RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Kern-Tulare Water District/West Kern Water District Groundwater Banking Project

EA 11-071

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

March, 2013

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.

Table of Contents

Section 1 Introduction 1
1.1 Background 1
1.2 Need for the Proposed Action 1
1.3 Relevant Authorities and Standards 1
1.4 Scope 2
1.5 Resources of Potential Concern 3
Section 2 Alternatives Including the Proposed Action 5
2.1 No Action Alternative 5
2.2 Proposed Action 5
2.2.1 Environmental Commitments 7
Section 3 Affected Environment and Environmental Consequences 9
3.1 Water Resources 9
3.1.1 Affected Environment 9
3.1.2 Environmental Consequences 10
3.2 Land Use 11
3.2.1 Affected Environment 11
3.2.2 Environmental Consequences 11
3.3 Biological Resources 12
3.3.1 Affected Environment 12
3.3.2 Environmental Consequences 14
3.4 Socioeconomic Resources 15
3.4.1 Affected Environment 15
3.4.2 Environmental Consequences 15
3.5 Air Quality 15
3.5.1 Affected Environment 16
3.5.2 Environmental Consequences 16
3.6 Cumulative Impacts 17
3.7 Resources Eliminated from Further Analysis 19
Section 4 Consultation and Coordination 21
4.1 Public Review Period 21
4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.) 21
4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.) 21
4.4 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.) 21
4.5 National Historic Preservation Act (16 U.S.C. § 470 et seq.) 22
4.6 Clean Air Act (42 U.S.C. § 7506 (C)) 22
Section 5 Preparers and Reviewers 23
Section 6 Acronyms and Abbreviations 23
Section 7 References 25

List of Tables and Figures

Table 2-1 Environmental Commitments……7
Figure 2-1 Proposed Project Area……...……...8
Table 1-1 Threatened, Endangered and Candidate Species List…….…..12

Appendices

Appendix A Indian Trust Asset Determination
Appendix B Cultural Resource Determination

Section 1 Introduction

1.1 Background

Kern-Tulare Water District (KTWD) is a Cross Valley (CV) contractor in the Central Valley Project (CVP). KTWD is located within Kern and Tulare counties (Figure 2-1). In order to meet the irrigation demands of its landholders, KTWD acquires water annually through purchases, transfers and exchanges, and banking agreements. Given the variability of CVP water allocations, KTWD banks as much water as possible in order to prepare for times when those CVP allocations are insufficient to meet its customer's irrigation demands.

KTWD is seeking approval to execute a banking agreement with West Kern Water District (WKWD). Per this agreement, KTWD would be able to bank up to 20,000 acre-feet per year (AF/y) of CVP water and 20,000 AF of non-CVP water in WKWD which would remain with WKWD as compensation for banking services. KTWD could extract up to 3,000 AF/y of the CVP water. KTWD and the groundwater banking facilities are located entirely with the CVP place of use.

1.2 Need for the Proposed Action

The purpose of the Proposed Action is to allow KTWD to supplement its water supplies to meet its customer's irrigation demands during times when CVP allocations are insufficient to meet those demands. The return of the previously banked water within WKWD's groundwater banking facilities would supplement KTWD supplies during dry periods or when CVP supplies are not available.

1.3 Relevant Authorities and Standards

Several Federal laws, permits, licenses and policy requirements have directed, limited or guided the National Environmental Policy Act (NEPA) analysis and decision-making process of this Environmental Analysis (EA) and include the following as amended, updated, and/or superseded (all of which are incorporated by reference):

Reclamation Project Act

Section 14 of the Reclamation Project Act of 1939 (53 Stat. 1197; 43 U.S.C., subsection 389) authorizes the Secretary, for the purpose of orderly and economical construction or operation and maintenance of any project, to enter into such contracts for exchange or replacement of water, water rights, or electric energy or for the adjustment of water rights, as in his judgment are necessary and in the interests of the United States and the project.

Warren Act

The Warren Act (Act of February 21, 1911; Chapter 141 (36 Stat. 925)) authorizes Reclamation to enter into contracts to impound, store, and/or convey non-project water when excess capacity is available in federal facilities.

Central Valley Project Improvement Act

Central Valley Project Improvement Act of 1992, Title 34 (of Public Law 102-575), Section 3405(a), authorizes all individuals or districts who receive CVP water under water service or repayment contracts, water rights settlement contracts or exchange contracts to transfer, subject to certain terms and conditions, all or a portion of the water subject to such contract to any other California water users or water agency, State or Federal agency, Indian Tribe, or private non-profit organization for project purposes or any purpose recognized as beneficial under applicable State law.

Central Valley Project Improvement Act of 1992, Title 34 (of Public Law 102-575), Section 3408(c), authorizes the Secretary of the Interior to enter into contracts pursuant to Reclamation law and this title with any Federal agency, California water user or water agency, State agency, or private nonprofit organization for the exchange, impoundment, storage, carriage, and delivery of CVP and non-CVP water for domestic, municipal, industrial, fish and wildlife, and any other beneficial purpose, except that nothing in this subsection shall be deemed to supersede the provisions of section 103 of Public Law 99-546 (100 Stat. 3051).

Reclamation completed the Final Programmatic Environmental Impact Statement (EIS) for the CVPIA in October 1999 that analyzed alternatives and implementation of the CVPIA. The Record of Decision (ROD) was signed in January 9, 2001.

Water Quality Standards

Reclamation requires that the operation and maintenance of CVP facilities shall be performed in such a manner as is practical to maintain the quality of raw water at the highest level that is reasonably attainable. Water quality and monitoring requirements are established annually by Reclamation and are instituted to protect water quality in federal facilities by ensuring that imported non-CVP water does not impair existing uses or negatively impact existing water quality conditions. These standards are updated periodically. The water quality standards are the maximum concentration of certain contaminants that may occur in each source of non-CVP water. Monitoring standards also include measuring depth to groundwater to avoid localized impacts due to well drawdown.

