

Final Environmental Assessment

Mendota Dam Sluice Gates Replacement Project



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List of Abbreviations and Acronyms

Act	San Joaquin River Restoration Settlement Act
AF	acre-feet
APE	area of potential effect
ARB	California Air Resources Board
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta
BA	biological assessment
BO	biological opinion
Cal/EPA	California Environmental Protection Agency
CALFED	CALFED Bay-Delta Program
CCR	California Code of Regulations
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CNDDDB	California Natural Diversity Database
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
Delta	Sacramento-San Joaquin Delta
DFG	California Department of Fish and Game
DWR	California Department of Water Resources
EA	Environmental Assessment
EA/IS	Environmental Assessment/Initial Study
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
elevation	elevation in feet above mean sea level
Federal ESA	Federal Endangered Species Act of 1973, as amended
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
FPA	Friant Power Authority
FR	Federal Register
FWCA	Fish and Wildlife Coordination Act
FWUA	Friant Water Users Authority
GHG	greenhouse gases
Hatchery	San Joaquin River Fish Hatchery/Salmon

LTRID	Conservation and Research Facility
M&I	Lower Tule River Irrigation District municipal and industrial
MBTA	Migratory Bird Treaty Act of 1918
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
NRCS	National Resource Conservation Service
NRDC	Natural Resources Defense Council
NWR	National Wildlife Refuge
O&M	operation and maintenance
OCID	Orange Cove Irrigation District
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
Restoration Area	San Joaquin River from Friant Dam to confluence with Merced River
RPA	Reasonable and Prudent Alternative
SHPO	State Historic Preservation Officer
SJRA	San Joaquin River Agreement
SJRG	San Joaquin River Group Authority
SJRRP	San Joaquin River Restoration Program
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SRA	State Recreation Area
State	State of California
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 Introduction

1.1 Mendota Dam Background

Mendota Pool is a reservoir for more than 1 million acre feet (AF) of Central Valley Project (CVP) water pumped from the Sacramento- San Joaquin Delta (Delta) and delivered via the Delta-Mendota Canal. The Delta-Mendota Canal typically conveys 2,500 to 3,000 cfs to the Mendota Pool during the irrigation season. Water delivered to the Mendota Pool from the Delta-Mendota Canal is withdrawn at seven canal or pump locations in the pool and an additional amount is released downstream to other contractors. Downstream of the last diversion point and prior to the advent of Interim Flow releases associated with the San Joaquin River Restoration Program (SJRRP) the river was typically dry. The Mendota Pool is impounded by Mendota Dam, which is owned and operated by the Central California Irrigation District (CCID). San Joaquin River water is only conveyed to the Mendota Pool during periods of flood flow. Mendota Pool extends over 5 miles up the San Joaquin River Channel and over 10 miles into Fresno Slough and varies from less than 100 to several hundred feet wide. Water depth varies but averages about 4 feet. Mendota Pool contains approximately 8,000 AF of water and has a surface area of approximately 2,000 acres when full.

Built in 1917, the Mendota Dam is a 386-foot wide concrete slab. Reinforced concrete piers spaced at approximately 20-foot centers rise from the slab and provide a structure on which flash boards are fixed to retain a water depth of approximately 18 feet. A concrete bridge deck extends the length of Mendota Dam to allow manual placement and removal of flash boards that control the water. There are presently six rectangular water control gates on the Mendota Dam operated by CCID. Two of the gates are controlled electronically using the District's centralized Supervisory Control and Data Acquisition (SCADA) system and four of the gates are controlled manually. The steel sluice gates are used to provide downstream releases of approximately 200 to 600 cfs. The dam has a leakage rate through the flashboards of between 15 and 80 cfs. During the irrigation season, water that leaks through the flash boards is included in the deliveries made to downstream contractors. During the non-irrigation season (from about November to February), CCID seals the leaks as much as possible to avoid water loss. The water that continues to leak through Mendota Dam historically has been conveyed to Sack Dam and delivered by the San Luis Canal Company to the San Luis National Wildlife Refuge. Mendota Pool also releases water into the western Grasslands area via Outside, Main, and Helm Canals. Water is provided to Mendota Wildlife Area via Fresno Slough. During high flow conditions, the flashboards cannot be safely removed or installed. Flash boards must be removed before winter storms reach the dam and this action can dewater Mendota Pool, impeding the delivery of water to the Mendota Wildlife Area (Mendota WA) and other Mendota Pool users.

