

# RECLAMATION

*Managing Water in the West*

**Draft Environmental Assessment**

## **Warren Act Contract for Conveyance of up to 15,000 Acre-Feet from Merced Irrigation District to Westlands Water District and/or San Luis Water District**

**EA-13-035**



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

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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**

Merced Irrigation District (MID) has agreed to transfer up to 15,000 acre-feet (AF) of MID non-Central Valley Project (CVP) water to Westlands Water District (WWD) and/or San Luis Water District (SLWD) in water year 2013-2014. WWD and SLWD have requested that the bureau of Reclamation (Reclamation) approve a Warren Act Contract (WAC), which allows conveyance of the non-project water in federal facilities. The transferred water would supplement a deficient CVP water supply and would be used for irrigation on existing lands in WWD and/or SLWD that currently receive CVP water. Concurrently with this request, MID has petitioned the State Water Resources Control Board for a change in place of use and point of diversion and has identified a reservoir refill requirement for the water transfer as part of that request.

## **1.2 Need for the Proposed Action**

WWD and SLWD have experienced reduced water supply allocations in 2007, 2008, 2009 and 2010 due to hydrologic conditions and/or regulatory constraints. Following an above average water year in 2011, the hydrologic conditions for 2012 were dry. Dry conditions continued through 2013, and WWD and SLWD have a need to supplement their supplies to avoid shortages and loss of permanent crops. The purpose of executing the proposed WAC is to allow for the conveyance of MID's water through Federal facilities to WWD and/or SLWD.

## **1.3 Scope**

This Environmental Assessment (EA) examines the possible impacts of approving a WAC for the conveyance of up to 15,000 AF of MID's non-CVP water to WWD and/or SLWD in the water year ending February 28, 2014. The EA also examines the possible impacts of the No Action alternative.

MID is located in Merced County, WWD is located in western Fresno and Kings Counties and SLWD is located in western Merced and Fresno Counties (Figure 1-1).

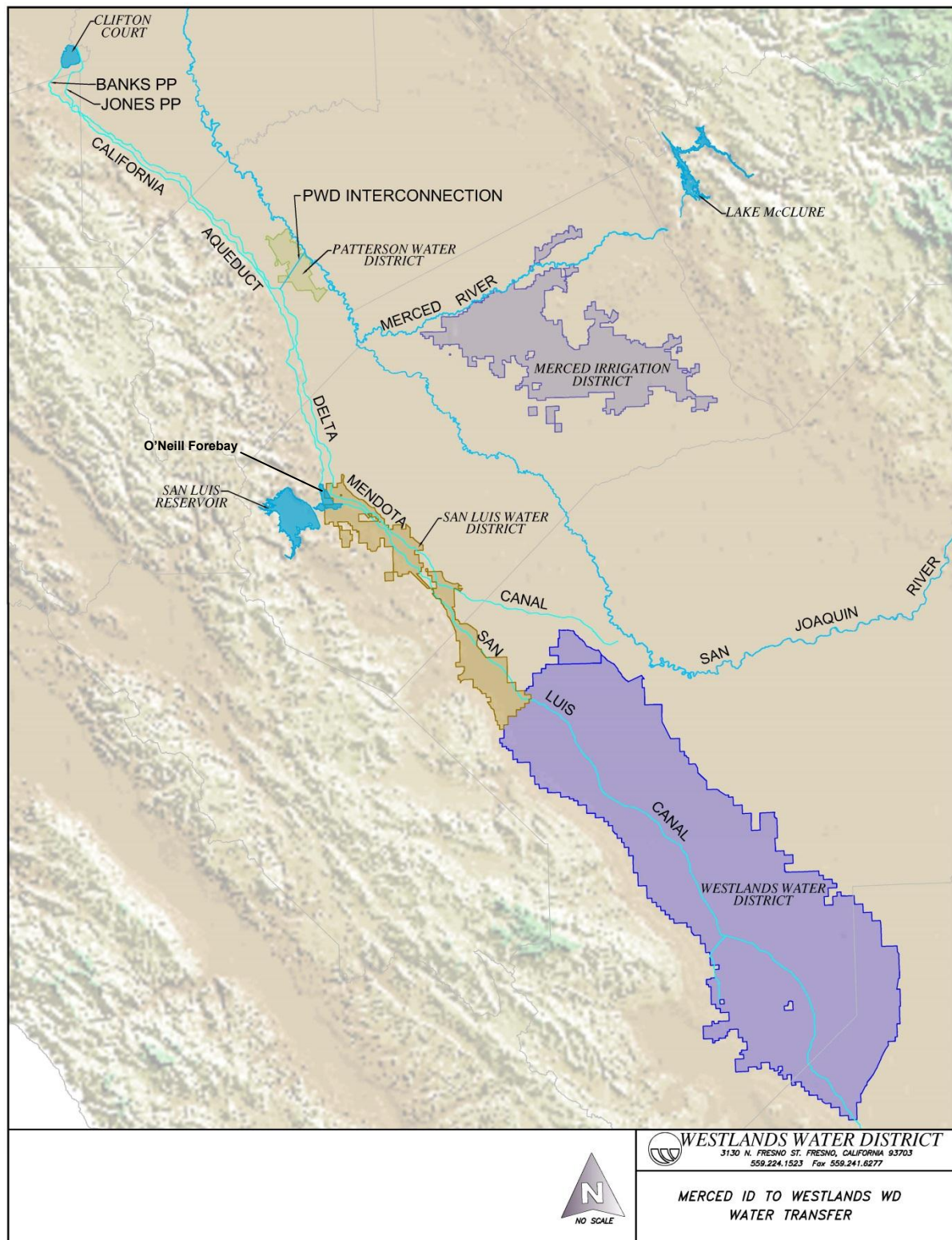


Figure 1-1 Project Area

## **1.4 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
- Biological Resources
- Socioeconomic Resources
- Environmental Justice
- Air Quality
- Global Climate

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

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

### **2.1 No Action Alternative**

Under the No Action alternative, Reclamation would not approve the WAC for the conveyance of up to 15,000 AF of MID's non-CVP water to WWD and/or SLWD. WWD and SLWD would continue to look for other water supplies to supplement their water portfolios. Absent this transfer, water available for acquisition from MID would remain in storage within Lake McClure for future marketing to other buyers or use by MID.

### **2.2 Proposed Action**

Reclamation proposes to approve a WAC for the conveyance of up to 15,000 AF of MID's non-CVP water to WWD and/or SLWD in the water year ending February 28, 2014. The path by which the water would be delivered is shown with solid red arrows in Figure 2-1 and described below.

The transferred water would be released from storage in Lake McClure/New Exchequer dam by MID beginning in the fall of 2013, and would be conveyed in the Merced and San Joaquin Rivers. Water would be pumped from the river at the Patterson Irrigation District's (PID) licensed fish-screened intakes, which are designed to limit entrainment and impingement of fish during pumping. PID would pump and convey 40 cubic feet per second (cfs), measured by San Luis and Delta-Mendota Water Authority (SLDMWA) at the discharge, to the Delta-Mendota Canal (DMC). The water would then be transported in the DMC, into the O'Neill Forebay for conveyance to WWD and/or SLWD through the San Luis Canal. Conveyance losses of 10% would be assessed in the San Joaquin River, and 5% losses would be assessed in the DMC.

Water released from the dam would be over and above the flows required to maintain compliance with the water quality and quantity requirements established by the State Water Resources Control Board's Decision 1641 (D-1641) and would not interfere with scheduled fall pulse flows. The proposed action would not impair the California Department of Water Resources (DWR) or Reclamation's ability to meet their other obligations and responsibilities.