1.4 Scope

This EA has been prepared to examine the potential direct, indirect, and cumulative impacts on environmental resources as a result of KTWD banking up to 20,000 AF/y of CVP water in WKWD's groundwater banking facilities, along with 20,000 AF/y of other water (e.g. State Project water (SWP), Kern River water, and unrestricted CVP water).

The Proposed Action is the area encompassed by KTWD and WKWD's service areas, WKWD's existing groundwater banking facilities, as well as other existing facilities that would be used in order to implement the Proposed Action. Use of the existing facilities at Buena Vista turnout No. 2 on the California Aqueduct (delivery) and 'Pool No. 1' between the California Aqueduct and Pumping Plant No. 1 (return) is anticipated and no construction of new facilities to implement this banking project would occur. The temporal scope of the Proposed Action would

be 25 years. This EA has also been prepared to analyze potential impacts from the No Action Alternative.

1.5 Resources of Potential Concern

This EA will analyze 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
- Socioeconomics
- Air Quality

THIS PAGE LEFT INTENTIONALLY BLANK

Section 2 Alternatives Including the Proposed Action

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

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not approve the proposed banking program between KTWD and WKWD using CVP water. KTWD would continue to search for ways to supplement its water supply for irrigation customers when its water supplies are not enough to meet demands. KTWD would still be able to bank non-CVP water within WKWD.

2.2 Proposed Action

Reclamation proposes to approve a water banking project in which KTWD would bank up to 40,000 AF/y of CVP and non-CVP water (from its own CVP contract supply, transfers and exchanges-in of CVP water, other water purchases, and flood releases) in WKWD. Of the volume of water banked, a portion of the CVP water delivered would carry full-cost pricing provisions of the Reclamation Reform Act (RRA). The remainder would not carry those provisions. As Reclamation allows no more than a 10 percent loss for the banking of Contract water that carries such provisions, at least 90 percent of the volume of banked water which carries those provisions would be returned to KTWD for use within its service boundary for existing customers. Water without those provisions would account for the remaining losses. The maximum quantity of CVP water with full-cost pricing provisions that KTWD would have available in storage in WKWD for recovery is 20,000 AF. Transfers and exchanges from CVP contractors banked under this project would be under separate Reclamation acknowledgement (Accelerated Water Transfer Program {AWTP}) or approvals (transfers and exchanges not under the AWTP) and are not a part of this analysis.

Water with full-cost pricing provisions of the Reclamation Reform Act

- Cross Valley Water
- ‘215’ water
- South of Delta CVP water

Water without full-cost pricing provisions of the Reclamation Reform Act

- Class 1 and 2 water (Friant Division contractors with Repayment Contracts)
- Recovered Water Account (RWA) water
- Re-captured Friant water
- Abandoned flood water
- Kern River water

- State Water Project (SWP) water

The Proposed Action would allow KTWD to benefit from extracted water, including during years of insufficient surface water supplies, to meet its in-district demands. KTWD would recover up to 3,000 AF/y utilizing capacity in existing recovery and conveyance facilities when surface water is insufficient to meet its demands through the terms of the agreement between KTWD and WKWD which would be 25 years from the date of approval by Reclamation.

WKWD's groundwater banking facilities and KTWD's service area are entirely located within the CVP place of use. There would be no new facilities constructed as part of the Proposed Action. Details of the methods of return water are detailed below.

Deliveries to WKWD

The source of KTWD's "restricted" CVP water would be from KTWD's CVP CV contract (including the Assignment from Rag Gulch Water District), purchases, and/or transfers and exchanges of CVP water from other CVP contractors whose contract supplies carry RRA full-cost pricing provisions.

The point of CVP water delivery from KTWD to WKWD is Buena Vista Turnout No. 2 on the California Aqueduct. Water can be delivered to this point of delivery in two days, depending upon the source of water:

- **Water available in the Friant-Kern Canal.** If KTWD has water available in the Friant-Kern Canal (FKC), the water will be delivered down the FKC to the Cross Valley Canal (CVC) and conveyed in the California Aqueduct. Once in the California Aqueduct, water is delivered to the groundwater banking facilities in WKWD through Buena Vista Turnout No. 2 on the California Aqueduct. Water discharged from the Cross Valley Canal (CVC) into the California Aqueduct is measured, accounted for, and managed by the Kern County Water Agency (KCWA) and the California Department of Water Resources (DWR).

- **Water available in the California Aqueduct, San Luis Reservoir, or the Delta.** If KTWD has water available in the California Aqueduct, San Luis Reservoir, or the Delta, the water would be delivered down the California Aqueduct to the groundwater banking Facilities through Buena Vista Turnout No. 2 on the California aqueduct. Water may be conveyed under wheeling provisions with DWR for delivery of KTWD's Cross Valley contract water, or under Article 55 of the DWR water service contract with KCWA (which provides contractual terms for the conveyance and delivery of non-SWP water to the contractor's service areas through SWP facilities when sufficient capacity is available).

Return from WKWD

Water would be returned to KTWD by existing recovery wells located at the groundwater banking facilities in WKWD. Recovered water would be conveyed into the CVC. KTWD has first priority (first rights) to recover up to 2,000 AF/y and second priority to up to an additional 1,000 AF/y from WKWD. Additional recovery capacity would be as a second priority to other existing WKWD obligations.

There would be times when WKWD has surface water supplies available from sources such as SWP water or Kern River water when KTWD desires to extract groundwater. During these times, WKWD may choose to deliver surface water to KTWD, rather than extract groundwater.

To the extent that this exchange option is exercised, the point of delivery for the exchanged water would be in Pool 1 of the CVC, or other points of delivery available to WKWD and approved by KTWD. This exchange would be measured, documented, and administered by WKWD per their agreement with KTWD.