Reclamation entered into a contractual arrangement with the Central California Irrigation District (CCID) in 1967. That agreement recognizes CCID's private ownership of the dam and its responsibility for the operation and maintenance of Mendota Dam at CCID's expense.

CCID drains (dewaters) Mendota Pool at least once every two years to allow standard inspections and any necessary repairs, due to the age and condition of the Mendota Dam structure. Dewatering of Mendota Pool typically starts in mid or late November and Mendota Pool may remain empty through January 15 when Mendota Pool is allowed to refill. CCID has dewatered Mendota Pool seven times in the last nine years. When dewatering is necessary, water cannot be delivered to Mendota WA through the Fresno Slough because Mendota Pool water surface elevation is not adequate. The most recent dewatering process began on November 15, 2011. Normal operations would resume after January 15, 2012.

The State of California Division of Safety of Dams (DOSD) is required to perform annual inspections of all non-Federal jurisdictional dams. Mendota Dam falls within the DOSD's jurisdiction. A 2007 review of DOSD file records from 1930 indicate that inspections have been accomplished for Mendota Dam on an approximate annual basis and that inspections were performed in varying months over the years. Inspections by DOSD were often performed when the dam was fully operational and the water surface level in Mendota Pool was within the normal elevation range.

1.2 Description of the Proposed Action

During CCID's 2011-2012 winter dewatering and maintenance activities in Mendota Pool and at Mendota Dam, CCID would replace all 6 of the existing Calco rectangular cast iron gates on the dam with heavy duty Waterman Gates (Model S 5000 FY). Replacing the gates would eliminate the need to drain and refurbish the gates every other year. The old gates tend to stick, come off the guides or otherwise malfunction. New gates would improve reliability and allow CCID to be able to work more quickly in response to SJRRP restoration flow deliveries through the dam¹.

Reclamation has determined that replacing the gates would improve functionality for the passing of SJRRP Restoration Flows and be reasonable for the SJRRP to fund. The total cost to fund the sluice gate equipment is estimated by CCID at \$120,000. Reclamation's involvement is directly related to the purchase price of the gates. CCID shall be responsible for the cost of labor and physical installation of the gates.

Installation of the gates is proposed to be completed in December 2011 and January 2012. No disturbance to the river channel would be needed and all work would occur within the confines of the existing structure.

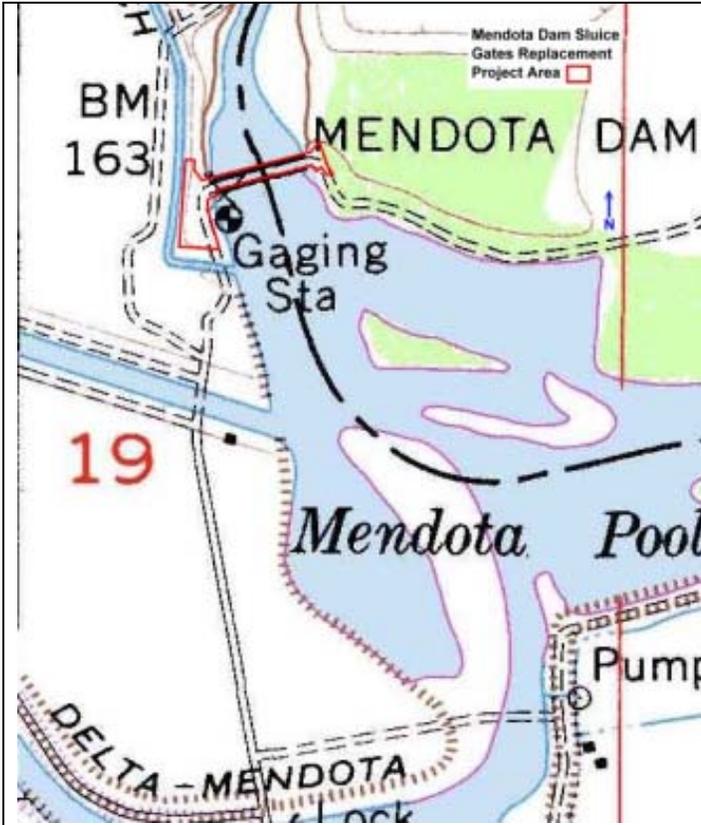
The benefits of the Proposed Action are as follows:

1. Improve flow control capabilities at Mendota Dam to allow for more accurate releases of San Joaquin River Restoration Program (SJRRP) flows downstream while increasing control of Mendota Pool water levels needed by other Reclamation water service contractors and other water diverters. The gates would allow for more precise control of releases from Mendota Dam and would be integrated into the District's SCADA system.