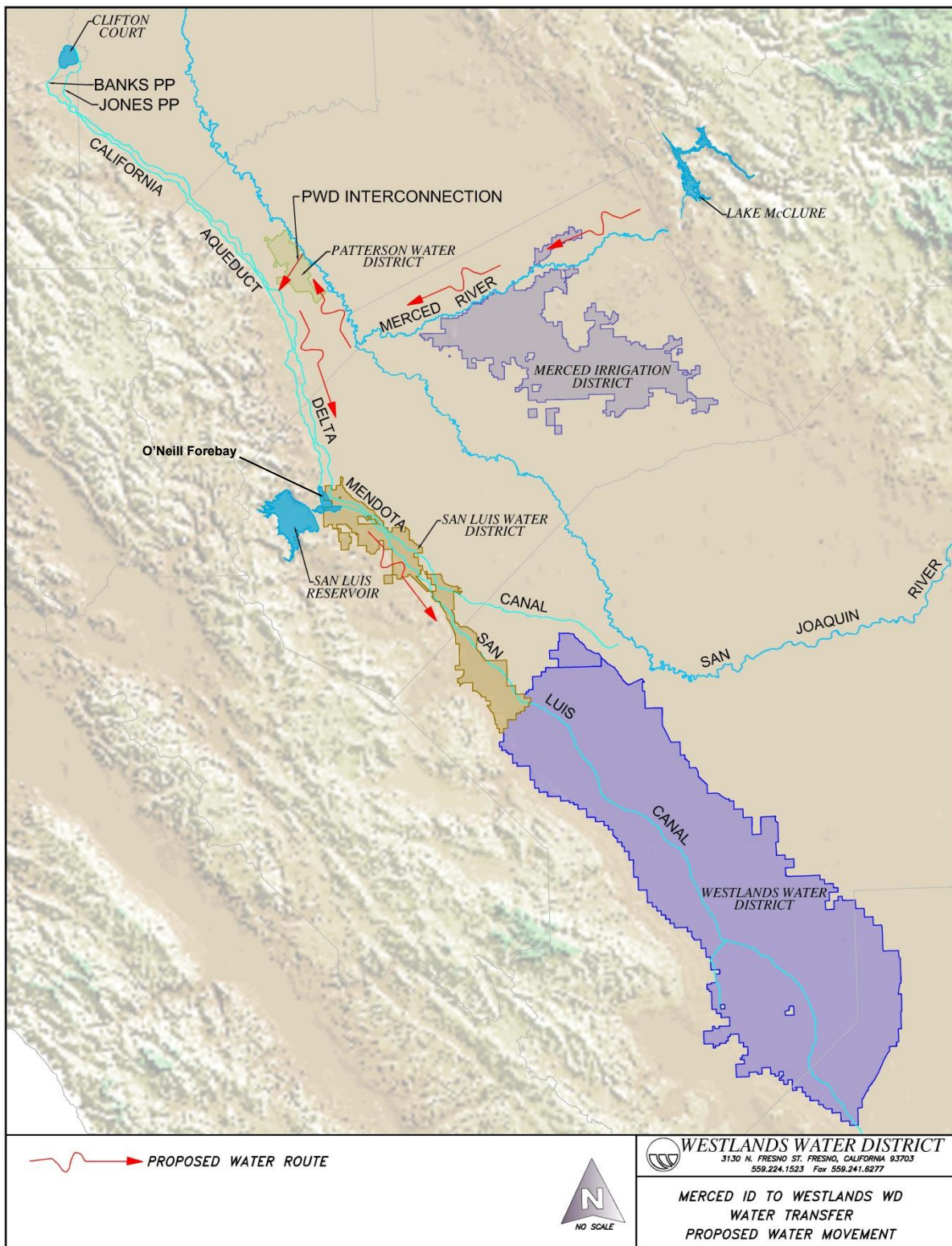


Figure 2-1 Conceptual Water Movement

This transfer would utilize existing facilities and no new infrastructure, modifications of facilities, or ground disturbing activities would be needed for movement of this water. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

### 2.2.1 Permits

Section 401 of the Clean Water Act (CWA) (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 U.S.C. § 1342 and 1344). No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action; therefore permits under CWA are not required.

### 2.2.2 Environmental Commitments

The project proponents 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 would be fully implemented. Copies of all reports would be submitted to Reclamation.

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

| Resource | Protection Measure                                                                                                     |
|----------|------------------------------------------------------------------------------------------------------------------------|
| Habitat  | No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions |

## 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 July 23, 2013, that the proposed action has no potential to affect cultural resources.                                                                                                                                                                                                                                                                                                            |
| Indian Trust Assets | Reclamation determined on July 23, 2013, that the proposed action has no potential to affect Indian Trust Assets.                                                                                                                                                                                                                                                                                                           |
| 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 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. |
| Land Use            | Under the Proposed Action, neither MID, WWD or SLWD would change historic land and water management practices. MID's non-CVP water would move through existing facilities for delivery to lands within WWD and SLWD and would be used on existing crops. The water would not be used to place untilled or new lands into production, or to convert undeveloped land to other uses.                                          |

### 3.2 Water Resources

#### 3.2.1 Affected Environment

##### ***Sacramento-San Joaquin Delta***

The Delta lies at the confluence of the Sacramento and San Joaquin rivers. The Delta boundary extends north along the Sacramento River to just south of the American River, south along the San Joaquin River to just north of the Stanislaus River, east to the City of Stockton, and west to Suisun Bay. Runoff from a variety of Central Valley streams accounts for approximately 95 percent of the inflows into the Delta. The Delta receives flows directly from the Sacramento, San Joaquin, Mokelumne, Cosumnes, and Calaveras rivers.

The Delta serves as a major operational focus for State Water Project (SWP) and CVP project facilities. The CVP operates the Jones Pumping Plant to lift water from the southern Delta into the Delta-Mendota Canal to service various receiving contractors in the San Joaquin Valley and the Tulare Basin. The SWP operates the Banks Pumping Plant, which lifts the water to the

California Aqueduct. Current CVP and SWP operations in the Delta are governed by a series of regulations and agreements with the State Water Resources Control Board (SWRCB), the US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the California Division of Fish and Wildlife. The current operating standards can be found at [http://www.water.ca.gov/swp/operationscontrol/docs/bay\\_deltastandards.htm](http://www.water.ca.gov/swp/operationscontrol/docs/bay_deltastandards.htm)

### ***Merced Irrigation District***

MID owns, operates, and stores its water from two primary sources, the New Exchequer and McSwain dams and reservoirs (Lake McClure and Lake McSwain respectively). Both have Federal Energy Regulatory Commission licensed hydroelectric facilities and are located on the Merced River. MID's water supply from Merced River diversions is approximately 550,000 AF per year. Lake McClure has a capacity of approximately 1,024,600 AF and Lake McSwain has a capacity of approximately 9,730 AF. MID facilities include 825 miles of canals and laterals, of which 620 miles are dirt-lined, 108 miles are concrete-lined and 97 miles are piped (Reclamation 2011).

### ***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 located on the west side of the San Joaquin Valley and is a part of the San Luis Unit of the CVP with a long-term contract for 1,150,000 AF. The San Luis Unit receives water from the CVP through the DMC and the San Luis Canal (SLC). Water is delivered directly to land in the San Luis Unit from the Delta 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.

Baseline conditions are considered to be conditions experienced during the past five years, shown below in Table 3-2. Allocations of CVP water are listed on a yearly basis for agriculture purposes from 2009 to 2013. The five-year average is 39 percent of contract amounts for agriculture. The annual contract amount for the WWD is 1,150,000 AF; thus the net baseline supply is 449,533 AF.