Once water is delivered to the CVC for delivery to KTWD, it would be delivered to either (1) the FKC for delivery to KTWD by FWA (by way of KTWD's siphons and in accordance with KTWD's existing Warren Act Contract with Reclamation), (2) delivered to Arvin-Edison WSD in exchange for Arvin's Friant Division CVP contract supply (via its Article 5 Exchange) or (3) delivered to a KCWA Member Unit, which in turn would deliver non-CVP water to a Friant Division contractor, which in turn would deliver its CVP contract supply water to KTWD.

2.2.1 Environmental Commitments

The project proponents shall implement the following environmental commitments to reduce environmental consequences associated with the Proposed Action (Table 2-1). Environmental consequences for resource areas assume the commitments specified would be fully implemented.

Table 2-1 Environmental Commitments

Resource	Protection Measure
Land Use	Water delivered to WKWD under the program for subsequent delivery to KTWD is for agricultural purposes.
	This program shall not cause any lands to be irrigated or come into production that would not otherwise, in the absence of this program, be irrigated or come into production.
	This program shall not cause modification to Reclamation facilities.
Water Resources	This program would comply with applicable Water Quality standards as determined by Reclamation, FWA, DWR, or KCWA, as appropriate.
	Groundwater monitoring and local groundwater impacts in WKWD would be the responsibility of others and would not involve Reclamation.
	The use of CVP water returned to KTWD under this program is subject to the acreage limitation provisions of Reclamation law, to the extent they exist, and would be delivered to eligible lands when the banked CVP water with Reclamation law requirements is returned to KTWD.
	CVP water that is not subject to Reclamation Law that is left behind in WKWD must stay in WKWD unless covered under a separate Reclamation approval process.
Measuring, Record Keeping, and Reporting	Each month, KTWD would report to Reclamation the amount of water delivered to or from WKWD along with its monthly water delivery report.
	All water deliveries would be metered into or out of the FKC, the CVC, and the California Aqueduct by propeller meters or other methods of measurement acceptable to the KCWA, the FWA, DWR, or Reclamation, whichever is applicable.

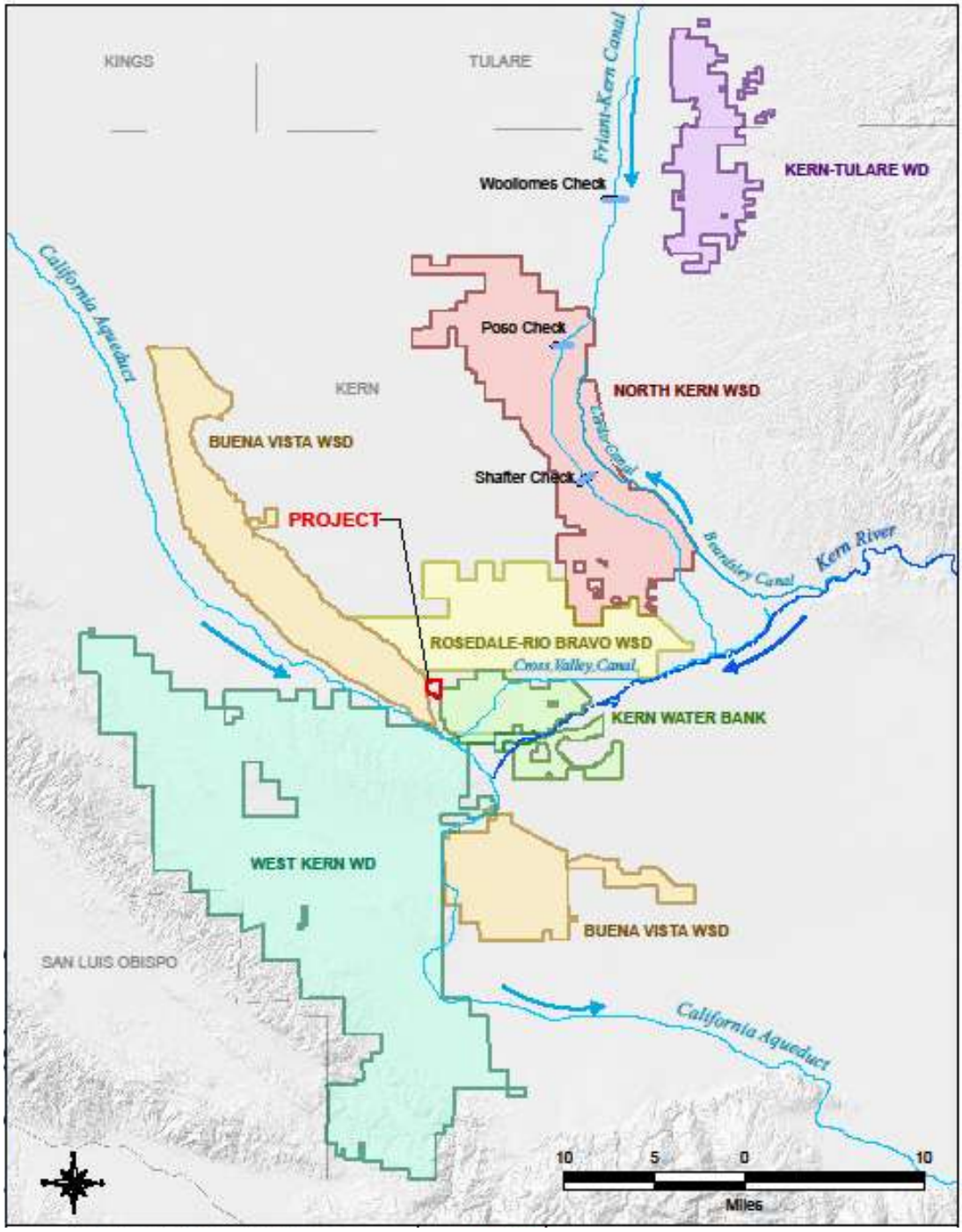

Figure 2-1 Proposed Project Area

Section 3 Affected Environment and Environmental Consequences

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

3.1 Water Resources

3.1.1 Affected Environment

Kern Tulare Water District. KTWD has an annual contract with the Bureau of Reclamation for 40,000 AF of CVP water. Although KTWD is a CV Contractor of the Friant Division, its CVP supplies are physically delivered from the Delta. Due to the location of KTWD's service area and facilities, it does not have direct connection to receive its CVP water supplies from the Delta. Therefore, KTWD exchanges with Arvin Edison Water Storage District (AEWSD) for Friant CVP water or delivers their water by reverse flow in the FKC.

