status	National Attainment Status
O ₃	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
SJVAPCD 2012a		

3.7.2 Environmental Consequences

No Action

If no action were taken, air emission trends would be unaffected.

Proposed Action

All of the pumps to be used for this action are electric, with the exception of one 432-horsepower pump, at State Well ID 19S/16E-33N01. Air emissions from internal combustion engines in the San Joaquin Valley are regulated by the SJVAPCD under their Rule 4702 (SJVAPCD 2012b). The rule sets emission thresholds designed to reduce the contribution of these engines to air quality violations in the Central Valley. The well owner would be required to use only equipment which complies with the SJVAPCD standards.

Air quality impacts from electrically-driven pumps are difficult to quantify, since the power they use could come from a variety of locations and a variety of sources. However, emissions from power plants are highly regulated, and their air permits are issued with regional air quality goals in mind. Generation of power required to operate the pumps involved in this action is not expected to cause any power plant to exceed their permitted emission thresholds.

Cumulative Impacts

The Proposed Action is not anticipated to result in emissions beyond what has already been accounted for in existing air quality management programs. Therefore no cumulative impacts are expected under either alternative.

3.8 Energy Use and Global Climate

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

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2011c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO₂ equivalents (CO_{2e}) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2011c).

3.8.1 Affected Environment

Global mean surface temperatures have increased nearly 1.8°F from 1890 to 2006 (Intergovernmental Panel on Climate Change 2007). Models indicate that average temperature changes are likely to be greater in the northern hemisphere. Northern latitudes (above 24°North) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone (Intergovernmental Panel on Climate Change 2007). Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

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

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

3.8.2 Environmental Consequences

No Action

If no action were taken, GHG emission trends would be unaffected.

Proposed Action

All of the pumps to be used for this action are electric, with the exception of one 432-horsepower pump, at State Well ID 19S/16E-33N01. GHG emissions are calculated in Table 3-6, based on a slightly-larger pump operating non-stop, year-round, as a worst-case scenario. Since estimated emissions under this scenario are still far below the EPA reporting threshold, emissions under real-world operating conditions should also be well below thresholds of concern.

Table 3-6 Potential GHG Emissions

Equipment Type	CO ₂ , lb/hr	Methane (CH ₄), lb/hr	All Emissions
Groundwater Pump	345	0.0164	
CO ₂ equivalence	1	21	
Total CO _{2e} , lb/hr of operation	345	0.3444	345
Total CO _{2e} per year (short tons)			1500
De minimis threshold (short tons)			27,558
Source: OFFROAD2007 Emissions model			

Air quality impacts from electrically-driven pumps are difficult to quantify, since the power they use could come from a variety of locations and a variety of sources. However, the power required to operate the pumps is not expected to represent an unusually large demand on the regional power grid, and should not cause any unexpected or unusual increase in emissions from power plants.

Cumulative Impacts

GHG emissions by their nature are global and cumulative. However, the air emissions expected as a result of the Proposed Action are far below what the EPA has identified as a threshold for reporting and tracking. They are not anticipated to contribute to any cumulative impact on the global climate.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA for thirty days.

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.

Reclamation has determined the Proposed Action would have no effect to threatened or endangered species or designated critical habitats. This decision is based on no native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions and the implementation of stringent water quality standards. Therefore Reclamation has determined that consultation is not required.

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 change the land use patterns of the cultivated or fallowed fields that do have some value to listed species or birds protected by the MBTA; therefore, no further coordination is needed under the Migratory Bird Treaty Act.

Section 5 Preparers and Reviewers

Ben Lawrence, Natural Resources Specialist, SCCAO-412
 Jennifer Lewis, Wildlife Biologist, SCCAO-422
 Michael Inthavong, Natural Resources Specialist, Reviewer
 Bill Soule, Archaeologist, MP-153
 Patricia Rivera, Native American Affairs Specialist, MP-400
 Erma Leal, Repayment Specialist, SCCAO-Reviewer

Section 6 Acronyms and Abbreviations

AF	Acre-feet
CAA	Clean Air Act
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CVP	Central Valley Project
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
GHG	Greenhouse gases
MBTA	Migratory Bird Treaty Act
Reclamation	United States Bureau of Reclamation
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLC	San Luis Canal
SWP	State Water Project
VOC	Volatile Organic Compound
WAC	Warren Act Contract
WWD	Westlands Water District

Section 7 References

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Attachment A Cultural Resources Determination

CULTURAL RESOURCE COMPLIANCE

Reclamation Division of Environmental Affairs

MP-153

MP-153 Tracking Number: 14-SCAO-071

Project Name: Warren Act Contract for 10,000 Acre-Feet (AF) of Westlands Water District (WWD) Groundwater in Coalinga Canal

NEPA Document: SCCAO-EA-13-042

NEPA Contact: Ben Lawrence, Natural Resources Specialist

MP 153 Cultural Resources Reviewer: William Soule, Archaeologist

Date: 01/16/2014

The undertaking by Reclamation is the approval of a Warren Act Contract (WAC) for the WWD to pump 10,000 AF of groundwater into the Coalinga Canal for conveyance to their customers. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such historic properties be present, pursuant to the National Historic Preservation Act (NHPA) Section 106 regulations codified at 36 CFR Part 800.3(a)(1).

Reclamation proposes to approve the renewal of a land use license for the piping (already in place) for a period of 25 years and to issue a WAC for a period of five years. Sixteen existing wells have been identified for this action by WWD, but it is anticipated that some will not meet water quality standards.

After reviewing the materials submitted by SCAO, I concur with a statement in SCCAO-EA-13-043 that neither this proposed action, nor the no action alternative, have the potential to cause effects to historic properties pursuant to 36 CFR § 800.3(a)(1). With this determination, Reclamation has no further NHPA Section 106 obligations. This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

CC: Cultural Resources Branch (MP-153), Anastasia Leigh – Regional Environmental Officer (MP-150)

Attachment B Indian Trust Assets Determination



Lawrence, Benjamin <blawrence@usbr.gov>

Request for Determinations, SCCAO EA 13-042 Warren Act Contract for 10,000 AF of Westlands Water District Groundwater in Coalinga Canal

RIVERA, PATRICIA <privera@usbr.gov>

Thu, Jan 16, 2014 at 8:33 AM

To: "Lawrence, Benjamin" <blawrence@usbr.gov>, Kristi Seabrook <kseabrook@usbr.gov>

Ben,

I reviewed the proposed action to approve Westlands Water District request to discharge up to 10,000 AF of pumped groundwater into the Coalinga Canal for conveyance to their customers. Reclamation has two actions under this proposal:

1) Renew a land use license for the piping, which is already in place. Reclamation is proposing to renew the license for 25 years.

2) Issue a Warren Act Contract (WAC) for conveyance of the water in the Coalinga Canal. Reclamation is proposing to issue a WAC for a period of five years. Sixteen wells have been identified for this action by the proponent, but it is anticipated that not all wells will meet water quality standards. Water which does not meet standards will not be allowed to enter the Canal.

The proposed action does not have a potential to impact Indian Trust Assets.

Patricia Rivera
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Kristi this is admin.