**Table 3-2 WWD Water Supply History**

| <b>Water Year</b>                                                                                                                                                                                                                                                                                                                                        | <b>CVP Allocation</b> | <b>Net CVP, AF</b> | <b>Groundwater, EF</b> | <b>Water User Acquired, AF</b> | <b>Additional District supply, AF</b> | <b>Total Supply, AF</b> | <b>Fallowed Acres</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------|------------------------|--------------------------------|---------------------------------------|-------------------------|-----------------------|
| 2009                                                                                                                                                                                                                                                                                                                                                     | 10%                   | 195,716            | 480,000                | 68,070                         | 77,424                                | 821,210                 | 156,239               |
| 2010                                                                                                                                                                                                                                                                                                                                                     | 45%                   | 570,732            | 140,000                | 71,296                         | 98,569                                | 880,597                 | 131,339               |
| 2011                                                                                                                                                                                                                                                                                                                                                     | 80%                   | 842,552            | 45,000                 | 60,380                         | 226,044                               | 1,173,976               | 59,514                |
| 2012                                                                                                                                                                                                                                                                                                                                                     | 40%                   | 390,129            | 350,000                | 111,154                        | 139,920                               | 991,203                 | 112,755               |
| 2013 (est.)                                                                                                                                                                                                                                                                                                                                              | 20%                   | 248,537            | 450,000                | 75,000                         | 100,000                               | 873,537                 | 175,000               |
| 5-Year Average                                                                                                                                                                                                                                                                                                                                           | 39%                   | 449,533            | 293,000                | 77,180                         | 128,391                               | 948,105                 | 126,969               |
| CVP Allocation is Final CVP water supply allocation for water year (100% = 1,150,000 AF)<br>Net CVP is CVP Allocation adjusted for carryover and rescheduled losses.<br>Water User Acquired is private landowner water transfers.<br>Additional district supply is surplus water, supplemental supplies and other adjustments.<br>Source: Westlands 2013 |                       |                    |                        |                                |                                       |                         |                       |

Landowners in WWD rely on groundwater pumping, water transfers, and WWD acquisitions to supplement their CVP supply. If the water portfolio comes up short of meeting all needs, land is taken out of production (fallowed).

### ***San Luis Water District***

SLWD is located on the western side of the San Joaquin Valley near the town of Los Banos, within Merced and Fresno Counties. SLWD was formed in 1951 and is comprised of approximately 66,218 acres, of which 56,500 are irrigable. In recent years irrigated acreage has averaged around 34,000 acres due to declining water supply reliability.

SLWD's current distribution system includes 52 miles of pipelines, 10 miles of lined canals, and 7.5 miles of unlined canals. About 20,000 acres within SLWD, referred to as the Direct Service Area (DSA), receive water from 39 turnouts on the DMC and 23 turnouts on the SLC. In addition to the DSA, three improvement districts are also served through distribution systems branching off the SLC. Improvement District 1 and 2 are located primarily within Fresno County; Improvement District 3 is located entirely within Merced County.

SLWD entered into a long-term contract with Reclamation in 1959 for 93,300 af/yr of CVP water. This contract was superseded by a contract executed in 1974 for a maximum of 125,080 af/yr of CVP water. In December 2008, and again in 2011, Reclamation and SLWD executed Interim Renewal Contracts for the same 125,080 af/yr. Although water deliveries by SLWD historically have been almost exclusively used for agricultural use, substantial development in and around Los Banos and Santa Nella have resulted in a shift of some water supplies to M&I use.

Baseline conditions are considered to be conditions experienced during the past five years, and the existing environment is defined as the conditions during the past five years. Table 3-3 lists SLWD's allocation of CVP water supplies from 2009 to 2013. The five-year average is 39 percent of contract amounts for agriculture. The annual contract amount for SLWD is 125,080 af/yr; thus the baseline supply is 43,778 af/yr.

**Table 3-3 SLWD Five-Year CVP Allocation Percentages**

| <b>Water Year</b>        | <b>CVP Allocation</b> | <b>Net CVP, AF</b> |
|--------------------------|-----------------------|--------------------|
| 2009                     | 10%                   | 12,508             |
| 2010                     | 45%                   | 56,286             |
| 2011                     | 80%                   | 100,064            |
| 2012                     | 40%                   | 50,032             |
| 2013                     | 20%                   | 25,016             |
| 5-year Average           | 39%                   | 43,778             |
| Source: Reclamation 2012 |                       |                    |

### ***Patterson Irrigation District***

PID has a point of diversion of pre-1914 appropriative rights on the San Joaquin River at river mile 98.5, located about 3.5 miles east of the City of Patterson (Figure 3-1). PID completed construction of a new 195 cfs NMFS-approved fish screen and diversion pump station at its San Joaquin River diversion facility in 2011. The pump station is outfitted with stainless steel, high-profile bar screens rated to prevent entrainment and impingement of steelhead and Chinook

salmon in the San Joaquin River. This pump station conveys water into PID's main canal lift system.

The PID main canal lift system includes approximately four miles of concrete-lined open channel, and five additional pump stations (excluding the San Joaquin River Fish screen) capable of moving water into five separate canal lift segments. The pump stations range in capacity from 40 cfs to 195 cfs, and include 35 electrically driven pumps ranging in size up to 350 horsepower. The main canal system is automated, with each pump station relying on downstream level control to maintain water levels in each canal segment, which prevents and limits operational spills.

At the end of the PID main canal, PID maintains intertie facilities capable of conveying approximately 40 cfs to the DMC. PID's existing discharge facility into the DMC from the PID main canal is located at DMC milepost 42.53L, and PID is currently in the process of expanding its facilities to increase its capacity to convey up to 250 cfs into the DMC.

### ***Delta-Mendota Canal***

The Delta-Mendota Canal, completed in 1951, carries water southeasterly from the Tracy (C.W. "Bill" Jones) Pumping Plant along the west side of the San Joaquin Valley for irrigation supply, for use in the San Luis Unit, and to replace San Joaquin River water stored at Friant Dam and used in the Friant-Kern and Madera systems. The canal is about 117 miles long and terminates at the Mendota Pool, about 30 miles west of Fresno. The initial diversion capacity is 4,600 cubic feet per second, which is gradually decreased to 3,211 cubic feet per second at the terminus.

### ***O'Neill Forebay***

The O'Neill Forebay Inlet Channel extends 2,200 feet from the Delta-Mendota Canal to deliver water to the O'Neill Forebay. The forebay holds 56,000 acre-feet, part of which is used for regulator storage to permit off-peak pumping and on-peak generation. Six pumping units of the O'Neill Pumping-Generating Plant lift water 45 to 53 feet into the forebay. The forebay, with a capacity of 56,400 acre-feet, is used as a hydraulic junction point for Federal and State waters. Recreation facilities included at the forebay for picnicking, camping, swimming, boating, water skiing, and fishing.

### ***San Luis Canal***

This joint Federal/State facility is a concrete-lined canal with a capacity ranging from 8,350 to 13,100 cfs. Public access sites are provided for fishing. The San Luis Canal is the biggest earth-moving project in Reclamation history. It is the federally-built and operated section of the California Aqueduct and extends 102.5 miles from the O'Neill Forebay, near Los Banos, in a southeasterly direction to a point west of Kettleman City. The 138-foot-wide channel is 36 feet deep, 40 feet wide at the bottom, and lined with concrete.