KTWD obtains their CVP water supplies as follows:

- The California Department of Water Resources (DWR) conveys water under this contract through the California Aqueduct to Tupman.

- Water is then conveyed from Tupman, through the CVC, to KTWD under one of two scenarios (1) Water is conveyed through the CVC and delivered to AEWSD. AEWSD would deliver its CVP water from Friant to KTWD at KTWD intakes off the FKC. (2) Water is conveyed through the CVC and delivered through existing facilities to the FKC. Once in the FKC, the water would be pumped upstream over checks in the FKC to satisfy demands in the FKC and a like amount of water would be delivered to KTWD through its intakes off the FKC.

KTWD also has a contract with the City of Bakersfield for an average of 20,000 acre-feet per year of Kern River water. Although this water is considered Kern River water supplies it is physically delivered to Kern County Water Agency Improvement District # 4 in exchange for SWP Water. The SWP water is conveyed through the CV, to KTWD under one of two scenarios (1) Water is conveyed through the CV and delivered to AEWSD. AEWSD would deliver its CVP water from Friant to KTWD at KTWD intakes off the FKC. (2) Water is conveyed through the CV and delivered through existing facilities to the FKC. Once in the FKC, the water would be pumped upstream over checks in the FKC to satisfy demands in the FKC and a like amount of water would be delivered to KTWD through its intakes off the FKC.

West Kern Water District. WKWD is located within the southern San Joaquin Valley and provides municipal and industrial water to a variety of consumers encompassing a 300 square mile area with 7,600 metered accounts including:

- Commercial and domestic customers in western Kern County
- Oil companies for enhanced oil recovery techniques
- Co-generation facilities

The District contracts with the KCWA to receive water from the State Water Project. WKWDs State Water Project entitlement is 31,500 acre feet per year. Water purchased from the state through KCWA is used to replenish the groundwater basin beneath the vicinity of WKWDs groundwater banking area, which lies adjacent to the Kern River. As a result of varying annual allocations, predetermined by the state, WKWD may not receive all of its allotted annual state water supply; however payment of one hundred percent of its cost is required. Purchasing water and utilizing WKWDs banking program, which is a concept of storing water in wet years into an underground aquifer and extracting in dry years, allows WKWD to compensate for annual shortfalls (West Kern Water District "about us" website).

The groundwater banking facilities at WKWD are located within the Kern County Subbasin of the San Joaquin Valley Groundwater Basin (DWR, 2006). The subbasin covers the western third of Kern County and includes Kern River and Poso Creek. Some estimates indicate a total water storage capacity of 40 million AF. The upper aquifer is considered to be unconfined and extends down to a depth of approximately 200 to 400 feet. The lower semi-confined aquifer, on average, extends to a depth of approximately 600 feet though in some areas can be quite deeper.

During the period of 1926 to 1970, groundwater recovery resulted in up to 9 feet of land subsidence in the south-central area of the subbasin. Since 1970, groundwater levels within the subbasin experienced two complete cycles of rising then falling due to climatic wet/dry cycling and addition of conveyance and recharge facilities. By the year 2000, water levels equaled those that were observed in 1970. Groundwater banking operations started as early as 1978 and began diverting surface water into the aquifer throughout the subbasin primarily in the Kern Fan area.

Inflows to the subbasin include natural recharge of 150,000 AF/y, artificial recharge of 308,000 AF/y, applied water recharge of 843,000 AF/y, and an estimated average subsurface inflow of 233,000 AF/y for a total subbasin inflow of 1,534,000 AF/y (DWR, 2006). Outflows from the subbasin occur as urban recovery at 154,000 AF/y, agricultural extraction at 1,160,000 AF/y, other extractions (oil industry related) at 86,333 AF/y, for a total subbasin outflow of 1,400,300 AF/y (DWR, 2006). However, in any one year, the ratio of total inflow and outflow can vary.

3.1.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not approve the banking program between KTWD and WKWD. As a result, surface water supplies would be the same as existing conditions described in the affected environment. There would be no impacts to surface water resources, groundwater resources or conveyance facilities as conditions would remain the same as existing conditions.

Under the No Action Alternative water users would continue to pump groundwater in order to make up for any potential shortages in surface water supplies, which could contribute to declining groundwater levels. In addition, without the Proposed Action WKWD would not benefit from the Non-CVP water left behind by KTWD as compensation for banking, operational loss and evapotranspiration.

Under the No Action Alternative, KTWD could engage in transfers, exchanges and banking programs with other agencies in order to regulate the timing of their water supplies. However, the scope of this EA does not cover those actions and those actions may be subject to additional environmental analysis.

Proposed Action
Under the Proposed Action, KTWD would be able to bank surplus surface CVP water supplies and recover the majority of those supplies from the groundwater facilities or in-lieu supplies at a later time. This would supplement KTWD's supplies (at the time of extraction), helping to meet its customers' irrigation demand. This would provide stability to future water supplies and would be considered a beneficial effect to KTWD's supplies.

Of the total portion of CVP water supplies being banked in the WKWD facilities, a small portion will be left behind to recharge the aquifer or to compensate for evapotranspiration and/or operational losses. This amount would permanently recharge the aquifer by a small amount, resulting in a net benefit to the aquifer and the groundwater basin as a whole. This would result in a slight beneficial effect.