¹ Mendota Dam is a second point of flow control in the Restoration Area and is operated by Central California Irrigation District for water deliveries to Arroyo Canal and Interim Flows targets at Sack Dam.

2. The District would be able to reliably pass up to 1,300 cfs SJRRP flows through automated gates that are monitored continuously.
3. Reduced operations and maintenance costs resulting from implementing SJRRP Interim Flows by increasing the District's capabilities and accuracy to control water flow and pool levels and reduce staff time currently necessary to make manual adjustments at the dam.
4. Reduced maintenance costs due to elimination of gate failure and reduced maintenance requirements for the new Waterman heavy duty gates.
5. Increased safety for District staff due to reduced need to make manual adjustments at the dam.

Figure 1.1 Mendota Dam Sluice Gates Replacement Project Area



Source: USGS (1984)



Source: DigitalGlobe (2007)

Figure 1.2 Front Face of the Dam

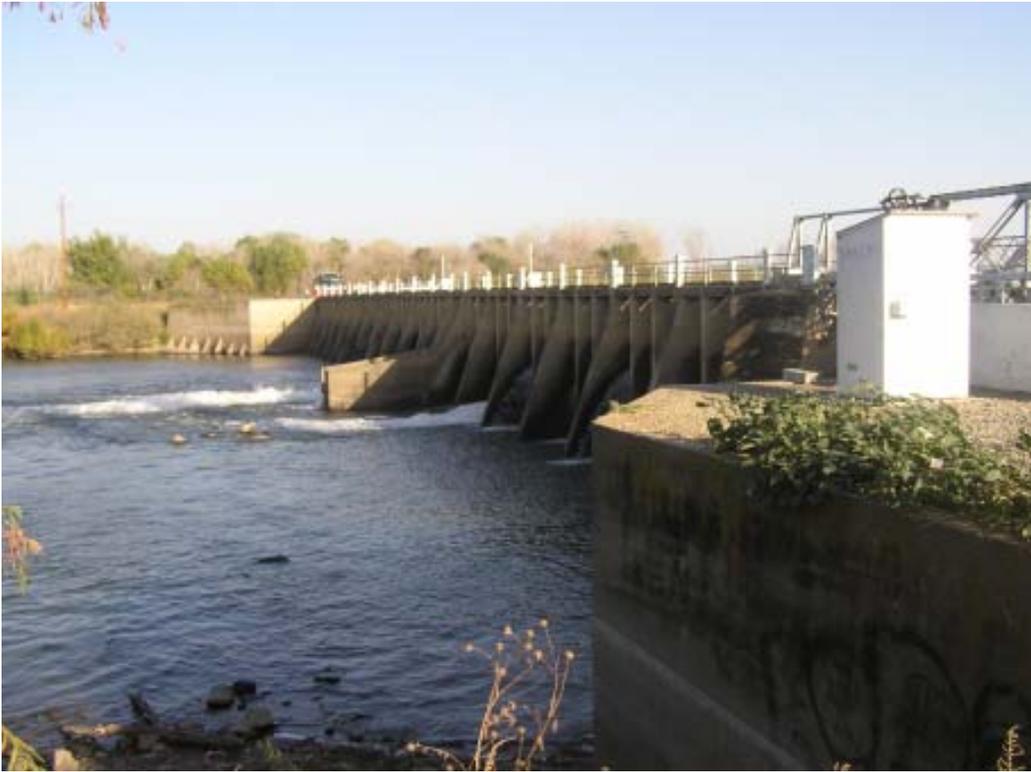


Figure 1.3 Back Side of the Dam



Figure 1.4 Top of the Dam (Facing West)



Figure 1.5 Staging Area
(West Side of Mendota Dam)



Figure 1.6 Vehicle Turnaround Area
(East Side of Mendota Dam)



1.3 Related Actions

1.3.1 Mendota Pool Maintenance

In addition to replacing the sluice gates during the 2011-2012 Winter dewatering, CCID will also be installing sheet piling in the dam apron to reduce or eliminate problems with seepage under the dam. Under seepage and piping is a regular problem at the dam. CCID will be installing sheet piling this season to block seepage from occurring under the dam apron. Installation of the sheet piling would likely eliminate the need to drain the pool every other year for inspections and maintenance.