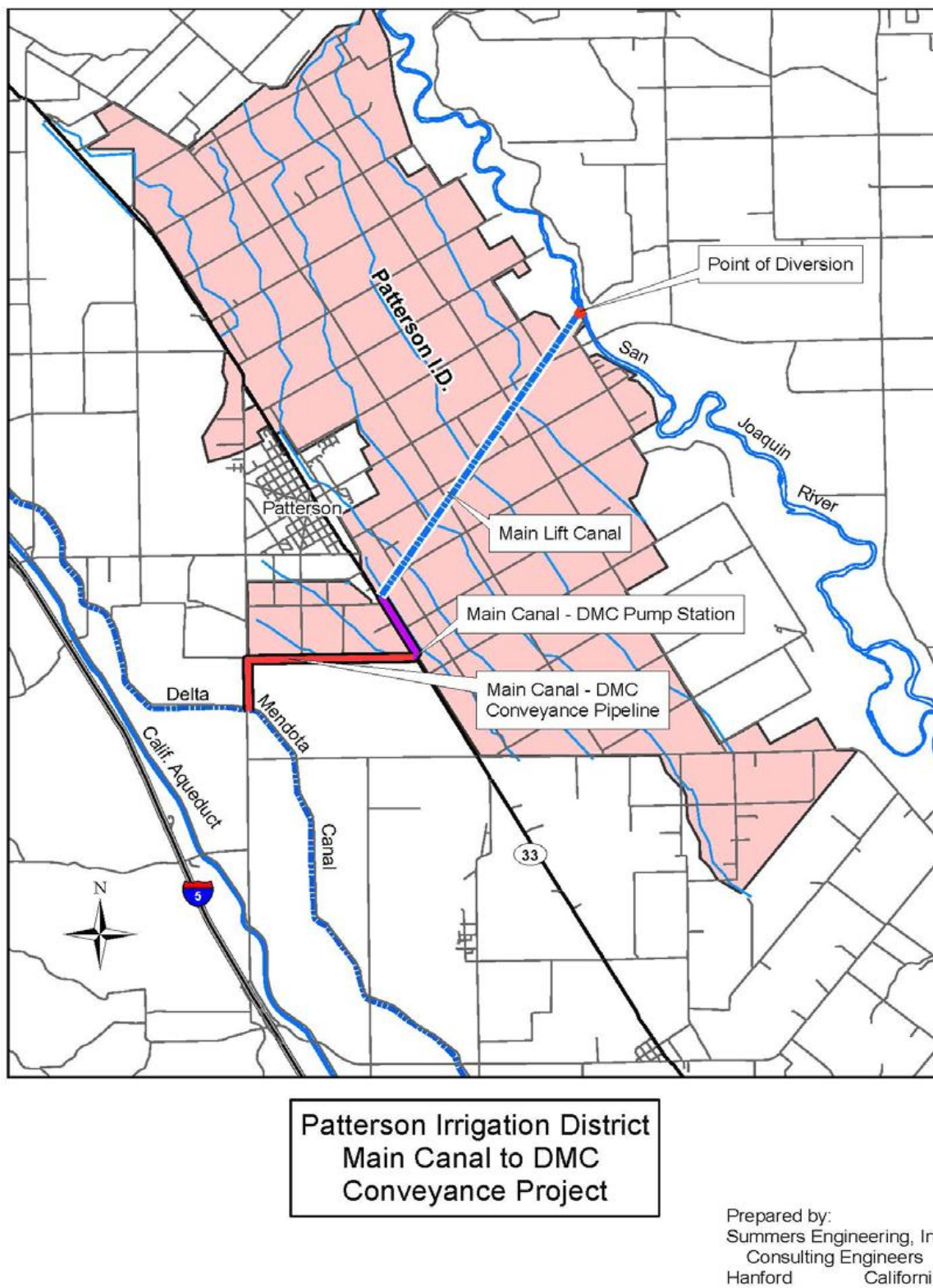


Figure 3-1 Patterson Irrigation District to Delta-Mendota Canal Interconnection

## Water Quality

The water quality of the San Joaquin River is variable, depending on the location, time of year, and the contributing sources of inflows. Water quality is monitored at Vernalis, where the San Joaquin River enters the Delta, and other sites within the watershed. At Vernalis the quality and volume of flow depends on several factors, including the contribution of flows from the Stanislaus, Tuolumne, and Merced Rivers, and the contribution of agricultural return flows. Typically, the higher the San Joaquin River flow at Vernalis, the better the water quality entering the Delta. At times New Melones Reservoir is operated to maintain compliance with Vernalis water quality objectives. The average monthly electrical conductivity (EC), a common measure of water quality, at Vernalis and in the DMC is shown in Table 3-4 (Reclamation 2012).

**Table 3-4 Ten Year Average Water Quality, San Joaquin River and Delta-Mendota Canal**

| Month                                                                                                                    | San Joaquin River at Vernalis | DMC Headworks | DMC Check 20 | DMC Check 21 |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|--------------|--------------|
| January                                                                                                                  | 643                           | 542           | 630          | 669          |
| February                                                                                                                 | 688                           | 544           | 608          | 608          |
| March                                                                                                                    | 665                           | 518           | 623          | 595          |
| April                                                                                                                    | 403                           | 405           | 601          | 563          |
| May                                                                                                                      | 286                           | 340           | 539          | 520          |
| June                                                                                                                     | 372                           | 321           | 468          | 427          |
| July                                                                                                                     | 488                           | 282           | 344          | 323          |
| August                                                                                                                   | 520                           | 340           | 393          | 382          |
| September                                                                                                                | 532                           | 413           | 475          | 442          |
| October                                                                                                                  | 453                           | 413           | 484          | 469          |
| November                                                                                                                 | 667                           | 445           | 516          | 501          |
| December                                                                                                                 | 697                           | 557           | 592          | 602          |
| Average                                                                                                                  | 534                           | 426           | 523          | 508          |
| Ten Year (2003-2012) Average Electrical Conductivity in $\mu$ mhos<br>Source: California Data Exchange Center (DWR 2012) |                               |               |              |              |

Currently State Water Resources Control Board's Decision 1641(D-1641) requires the implementation of the 2006 Bay-Delta Water Quality Control Plan, under which DWR and Reclamation are responsible for mitigating water quality effects of their operations in the Delta. The water quality constituents of concern in the Delta can be categorized broadly as metals, pesticides, nutrient enrichment and associated eutrophication, constituents associated with suspended sediments and turbidity, salinity, bromide, and organic carbon. Water quality constituents that are of specific concern with respect to drinking water include salinity, bromide, and organic carbon (Reclamation 2013).

### 3.2.2 Environmental Consequences

#### **No Action**

Under the No Action alternative, the water available for acquisition from MID would remain in storage within Lake McClure and be put to other beneficial uses by MID. WWD and SLWD would look for other water supplies to augment their water supply portfolio and to reduce groundwater pumping and fallowing.



### ***Proposed Action***

The transferred water would be released from storage in Lake McClure/New Exchequer dam by MID beginning in the fall of 2013, and conveyed in the Merced and San Joaquin River. The water released would be over and above the flows required to maintain compliance with the water quality and quantity requirements established by D-1641 and would not interfere with scheduled fall pulse flows. This action would not impair the DWR or Reclamation's ability to meet their other obligations and responsibilities.

Under the Proposed Action Alternative, there would be no significant change to Delta inflows or export pumping during any of the months evaluated. DWR and Reclamation's ability to meet the 2006 Bay-Delta Water Quality Control Plan objectives would not be compromised. No changes to water quality are expected to occur as a result of the Proposed Action Alternative relative to the No Action Alternative.