3.2 Land Use

3.2.1 Affected Environment

Agriculture in the area includes permanent and row crops, dairies, and fruit orchards, most of which rely heavily on a combination of groundwater and surface water resources to support irrigation demands. Supplemental irrigation is required for these activities as the area receives an average of only 5.72 inches of rainfall per year.

3.2.2 Environmental Consequences

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

Proposed Action
The Proposed Action would not induce existing agricultural uses to convert to another land use or to fallow. The Proposed Action would not result in water supplies in that would induce growth or land use changes as it would supply no water to customers other than agricultural

users. There would be slight beneficial effects from the Proposed Action as it would contribute to maintaining land use as described in the affected environment.

3.3 Biological Resources

3.3.1 Affected Environment

The following list (Table 3-1) was obtained on May 30, 2012, by accessing the USFWS Database (Document Number 120530122818). The list is for the following USGS 7.5 minute quadrangles, which overlap KTWD and the water bank: East Elk Hills, Tupman, Deepwell Ranch, McFarland, North of Oildale, Ducor, Delano East, and Richgrove. Reclamation also queried the California Natural Diversity Database (CNDDB), and combined the USFWS and CNDDB information with information in Reclamation's files to create the table. There is no proposed or designated critical habitat in the Proposed Action area.

Table 3-1 Threatened, Endangered and Candidate Species List

Species	Status	Habitat	*Occurrence in the Study Area
Plants			
Bakersfield cactus (*Opuntia treleasei*)	FE, CE	Occurs on sandy soils in some Kern County grasslands within the San Joaquin Valley and adjacent foothills, near Bakersfield	**Absent.** No natural land within this species' range occurs in KTWD or the WKWD bank
California jewelflower (*Caulanthus californicus*)	FE, CE	Occurs in grass and shrublands in the Santa Barbara Canyon and Carizzo Plain and foothill areas at the margin of the San Joaquin Valley; formerly occurred on the valley floor and Cuyama Valley	**Possible**. Could occur within native lands in KTWD; no conversion of native lands as a result of the Proposed Action
Kern mallow (*Eremalche kernensis*)	FE	Valley saltbush scrub in Lokern	**Absent**. The Proposed Action area does not include any native lands within the Lokern area
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FE, CE	Chenopod scrub, valley and foothill grasslands. This species is found only in the southern San Joaquin Valley and surrounding hills. It grows on neutral to subalkaline soils. On the San Joaquin Valley floor, it typically is found on sandy or sandy loam soils	**Possible**. Could occur within native lands in KTWD (one record lies just outside the district); no conversion of native lands as a result of the Proposed Action
Invertebrates			
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Primarily found in vernal pools, may use other seasonal wetlands	**Possible.** Could occur at the edges of the northern portion of KTWD; no conversion of native lands as a result of the Proposed Action
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in elderberry shrubs of California's Central Valley and Sierra Foothills with stems one inch or greater in diameter at ground level	**Possible**. Elderberry shrubs might occur along canals, ditches, etc. in the Proposed Action area; no construction would occur as part of the Proposed Action
Fish			

Species	Status	Habitat	*Occurrence in the Study Area
Delta smelt (*Hypomesus transpacificus*)	FT, CE	Endemic to the Delta. Found in San Joaquin River up to Mossdale in some years and in Sacramento River up to Rio Vista where salinity is 2-7 ppt	**Absent.** No natural waterways within the species' range would be affected by the Proposed Action
Amphibians			
California red-legged frog (*Rana draytonii*)	FE, CSC	Red-legged frogs require aquatic habitat for breeding but also use a variety of other habitat types including riparian and upland areas. Adults often utilize dense, shrubby or emergent vegetation closely associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation such as willows	**Absent.** May have formerly occurred in the Proposed Action area, but has been eliminated from the valley floor and southern Sierra Nevada foothills
Reptiles			
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE	Resident of sparsely vegetated alkali and desert scrub habitats in areas of low topographic relief. They seek cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows	**Present.** There are known records in and near some remaining lands in southern KTWD; no conversion of native lands as a result of the Proposed Action
Giant garter snake (*Thamnophis gigas*)	FT, CT	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches	**Absent.** No longer occurs in the San Joaquin Valley south of Burrell/Lanare
Birds			
western yellow-billed cuckcoo (*Coccyzus americanus occidentalis*)	FC, CE	Requires extensive areas of cottonwood-willow riparian forest	**Possible.** Suitable habitat no longer occurs in the San Joaquin Valley. However, still breeds along a portion of the Sacramento River, so birds might fly over the area
Mammals			
Buena Vista Lake shrew (*Sorex ornatus relictus*)	FE	Wetlands and riparian habitat in Kern County, in and around Buena Vista Lake (Kern Lake Preserve and Kern National Wildlife Refuge)	**Absent.** Due to the operations and maintenance of the WKWD water bank, suitable habitat for this species would not occur there
Giant kangaroo rat (*Dipodomys ingens*)	FE, CE	Annual grassland on gentle slopes of generally less than 10°, with friable, sandy-loam soils. However, most remaining populations are on poorer, marginal habitats which include shrub communities on a variety of soil types and on slopes up to about 22°	**Absent.** This species cannot use actively farmed lands
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base. Does not den in ag fields, but may use them for	**Present.** Documented in the Proposed Action area. Kit foxes might forage in some of the Ag lands that would receive water as part of the Proposed Action, but the foxes would not be expected

Species	Status	Habitat	*Occurrence in the Study Area
		foraging when they are near more suitable habitat	to den there. No construction would be needed as part of the Proposed Action
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Arid upland areas in the Tulare Basin; often associated with seepweed (*Sueda*) and woody shrubs such as saltbushes, iodine bush, goldenbush, and honey mequite	**Absent.** This species cannot use actively farmed lands or water storage basins and does not occur in the foothill habitat at the edges of KTWD

*Adapted from CNDDB (2012), USFWS list for project area USGS quadrangles, and other information in Reclamation's files.