The Proposed Action would not affect CVP or SWP operations and would not change existing diversion points from the Delta under Reclamation's or DWR's water rights permits. The Proposed Action would not interfere with Reclamation's obligations to deliver water to other contractors, wetland habitat areas, or for other environmental purposes. This transfer would utilize existing facilities and no new infrastructure, modifications of facilities, or ground disturbing activities would be needed for movement of this water. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions. Water would be pumped at PID's licensed fish screened intakes, which are designed to limit entrainment and impingement of fish during pumping. PID would pump and convey up to 40 cfs, measured by SLDMWA at the discharge, to the DMC. The water would then be transported in the DMC into the O'Neill Forebay for conveyance to WWD and/or SLWD through the San Luis Canal.

While the EC of the San Joaquin River water is slightly higher than the water in the DMC, the introduction of San Joaquin River water at the anticipated rate is not expected to have an adverse effect on downstream users.

### ***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 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 myriad 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 or foreseeable projects, in addition to the proposed transfer from MID to WWD and/or SLWD, which could affect or could be affected by the Proposed Action or No Action alternative, include the following:

**San Joaquin River Restoration** The San Joaquin River Restoration Program (SJRRP) was established in late 2006 to implement the requirements of a settlement of NRDC, et al., v. Kirk Rodgers, et al. The goal of the SJRRP is to establish a self-sustaining population of fish, primarily salmon, in the portion of the San Joaquin River between Friant Dam and the Merced River while minimizing adverse impacts to water users (DWR 2012). A Final Program Environmental Impact Statement/Report was issued in July 2012.

**Additional Point of Delivery for Byron-Bethany Irrigation District's Non-Project Water to Westlands Water District** Under a previous action (EA 09-156), Reclamation approved WACs of up to 10,000 AF of water by a variety of contractors to and through the Delta-Mendota Canal. In 2012 the previous approval was amended to allow up to 5,000 AF of the covered water to further be transferred to Westlands Water District. Reclamation issued Finding of No Significance (FONSI) 12-052 for this action on June 15, 2012.

**Additional Point of Delivery for Patterson Irrigation District's Non-Project Water to Del Puerto Water District** This action is similar to what is described above for Byron-Bethany Irrigation District, except that up to 10,000 AF would be transferred from Patterson Irrigation District to Del Puerto Water District. Reclamation issued FONSI 12-054 for this action on July 17, 2012.

**Vista Verde Temporary Annual Transfer of Settlement Contract Water to Vista Verde-Owned Lands within Westlands Water District** This action involved transfer of contract water from a property owned by Vista Verde farms to another property within Westlands Water District owned by the same company. Up to 1,140 AF are to be transferred each year from one property to the other. Reclamation issued FONSI 12-038 for this action on July 31, 2012.

**Addition of Westlands Water District to the Arvin-Edison Water District and Westside Mutual Water Company Exchange Program** In 2011, Reclamation approved an exchange of up to 50,000 AF of water between Arvin-Edison Water Storage District and Westside Mutual Water Company Exchange. Following this original approval, a request was received to allow Westlands Water District to participate in the same exchange. The Supplemental Environmental Assessment (SEA 12-030) for that action was approved on June 19, 2013.

**Transfer from Central California Irrigation District and Firebaugh Canal Water District to San Luis, Panoche, Del Puerto and Westlands Water Districts** Under this project, up to 20,500 AF of CVP water could be transferred from Central California Irrigation District and Firebaugh Canal to San Luis, Panoche, Del Puerto and Westlands Water District. In addition, up to 5,000 AF could be transferred from Firebaugh Water District to San Luis and Westlands Water District. The transfers would take place between July 2012 to December 31, 2012 and April 1, 2013 to December 31, 2013. Reclamation issued FONSI 12-006 for this project on July 27, 2012.

**Oro Loma Water District Partial Assignment to Westlands Water District** This action involved partial reassignment of Oro Loma Water District's CVP water allocation to Westlands Water District. 4,000 of Oro Loma's 4,600 AF of CVP contract water were assigned to Westlands Water District to meet their in-district needs. Reclamation issued FONSI 11-092 for the project on February 27, 2012.

**Westlands Water District Conveyance of Kings River Flood Flows in the San Luis Canal** Westlands Water District had an agreement with the Kings River Water Association to convey seasonal flood flows from the Kings River to lands within WWD's service area by way of their Laterals 6-1 and 7-1. However the land served by those laterals was retired and no longer needed the flood water. With this action, Reclamation allowed WWD to redirect up to 50,000 AF of the excess Kings River flood water to the San Luis Canal for use at other locations. Reclamation issued FONSI 11-002 for the project on January 26, 2012.

**Central Valley Project Interim Renewal Contracts for Westlands Water District, Santa Clara Valley Water District, and Pajaro Valley Water Management Agency 2014-2016** Reclamation is currently considering renewal of six interim renewal contracts for water service in the Delta Division and San Luis Unit totaling 1,192,948 AF. These would be a continuation of previous agreements and would not provide new or different service to any of the affected contractors. Reclamation is evaluating this action under EA 13-023.

**Delta-Mendota Canal Pump-In Project (2011-2012)** The DMC pump-in program allows the member agencies of the San Luis & Delta-Mendota Water Authority to pump groundwater into the DMC for delivery to contractors during the period of March 1, 2011 through February 28, 2013. The member agencies are limited to no more than 10,000 AF individually, and 50,000 AF as a group. Reclamation issued FONSI 10-072 for this project on February 28, 2011.

**Delta-Mendota Canal Pump-In Project (2012-2013)** This project is similar to the DMC Pump-In Project above, but covers the time period from March 1, 2012 to February 28, 2013. Allowed water volumes are the same. Reclamation issued FONSI 12-005 for this project on May 8, 2012.

**Delta-Mendota Canal Pump-In Project (2013-2024)** This project is similar to the DMC Pump-In Project above, but covers the time period from March 1, 2013 to February 29, 2024. Allowed water volumes are the same. Reclamation issued FONSI 12-061 for this project on January 10, 2013.

**Byron Bethany Irrigation District Long-term Exchange Agreement.** Reclamation has received a request from Byron Bethany Irrigation District to enter into a 40-year contract for the introduction of up to 4,725 AF per year of their non-CVP surface water into the DMC for exchange with Reclamation. Reclamation is currently preparing EA 09-149 for the proposed project.

**SLWD WAC - Bettencourt Well Pump-In along the SLC** Under this action, Reclamation approved a five-year WAC for San Luis Water District to pump up to 1,500 AF of groundwater into the San Luis Canal per year. The WAC covers the period from July 2012 through February 28, 2017, and was evaluated under EA 11-003.

### **San Luis WD and Panoche WD Water Service Interim Renewal Contracts 2013-2015**

Under EA 13-023, Reclamation approved interim renewal contracts for water service with San Luis Water District and Panoche Water District with water volumes of 125,080 and 94,000 AF respectively. These are a continuation of previous agreements and do not provide new or different service to the contractors. The contracts cover the period from March 1, 2013 to February 28, 2015.

Water service actions like those described above do not result in increases or decreases of water diverted from rivers or reservoirs. No legal user of water would be injured due to the Proposed Action and No Action because the transfer water would only slightly increase, not decrease, streamflows below MID's Lake McClure. Increases would be minor and would not cause any water flows to increase above normal seasonal levels, or violate any regulatory requirements. Each water service transaction involving CVP and non-CVP water undergoes environmental review prior to approval. The Proposed Action and No Action alternative and other similar projects would not interfere with the projects listed above, nor would they hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Neither alternative, when added to other water service actions, would result in cumulative effects to surface water resources beyond historical fluctuations and conditions.

## **3.3 Biological Resources**

### **3.3.1 Affected Environment**

Historically, native habitat types in WWD and/or SLWD consisted of valley sink scrub and saltbush, grasslands, wetlands and riparian habitat. Over the last few decades, much of the historic native grassland and wetland habitats have been converted to farmland, which requires importation of water for production.

**Error! Reference source not found.**5 was prepared using a list obtained on June 21, 2013, by accessing the U.S. Fish and Wildlife Service (USFWS) Database:

[http://www.fws.gov/sacramento/ES\\_Species/Lists/es\\_species\\_lists-form.cfm](http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm). The following 7 ½ minute U.S. Geological Survey quadrangles were queried to develop this list (Document No. 120705053713): Avenal, Broadview Farms, Burrel, Calflax, Cantua Creek, Chaney Ranch, Chounet Ranch, Coalinga, Coit Ranch, Domengine Ranch, Dos Palos, Firebaugh, Five Points, Gujarral Hills, Hammonds Ranch, Harris Ranch, Helm, Huron, Kettleman City, La Cima, Lemoore, Levis, Lillis Ranch, Monocline Ridge, San Joaquin, Stratford, Tranquillity, Tres Pecos Farms, Tumey Hills, Vanguard, Westhaven and Westside. Reclamation further queried the California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the service areas (CNDDB 2013). The information collected above, in addition to information within Reclamation's files, was combined to determine the likelihood of protected species occurrence within the action area.

**Table 3-5 Federal Status Species for CVP Service Area**

| Species                                                                               | Status <sup>1</sup> | Effects <sup>2</sup> | Summary basis for ESA determination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------|---------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INVERTEBRATES</b>                                                                  |                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| vernal pool fairy shrimp<br>( <i>Branchinecta lynchi</i> )                            | T                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| valley elderberry longhorn beetle<br>( <i>Desmocerus californicus dimorphus</i> )     | T                   | NE                   | No change in land use as a result of the Proposed Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| vernal pool tadpole shrimp<br>( <i>Lepidurus packardii</i> )                          | E                   | NE                   | No change in land use as a result of the Proposed Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>FISH</b>                                                                           |                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| delta smelt<br>( <i>Hypomesus transpacificus</i> )                                    | T                   | NE                   | The Proposed Action area does not include the Delta.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Central Valley steelhead<br>( <i>Oncorhynchus mykiss</i> )                            | T                   | NE                   | Effects of the species from pumping at the PID intake were addressed by NMFS (2007). Although the San Joaquin River and Merced Rivers in the action area are designated critical habitat, no effects are expected on steelhead due to the change in flows, as water level changes would be minor on the Merced River, negligible on the San Joaquin River, no increase in turbidity or any scouring would occur, and the only temperature change would be a temporary (October only) decrease on the section of the Merced River just below New Exchequer Dam. |
| Central Valley spring-run chinook salmon<br>( <i>Oncorhynchus tshawytscha</i> )       | T                   | NE                   | The reintroduction of spring-run Chinook to the San Joaquin River has been delayed and would not occur until after the completion of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                      |
| winter-run chinook salmon, Sacramento River<br>( <i>Oncorhynchus tshawytscha</i> )    | T                   | NE                   | The Proposed Action area does not include the Delta or the Sacramento River system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>AMPHIBIANS</b>                                                                     |                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| California tiger salamander, central population<br>( <i>Ambystoma californiense</i> ) | T                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| California red-legged frog<br>( <i>Rana draytonii</i> )                               | T                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>REPTILES</b>                                                                       |                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| blunt-nosed leopard lizard<br>( <i>Gambelia sila</i> )                                | E                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| giant garter snake<br>( <i>Thamnophis gigas</i> )                                     | T                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>BIRDS</b>                                                                          |                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| western snowy plover<br>( <i>Charadrius alexandrinus nivosus</i> )                    | T                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| California condor<br>( <i>Gymnogyps californianus</i> )                               | E                   | NE                   | No change in land use as a result of the Proposed Action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Status <sup>1</sup> | Effects <sup>2</sup> | Summary basis for ESA determination                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|-----------------------------------------------------------|
| <b>MAMMALS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |                      |                                                           |
| giant kangaroo rat<br>( <i>Dipodomys ingens</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| Fresno kangaroo rat<br>( <i>Dipodomys nitratoideis exilis</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | E, X                | NE                   | No change in land use as a result of the Proposed Action. |
| Tipton kangaroo rat<br>( <i>Dipodomys nitratoideis nitratoideis</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| San Joaquin kit fox<br>( <i>Vulpes macrotis mutica</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| <b>PLANTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                     |                      |                                                           |
| California jewelflower<br>( <i>Caulanthus californicus</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| palmate-bracted bird's-beak<br>( <i>Cordylanthus palmatus</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| San Joaquin woolly-threads<br>( <i>Monolopia congdonii</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | E                   | NE                   | No change in land use as a result of the Proposed Action. |
| <p>1 Status= Listing of Federally protected species under the Endangered Species Act<br/> E: Listed as Endangered<br/> T: Listed as Threatened<br/> X: Critical Habitat designated for this species<br/> P: Protected under the Migratory Bird Treaty Act<br/> NMFS: Species under jurisdiction of National Oceanic &amp; Atmospheric Administration Fisheries Service</p> <p>2 Effects = Endangered Species Act Effect determination<br/> NE: No Effect</p> <p>3 Definition of Occurrence Indicators<br/> Possible: Species and habitat recorded in area<br/> Absent: Species not recorded in study area and habitat requirements not met</p> <p>4 CNDDB = California Natural Diversity Database 2013</p> |                     |                      |                                                           |

### 3.3.2 Environmental Consequences

#### **No Action**

Under the No Action Alternative, the water supply available for acquisition from MID would remain in storage within Lake McClure and be put to other beneficial uses by MID. WWD and SLWD would continue to look for other water supplies to augment its water supply to reduce groundwater pumping along with fallowing. The No Action alternative would neither hinder nor enhance populations of upland special status species or their habitats. With regard to fish species, the screened PID diversion would continue to operate during the subject time period. As a result of the properly screened intake, adverse impacts to the Central Valley steelhead are extremely unlikely to occur (NMFS 2007).

#### **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. The Proposed Action would not affect migratory birds, imperiled species, unique habitats, or species and habitats protected by Federal or State law. The only impacts to Central Valley steelhead would be those already addressed by NMFS (2007). Essential Fish Habitat for the fall-run and late fall-run Chinook

salmon is not expected to be affected. Increased flows on the Merced River would be minor in terms of changing the water levels and lowering the water temperature, and would occur during late summer, when the salmon are not present.

### ***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 PID diversion operations would result from the action.

## **3.4 Socioeconomic Resources**

### **3.4.1 Affected Environment**

Unemployment for Kings and Fresno counties was 12.1 and 11.8 percent in 2012 (Census Bureau 2012), putting the counties approximately three to four percentage points higher than the State average (Table 3-6). In addition, both counties had per capita incomes approximately \$8,000-11,000 lower than the State per capita income.

**Table 3-6 2012 Labor Force Data**

|               | <b>Labor Force</b> | <b>Employed</b> | <b>Per Capita Income<sup>1</sup></b> | <b>Unemployment Rate</b> |
|---------------|--------------------|-----------------|--------------------------------------|--------------------------|
| Fresno County | 446,000            | 393,400         | \$20,329                             | 11.8%                    |
| Kings County  | 62,300             | 54,800          | \$17,875                             | 12.1%                    |
| California    | 18,591,000         | 17,080,600      | \$29,188                             | 8.1%                     |

Source: EDD 2012 and Census Bureau 2011  
<sup>1</sup>Amounts are based on 2010 numbers as the most recent data available from the U.S. Census Bureau.