Definitions of Occurrence Indicators:
Present: Species observed on the study area at time of field surveys or during recent past.
Likely: Species not observed on the study area, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the study area, but it could occur there from time to time.
Unlikely: Species not observed on the study area, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the study area, and precluded from occurring there because habitat requirements not met.

Listing Status Codes:
FC: Federal candidate
FE: Federally Endangered
FT: Federally Threatened
FD: Federally Delisted
CE: State Endangered
CT: State Threatened

The WKWD bank is near the Tule Elk State Reserve, Coles Levee Ecosystem Preserve, and Kern Water Bank. Some special-status species use these areas, including the San Joaquin kit fox and tricolored blackbird. According to WKWD's Final Environmental Impact Report for their water bank (WKWD 2010), the site of their basins had alfalfa covering the northern ¾ of the area and onions on the lower ¼. Some species, such as the kit fox or tricolored blackbirds may have used these areas for foraging, however, the entire banking infrastructure was constructed prior to this proposed action. The previously planned pipeline alignments crossing the Kern River flood channel and the Coles Levee Ecosystem Preserve were not constructed, so there was no fill of waters in the channel or disturbance of the DFG easement at the preserve.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, very few species are expected to use either the water bank or the actively farmed lands in KTWD; native lands in KTWD would remain and could continue to be used by Federally listed and other special-status species.

Proposed Action

The effects of the Proposed Action Alternative as described would be the same as the No Action Alternative. The water bank would exist independent of KTWD's participation. As part of the Proposed Action there would be no new facilities constructed and it would not cause any lands to be irrigated or come into production that would not otherwise, in the absence of this program, be irrigated or come into production.

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.).

3.4 Socioeconomic Resources

3.4.1 Affected Environment

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

3.4.2 Environmental Consequences

No Action
Under the No Action Alternative economic conditions in the vicinity of KTWD's service boundaries would remain the same or would potentially worsen if agriculture suffers due to deficient water supply.

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

3.5 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 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.

3.5.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide (CO), ozone (O_3), O_3 precursors such as volatile organic compounds (VOC) or reactive organic gases (ROG), and inhalable particulate matter between 2.5 and 10 microns in diameter (PM_{10}) 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 (NO_2), and sulfur dioxide (SO_2). Federal attainment status has been reached for PM_{10} but is in non-attainment for O_3, $PM_{2.5}$, and VOC/ROG. There are no established standards for nitrogen oxides (NO_x); however, NO_x does contribute to NO_2 standards (SJVAPCD 2011).

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, landowners within Kern-Tulare would be required to increase their reliance upon groundwater. Approximately 20% of landowner wells in the District are natural gas or diesel and lift water from 400 to 500 feet deep which result in higher emissions then the Proposed Action which would be lifting water about 10 feet on the rare occasions that diesel pumps would be used.

Proposed Action

Under the Proposed Action, there would be no construction of new facilities to facilitate the conveyance of water for banking or the return of recovered water by WKWD to KTWD. Operationally, the WKWD groundwater banking facilities would require the use of electrical pumps to recover water and water could be pumped in other areas to convey the water into KTWD's existing facilities, because KTWD does not have a direct connection from WKWD's groundwater banking facilities. The electricity would be supplied through the existing infrastructure (power grid) which receives power from offsite sources. There would be no generation of power at the pumps and thus no local emissions from operations of the pumps used to extract groundwater or move said groundwater into KTWD's service area. As discussed in the Final Environmental Impact Report (FEIR) for WKWD's Groundwater Banking Project (WKWD 2010), the project would not require substantial electrical capacity and would not be responsible for a substantial amount of emissions at the power source. In addition, power plant emissions are subject to the rules and regulations of the air district in which they are located and are subject to their own review under the California Environmental Quality Act.

During times when an exchange with Arvin-Edison is not available, KTWD delivers water to the FKC, where it is pumped over the Shafter check with an electric pump capable of delivering 30 cubic feet per second. In the event that even more water is being delivered to KTWD, diesel pumps would be used to increase the delivery capability over the Shafter pump. It is a rare occasion when diesel pumps are used (estimated at once every four years for a two month period). As noted in the No-action description, emissions are far lower for the Proposed Action

than the No-Action therefore, the Proposed Action would have no adverse effects on Air Quality conditions.

3.6 Cumulative Impacts

CEQ regulations implementing NEPA define cumulative impacts as: the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Existing or foreseeable projects that could affect or could be affected by the Proposed Action include:

FONSI/EA-10-052 Accelerated Water Transfer Program (AWTP) for Friant Division and Cross Valley Central Valley Project Contractors, 2011-2015: Reclamation approved continuation of a five-year AWTP, that provides a streamlined process for annual transfers and/or exchanges of Friant Division CVP water between eligible Friant Division and CVC Contractors within the same geographical area who can receive CVP service from Friant Division facilities and who possess CVP interim or long-term water service contracts, or repayment contracts.

FONSI/EA-09-92 Delano-Earlimart Irrigation District (DEID) and Rosedale-Rio Bravo Water Storage District (RRBWSD) Banking Program 2010-2026: Reclamation approved DEID's delivery of its CVP and 215 Water (when available) supplies for banking outside of their service area boundary in RRBWSD. DEID will deliver up to 80,000 AF per year to RRBWSD for banking from March 2010 through February 2026. DEID will be allowed to store up to 100,000 AF maximum at any one time, and RRBWSD will return up to 10,000 AF per year to DEID upon request.

SEA-09-74 Amendment to the Storage and Exchange of Central Valley Project Water Delano-Earlimart Irrigation District to North Kern Water Storage District: The extension of water banking through 2026 and the addition of uncontrolled spill from Millerton Reservoir (Section 215 water) to the Class 1 and Class 2 CVP water to be banked.