The lands within WWD and SLWD are primarily rural and in agricultural use. The communities and cities in the surrounding area are home to farm workers as well as farm-related businesses such as feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, marketing, etc.

### **3.4.2 Environmental Consequences**

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

Absent this transfer, water available for acquisition from MID would either remain in storage within Lake McClure for future marketing to other buyers or use by MID. WWD and SLWD would continue to seek water transfers from other sources to add to their water supply portfolio and reduce groundwater pumping in order to keep highly productive land under cultivation. This could increase costs for the contractors' customers, reducing their profitability.

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

Under the Proposed Action, the status quo of agriculture would be maintained. WWD and/or SLWD would use the MID water to balance out local deficiencies in water supply and promote efficient irrigation of crops. Prime farmland and farmland of statewide importance would remain in production. Seasonal labor requirements would have very little change, and businesses that support agriculture would not be financially harmed.

### ***Cumulative Impacts***

Over the long term, the Proposed Action would maintain current economic conditions within WWD and SLWD, as the transferred water would allow the Districts to continue to deliver the same amount of water as in the past. When added to other similar existing and proposed actions, the Proposed Action would help to maintain current economic opportunities within the area. No cumulative adverse effects are anticipated.

## **3.5 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.

### **3.5.1 Affected Environment**

Fresno and Kings Counties rely to a large extent, either directly or indirectly, on agriculture for employment. Between 50.3 percent and 50.9 percent of the population within these counties is of Hispanic or Latino origin, which compares to 37.6 percent for the state as a whole (Table 3-7). The market for seasonal workers on local farms also draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, increasing populations within these small communities during peak harvest periods.

**Table 3-7 2011 Demographics for Fresno and Kings Counties**

|               | <b>Total<br/>Population</b> | <b>White (not<br/>Hispanic)</b> | <b>Black or<br/>African<br/>American</b> | <b>American<br/>Indian</b> | <b>Asian</b> | <b>Native<br/>Hawaiian/<br/>Pacific<br/>Islander</b> | <b>Hispanic</b> |
|---------------|-----------------------------|---------------------------------|------------------------------------------|----------------------------|--------------|------------------------------------------------------|-----------------|
| Fresno County | 930,450                     | 32.4%                           | 5.9%                                     | 3.0%                       | 10.3%        | 0.3%                                                 | 50.9%           |
| Kings County  | 152,982                     | 35.0%                           | 7.9%                                     | 2.9%                       | 4.2%         | 0.3%                                                 | 51.4%           |
| California    | 37,253,956                  | 39.7%                           | 6.6%                                     | 1.7%                       | 13.6%        | 0.5%                                                 | 38.1%           |

Source: Census Bureau 2011

### **3.5.2 Environmental Consequences**

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

Absent this transfer, water available for acquisition from MID would either remain in storage within Lake McClure for future marketing to other buyers or use by MID. WWD and SLWD would continue to seek water transfers from other sources to add to their water supply portfolios and reduce groundwater pumping in order to keep highly productive land under cultivation. This could potentially impact disadvantaged or minority populations due to the economic impacts to the agricultural industry and current water demands.

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

The Proposed Action may support and maintain jobs that low-income and disadvantaged populations rely upon through increased irrigation water supply reliability. Therefore, there may be a slight beneficial impact to minority or disadvantaged populations as a result of the Proposed Action.



### **Cumulative Impacts**

The Proposed Action would maintain current conditions and employment opportunities for all demographic groups in the area. Cumulative adverse impacts to minority or low-income populations are not anticipated.

## **3.6 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 Code of Federal Regulations (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.

### **3.6.1 Affected Environment**

The Proposed Action area lies within the San Joaquin Valley Air Basin under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The air basin currently exceeds California state standards for ozone and particulate matter as well as the national standards for ozone and for particulate matter smaller than 2.5 microns (PM<sub>2.5</sub>). The air basin is in attainment for carbon monoxide, nitrous oxide and sulfur dioxide. See Table 3-8 below for more specific information.

**Table 3-8 San Joaquin Valley Air Quality Status**

| <b>Pollutant</b>  | <b>California Attainment Status</b> | <b>National Attainment Status</b> |
|-------------------|-------------------------------------|-----------------------------------|
| O <sub>3</sub>    | Nonattainment                       | Nonattainment                     |
| CO                | Attainment                          | Attainment                        |
| NO <sub>2</sub>   | Attainment                          | Attainment                        |
| SO <sub>2</sub>   | Attainment                          | Attainment                        |
| PM <sub>10</sub>  | Nonattainment                       | Attainment                        |
| PM <sub>2.5</sub> | Nonattainment                       | Nonattainment                     |

Source: SJVAPCD 2012

### **3.6.2 Environmental Consequences**

### ***No Action***

If no action were taken, WWD and SLWD would seek an alternative source of water, which would be delivered by gravity feed or by pumping. Since no alternative source has been identified at this time, and it is not known how much electricity would be required or where it would be generated, power-related air emissions cannot be estimated with any certainty.

### ***Proposed Action***

Under the Proposed Action, delivery of this water would require no modification of existing facilities or construction of new facilities. The water would be moved either via gravity or electric pumps which use power from existing sources. Although generation of electricity would produce air emissions, the amount required for this project cannot be quantified because it would depend on where and how the electricity is generated, which is not known. Emissions would be quantified and appropriately regulated at the point of generation, i.e. the power plant.

### ***Cumulative Impacts***

Since air emissions from the power generation necessary to support the proposed action cannot be determined, cumulative impacts also cannot be reliably estimated. However, emissions from power generating plants are regulated, and regional air quality goals are a primary consideration when air permits are issued for those facilities. Any cumulative impacts as a result of power generation for this and other actions would be addressed by emission restrictions and other mitigation measures implemented by the air quality agencies.

## **3.7 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 (CO<sub>2</sub>), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO<sub>2</sub> and CH<sub>4</sub>, 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 CO<sub>2</sub> equivalents (CO<sub>2e</sub>) 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).

### **3.7.1 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 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).

### **3.7.2 Environmental Consequences**

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

Under the No Action alternative, WWD and SLWD would seek alternative sources of water, either from groundwater pumping or from other sources on the open market. Moving this water would require the use of electricity and result in associated emissions of greenhouse gases. However, since no alternative source has been identified at this time, quantities of electricity used and emissions generated cannot be reliably estimated.

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

The Proposed Action involves the movement of water by electrical pumps. The electricity used to power the pumps could come from a variety of sources, including hydropower, landfill gas or burning of traditional fossil fuels. The scenario with the highest emissions of GHG's would be the case where 100% of the power is produced from fossil fuels.

It is estimated that delivering the full quantity of water through PID's facilities would require pumping at 1200 horsepower for 189 days. This corresponds to approximately 4,060,500 kilowatt-hours (kwh) of energy used. Per EPA's GHG Equivalencies Calculator, production of this much power would produce estimated emissions for CO<sub>2</sub> equivalences of around 2,800 metric tons per year of CO<sub>2</sub>e (EPA 2010). This is negligible compared to the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, operations under the Proposed Action would result in below *de minimis* impacts to global climate change.

#### ***Cumulative Impacts***

GHG impacts are considered to be cumulative impacts. Full operation of the proposed project is estimated to produce no more than 2,800 metric tons of CO<sub>2</sub>e, which is a *de minimis* amount compared to the threshold value of 25,000 metric tons. The Proposed Action, when added to other existing and proposed actions, would not contribute to significant cumulative impacts to global climate change.

## **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 August 13, 2013 and August 27, 2013.

### **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 that the Proposed Action would not affect any Federally listed or proposed species or critical habitat. Therefore, no consultation is 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 only support existing land use and would not involve any construction. Therefore, there would be no impacts to migratory birds.

#### **4.4 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.)**

The Magnuson-Stevens Fishery Conservation and Management is the primary law governing marine fisheries management in United States federal waters. The Act was first enacted in 1976 and amended in 1996.

Essential Fish Habitat would not be affected by the Proposed Action. The release of water down the Merced River would occur at a time when Chinook salmon are not present. As there would be no adverse effect, no consultation is required.

## **Section 5 Preparers and Reviewers**

### **Bureau of Reclamation**

Erma Leal, Repayment Specialist, SCCAO-445  
Ben Lawrence, Natural Resources Specialist, SCCAO-412  
Shauna McDonald, Wildlife Biologist, SCCAO-424  
Nick Kilb, Natural Resources Specialist, SCCAO-416 (Reviewer)  
Chuck Siek, Supervisory Natural Resources Specialist, SCCAO-411 (Reviewer)  
Bill Soule, Archaeologist or Architectural Historian, MP-153  
Patricia Rivera, Native American Affairs Specialist, MP-400

### **Westlands Water District**

Jose Gutierrez, P.E., Deputy General Manager-Resources

### **Merced Irrigation District**

Hicham ElTal, Deputy General Manager, Water Resources

### **Patterson Irrigation District**

Peter M. Rietkerk, P.E.

### **San Luis Water District**

Martin McIntyre, General Manager

## Section 6 Acronyms and Abbreviations

|             |                                                                |
|-------------|----------------------------------------------------------------|
| AF          | Acre-feet                                                      |
| CAA         | Clean Air Act                                                  |
| CARB        | California Air Resources Board                                 |
| CFR         | Code of Federal Regulations                                    |
| cfs         | Cubic Feet per Second                                          |
| CVP         | Central Valley Project                                         |
| CWA         | Clean Water Act                                                |
| D-1641      | California State Water Resources Control Board's Decision 1641 |
| Delta       | Sacramento-San Joaquin River Delta                             |
| DMC         | Delta-Mendota Canal                                            |
| DSA         | Direct Service Area                                            |
| DWR         | California Department of Water Resources                       |
| EA          | Environmental Assessment                                       |
| EC          | Electrical Conductivity                                        |
| EPA         | Environmental Protection Agency                                |
| FONSI       | Finding of No Significant Impact                               |
| GHG         | Greenhouse gases                                               |
| M&I         | Municipal and Industrial                                       |
| MID         | Merced Irrigation District                                     |
| NMFS        | National Marine Fishery Service                                |
| PID         | Patterson Irrigation District                                  |
| Reclamation | Bureau of Reclamation                                          |
| SIP         | State Implementation Plan                                      |
| SJRRP       | San Joaquin River Restoration Program                          |
| SJVAPCD     | San Joaquin Valley Air Pollution Control District              |
| SLC         | San Luis Canal                                                 |
| SLDMWA      | San Luis and Delta-Mendota Water Authority                     |
| SLWD        | San Luis Water District                                        |
| SWP         | State Water Project                                            |
| SWRCB       | State Water Resources Control Board                            |
| USFWS       | U.S. Fish and Wildlife Service                                 |
| WAC         | Warren Act Contract                                            |
| WWD         | Westlands Water District                                       |

## Section 7 References

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## **Appendix A    Cultural Resources Determination**



## United States Department of the Interior

BUREAU OF RECLAMATION  
Mid-Pacific Regional Office  
2800 Cottage Way  
Sacramento, California 95825-1898

IN REPLY  
REFER TO:  
MP-153  
ENV-3.00

VIA ELECTRONIC MAIL ONLY

July 23, 2013  
MEMORANDUM

To: Ben Lawrence  
Natural Resource Specialist, South-Central California Area Office

From: William E. Soule  
Archaeologist, Division of Environmental Affairs

Subject: 13-SCAO-233: Warren Act Contract for Transfer of 15,000 Acre-feet from the Merced Irrigation District (MID) to Westlands Water District (WWS) and/or San Luis Water District (SLWD)

This proposed undertaking by Reclamation is to approve a Warren Act conveyance contract for the transfer of up to 15,000 acre-feet of water from the MID to the WWD and/or the SLWD. 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).

The water to be transferred will be released from Lake McClure into the San Joaquin River and picked up at the federally-operated Jones Pumping Plant, at the state-operated Banks Pumping Plant, or at Patterson Irrigation District's intake on the river. Other federally-owned facilities that could be used for water transferal include the Delta-Mendota Canal, the O'Neill Forebay and the San Luis Canal. The Proposed Action will not produce any ground disturbances, it will not result in the construction of new facilities or the modification of existing facilities, and it will not result in any changes in land use.

I concur with a statement in the cultural resources section of SCCAO-EA-13-035 that neither the Proposed Action nor the No Action Alternative have the potential to cause effects to historic properties, assuming such historic properties were present, 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 action, 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)

## **Appendix B    Indian Trust Assets Determination**



Lawrence, Benjamin &lt;blawrence@usbr.gov&gt;

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## Request for Resource Determinations, SCCAO EA 13-035, Merced ID Warren Act for up to 15,000 AF

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RIVERA, PATRICIA &lt;privera@usbr.gov&gt;

Tue, Jul 23, 2013 at 10:21 AM

To: Benjamin Lawrence &lt;blawrence@usbr.gov&gt;, Kristi Seabrook &lt;kseabrook@usbr.gov&gt;

Ben,

I reviewed the proposed action to approve the proposed action for Merced Irrigation District to transfer up to 15,000 acre-feet of water to Westlands Water District and/or San Luis Water District. They have requested a Warren Act conveyance contract to deliver the transferred water using Reclamation's facilities. The water would be released from Lake McClure into the San Joaquin River and then picked up at the federally-operated Jones Pumping Plant, at the state-operated Banks Pumping Plant, or at Patterson Irrigation District's intake on the river. If the water is taken at the Jones plant, it would be conveyed to the end users by way of the Delta-Mendota Canal, the O'Neill Forebay and the San Luis Canal. If water is taken at the Banks plant, it would be conveyed to the end users by way of the California Aqueduct. If water is taken at Patterson Irrigation District's intake, it would be conveyed using their internal facilities, the Delta-Mendota Canal, O'Neill Forebay and the San Luis Canal. No new facilities or construction are necessary to execute the proposed action.

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

Patricia Rivera

Native American Affairs Program Manager  
US Bureau of Reclamation  
Mid-Pacific Region  
2800 Sacramento, California 95825  
(916) 978-5194

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Ben is this a repeat of what I have already provided? Unsure so help this confused person.

-----  
Kristi- yes this is admin. Thanks so much -- just log in.

On Tue, Jul 23, 2013 at 9:13 AM, Seabrook, Kristi <kseabrook@usbr.gov> wrote:

Morning Patricia,

Was this the ITA you were missing? I believe it is admin. They described a similar request in the form and it was also previously admin. I have it logged as admin unless you tell me otherwise.

Thanks,

Kristi Seabrook

[Quoted text hidden]

--  
Kristi Seabrook

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U.S. Bureau of Reclamation  
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Sacramento, CA 95825

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