San Joaquin River Restoration Settlement: As part of the San Joaquin River Restoration Settlement (Settlement), the Water Management Goal aimed to reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from the Interim and Restoration Flows provided for in the Settlement. As a result, Reclamation is currently developing plans for Recaptured, recapture, reuse, and exchange or transfer of Interim and Restoration Flows. Specifics for these plans are currently unknown; however, one proposal involves recapturing the flows from the Delta and Recaptured through the California Aqueduct. The flows would then be introduced into the FKC via the CVC for ultimate delivery to Friant Division CVP contractors. Installation of permanent pump-back facilities at key check structures would allow reverse-flow in the FKC for direct delivery to the contractors upstream of the CVC introductory point.

The Proposed Action and other similar projects would not interfere with the projects listed above, nor would it hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. The FWA manages the FKC,

on Reclamation's behalf, such that capacity must exist before any movement of water is scheduled under the Proposed Action. Similarly, the KCWA must determine that there is excess capacity before water involved with the Proposed Action is allowed to enter the CVC so as not to impact any stakeholders that normally receive their water supply from the CVC. Likewise, the DWR and Reclamation would make determinations that there is excess capacity before water involved with the Proposed Action is allowed to enter the California Aqueduct/San Luis Canal so as not to impact any stakeholders that normally receive their water supply from SWP and CVP Delta Exports.

Therefore, when taking into consideration other similar existing and/or future actions, the implementation of the Proposed Action would not have adverse cumulative impacts on the normal operations of the conveyance facilities involved.

Reclamation's action is the approval of banking of KTWD water in WKWD groundwater bank. The use of this water upon return to KTWD would be to maintain current land uses that are predominantly the growing of crops on existing agricultural lands. No native or previously untilled lands would be put into production. The Proposed Action would maintain existing land uses and would not contribute to cumulative changes or impacts to land uses or planning. Land use trends around the action area in recent years have resulted in urbanization of agricultural lands. This trend is typically caused by economic pressures and is likely to continue with our without these water service actions. Therefore, there would be no cumulative effects to land use as a result of the Proposed Action.

The Proposed Action itself has no adverse impacts on air quality because well pumps are operated primarily using electric motors and the amount of well pumpage would be approximately equal to that under the No Action Alternative (although at different times and places in the same air basin). Not all pumping for this Proposed Action and similar actions could be done at the same time due to limitations of the pumps. Therefore, cumulative impact emissions from the power plants serving electricity to the pumps for these projects would still below the de minimis thresholds. It is likely that the Proposed Action, when combined with other similar actions within the SJVAB, would still be well below the de minimis thresholds and would therefore have no cumulative adverse impacts.

Under the Proposed Action, the ability to manage varied water resources could help maintain agricultural production and local employment. Since there is no construction or other impacts that could disproportionally affect minority or disadvantaged populations, there are no cumulative adverse impacts involving socioeconomic or environmental justice interests. Since there is no construction or other ground disturbing actions there are no cumulative adverse impacts involving ITAs or Indian sacred sites.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drives requests for water service actions such as water banking. Water districts aim to provide water to their customers based on available water supplies and timing, all 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. Due to the general nature of water banking, the project would have no adverse impacts that are individually limited, but cumulatively considerable.

3.7 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

Cultural Resources

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

Reclamation determined on January 13, 2012 that the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

No impact to Indian sacred sites would occur under the No Action Alternative as conditions would remain the same as existing conditions. The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

Indian Trust Assets

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a

lease, or right to use something. ITA cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

No impact to ITA would occur under the No Action Alternative as conditions would remain the same as existing conditions. Reclamation determined on July 30, 2012 that the Proposed Action would not impact ITA as there are none in the Proposed Action area. The nearest ITA is Tule River Reservation approximately 54 miles NE of the project location.

Environmental Justice

The February 11, 1994, Executive Order 12898 requiring Federal agencies to ensure that their actions do not disproportionately impact minority and disadvantaged populations went into effect. The Proposed Action does not propose any features that would result in adverse human health or environmental effects, have any physical effects on minority or low-income populations, and/or alter socioeconomic conditions of populations that reside or work in the vicinity of the Proposed Action.

Global Climate

The EPA has issued regulatory actions under the Clean Air Act as well as other statutory authorities to address climate change issues (EPA 2011). In 2009, the EPA issued a rule (40 CFR §98) for mandatory reporting of greenhouse gases (GHG) by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as carbon dioxode 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 2011). 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.

Neither the Proposed Action nor the No Action alternative would involve physical changes to the environment or construction activities that could impact global climate change. Generating power plants that produce electricity to operate the electric pumps produce carbon dioxide that could potentially contribute to GHG emissions; however, water under the Proposed Action is water that would be delivered from existing facilities under either alternative and is therefore part of the existing conditions. There would be no additional impacts to global climate change as a result of the Proposed Action. Global climate change is expected to have some effect on the snow pack of the Sierra Nevada and the runoff regime. Current data are not yet clear on the hydrologic changes and how they will Affect the San Joaquin Valley. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility and therefore surface water resource changes due to climate change would be the same with or without either alternative.

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 between March 11, 2013 and April 11, 2013.

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

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the Service and State fish and wildlife agencies "whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license". Consultation is to be undertaken for the purpose of "preventing the loss of and damage to wildlife resources".

The Proposed Action does not involve any new impoundment or diversion of waters, channel deepening, or other control or modification of a stream or body of water as described in the statute, but the exchange of pumped groundwater for CVP water. In addition, no construction or modification of water conveyance facilities are required for movement of this water. Consequently, Reclamation has determined that FWCA does not apply.

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

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

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.

4.4 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg

or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

Reclamation has determined there would be no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.).

4.5 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

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

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

Reclamation determined on January 13, 2012 that the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

4.6 Clean Air Act (42 U.S.C. § 7506 (C))

Section 176 (C) of the Clean Air Act (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C. 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the 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.

Reclamation has determined that the Proposed Action would have no adverse effects on Air Quality conditions.

Section 5 Preparers and Reviewers

Chuck Siek M.A., Supervisory Natural Resources Specialist, SCCAO
Shauna McDonald, Wildlife Biologist, SCCAO
Adam Nickles M.A., Archaeologist or Architectural Historian, MP-153
Patricia Rivera, ITA, MP-400

Section 6 Acronyms and Abbreviations

APE	Area of Potential Effect
CAA	Clean Air Act
CFR	Code of Federal Regulations
Corps	Army Corps of Engineers
CO_2	Carbon dioxide
CWA	Clean Water Act
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
mg/m^3	Milligram per cubic meter
M&I	Municipal and Irrigation
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
Reclamation	Bureau of Reclamation
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
$\mu g/m^3$	Microgram per cubic meter

THIS PAGE LEFT INTENTIONALLY BLANK

Section 7 References

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

California Air Resources Board. 2011. California Air Basins. Website: http://www.arb.ca.gov/knowzone/basin/basin.htm Accessed: September 9, 2012.

Environmental Protection Agency (EPA). 2009. Mandatory Reporting of Greenhouse Gases, Final Rule (40 CFR Parts 86, 87, 89 et al.) *Federal Register*. 74(209): 56260-56519.

Environmental Protection Agency (EPA). 2011a. Climate Change – Basic Information. Website: http://www.epa.gov/climatechange/basicinfo.html.

Environmental Protection Agency (EPA). 2011b. U.S. Greenhouse Gas Inventory. Website: http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html.

Environmental Protection Agency (EPA). 2011c. Climate Change – Science. Website: http://www.epa.gov/climatechange/science/index.html.

Environmental Protection Agency (EPA). 2011d. Climate Change – Regulatory Initiatives. Website: http://www.epa.gov/climatechange/initiatives/index.html.

Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: Synthesis Report. Website: http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf. Accessed September 9, 2012.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2011. Ambient Air Quality Standards and Valley Attainment Status. Website: http://www.valleyair.org/aqinfo/attainment.htm Accessed: September 9, 2012.

U.S. Fish and Wildlife Service (USFWS). 2011. Species List (Document Number 120530122818) Accessed: May 30, 2012

THIS PAGE LEFT INTENTIONALLY BLANK

DRAFT ENVIRONMENTAL ASSESSMENT (11-071)

Indian Trust Assets

Appendix A

From: Rivera, Patricia L
Sent: Monday, July 30, 2012 8:26 AM
To: Siek, Charles R
Subject: RE: Kern Tulare Water District/West Kern Water District Groundwater 25-year Banking Project

Charles,

I reviewed the proposed action to approve a water banking project in which the Kern Tulare Water District/West Kern Water District (KTWD) would bank up to 20,000 AF/y of its CVP water (including contract supplies, other purchases, transfers and exchanges of CVP water, and flood releases) that KTWD would deliver to WKWD for groundwater banking when available. WKWD's groundwater banking facilities and KTWD's service area are entirely located within the CVP place of use. There would be no new facilities constructed as part of the Proposed Action.

The proposed action does not have a potential to affect Indian Trust Assets. The nearest ITA is Tule River Reservation approximately 54 miles NE of the project location.

Patricia Rivera
Native American Affairs Program Manager
Bureau of Reclamation
Mid-Pacific Region
Sacramento, California 95825
(916) 978-5194 (Office)
(916) 978-5290 (Fax)
RECLAMATION
Managing Water in the West

THIS PAGE LEFT INTENTIONALLY BLANK

DRAFT ENVIRONMENTAL ASSESSMENT (11-071)

Cultural Resources

Appendix B

From: Nickels, Adam M
Sent: Friday, January 13, 2012 4:02 PM
To: Siek, Charles R
Cc: Barnes, Amy J; Bruce, Brandee E; Dunay, Amy L; Fogerty, John A; Goodsell, Joanne E; Leigh, Anastasia T; Overly, Stephen A; Perry, Laureen (Laurie) M; Soule, William E; Williams, Scott A
Subject: RE: Request for Determinations: Kern-Tulare Water District/West Kern Water District Groundwater Banking and Transfer Project

Project No. 12-SCAO-057

Chuck:

I have reviewed the Draft EA you have provided and added some cultural resources language (attached). If there is any major change in the proposed action alternative, we may have additional cultural resources review. After reviewing the I have determined that the proposed action alternative (i.e. the proposed undertaking for purposes of Section 106) to ovide Reclamation's 25 year approval of a water transfer and ground water storage banking agreement between KTWD and WKWD has no potential to cause effects to historic properties pursuant to the regulations at 36 CFR § 800.3(a)(1).

The proposed undertaking is effectively a water transfer and ground water storage project where water will be transferred through existing facilities and banked in ground water facilities that are also existing. There will be no new ground disturbance and no construction of or modification of existing facilities upon implementation of the proposed action.

This email memo and attached edits to the Draft EA are intended to convey the conclusion of the Section 106 process for this undertaking. Please incorporated the provided edits and include this email memo with the administrative record.

Sincerely,

Adam M. Nickels - Archaeologist - M.S.
Phone: 916.978.5053 - Fax: 916978.5055 - www.usbr.gov

RECLAMATION-Mid-Pacific Regional Office MP-153 2800 Cottage Way - Sacramento, California 95825

THIS PAGE LEFT INTENTIONALLY BLANK

DRAFT ENVIRONMENTAL ASSESSMENT (11-071)

Endangered Species Act

Appendix C

Reclamation proposes to approve a water banking project in which Kern-Tulare Water District (KTWD) would bank up to 40,000 AF/y of Central Valley Project (CVP) and non-CVP water (from its own CVP contract supply, transfers and exchanges-in of CVP water, other water purchases, and flood releases) in West Kern Water District. This Proposed Action would have no effect on any Federally listed or proposed species or critical habitat.

--
Shauna A. McDonald
Wildlife Biologist
Bureau of Reclamation
South-Central California Area Office
1243 N St
Fresno, CA 93721
(559) 487-5202
(559) 487-5397 fax
smcdonald@usbr.gov