Regular maintenance at the dam typically includes clearing mud from the upstream and downstream floors of the pool and dam, visually inspecting and checking the subgrade under the dam slabs, and repairing the structure with consultation with the California Division of Safety of Dams. Flash boards may be replaced as needed. To dewater the area, a 4-foot high earthen dike is constructed from material on the river bottom. Water is pumped around the dam and back into the San Joaquin River downstream. While the area is dewatered, CCID inspects the dam and makes routine maintenance repairs. Biannual dewatering and maintenance of the dam would be greatly reduced or could be entirely eliminated with the installation of the sheet piling and the replacement of the sluice gates with a more reliable hardware .

1.3.2 San Joaquin River Restoration Program

In 1988, a coalition of environmental groups, led by the Natural Resources Defense Council (NRDC), filed a lawsuit, known as *NRDC, et al., v. Kirk Rodgers, et al.*, challenging the renewal of long-term water service contracts between the United States and CVP Friant Division contractors. On September 13, 2006, after more than 18 years of litigation, the Settling Parties, including NRDC, Friant Water Authority, and the U.S. Departments of the Interior and Commerce, agreed on the terms and conditions of a Settlement subsequently approved by the U.S. Eastern District Court of California on October 23, 2006. The Act, included in Public Law 111-11 and signed into law on March 30, 2009, authorizes and directs the Secretary of the Interior to implement the Settlement. The Settlement establishes two primary goals:

- **Restoration Goal** – To restore and maintain fish populations in “good condition” in the main stem San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.
- **Water Management Goal** – To reduce or avoid adverse water supply impacts on all of the Friant Division long-term contractors that may result from the Interim and Restoration flows provided for in the Settlement.

To achieve the Restoration Goal, the Settlement calls for releases of water from Friant Dam to the confluence of the Merced River (referred to as Interim and Restoration flows), a combination of channel and structural modifications along the San Joaquin River below Friant Dam, and reintroduction of Chinook salmon. Restoration Flows are specific volumes of water to be released from Friant Dam during different year types, according to Exhibit B of the Settlement; Interim Flows are experimental flows that began in 2009 and will continue until full Restoration Flows are initiated, with the purpose of collecting relevant data concerning flows, temperatures, fish needs, seepage losses, recirculation, recapture, and reuse. To achieve the Water Management Goal, the Settlement calls for recirculation, recapture, reuse, exchange, or transfer of the Interim and Restoration flows to reduce or avoid impacts to water deliveries to all of the Friant Division long-term contractors caused by the Interim and Restoration flows. In addition, the Settlement establishes a Recovered Water Account and recovered water program to make water available to all of the Friant Division long-term contractors who provide water to meet Interim or Restoration flows, to reduce or avoid the impact of the Interim and Restoration flows on such contractors.

The Settlement and the Act authorize and direct specific physical and operational actions that could potentially directly or indirectly affect environmental conditions in the Central Valley. Areas potentially affected by Settlement actions include the San Joaquin River and associated flood bypass system, tributaries to the San Joaquin River, the Delta, and water service areas of the CVP and State Water Project, including the Friant Division. Settlement Paragraphs 11 through 16 describe the physical and operational actions.

The SJRRP comprises several Federal and State agencies responsible for implementing the Settlement. Implementing Agencies include the U.S. Department of the Interior, Reclamation; U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS); California DWR; and the California Department of Fish and Game (CDFG).

Mendota Pool Bypass and Reach 2B Improvements Project

The Mendota Pool Bypass and Reach 2B Improvements Project includes the construction, operation, and maintenance of the Mendota Pool Bypass and improvements in the San Joaquin River channel in Reach 2B to convey at least 4,500 cfs. The Project extends from the Chowchilla Bypass Bifurcation Structure to approximately 0.6 miles below the Mendota Dam.

The Mendota Pool Bypass and Reach 2B improvements defined in the Settlement are (Settlement Paragraph 11(a)):

(1) Creation of a bypass channel around Mendota Pool to ensure conveyance of at least 4,500 cfs from Reach 2B downstream to Reach 3. This improvement requires construction of a structure capable of directing flow down the bypass and allowing the Secretary to make deliveries of San Joaquin River water into Mendota Pool when necessary;

(2) Modifications in channel capacity (incorporating new floodplain and related riparian habitat) to ensure conveyance of at least 4,500 cfs in Reach 2B between the Chowchilla Bifurcation Structure and the new Mendota Pool bypass channel.

Because the functions of these channels may be inter-related, the design, environmental compliance, and construction of the two are being addressed as one project. The Project shall be implemented consistent with the Settlement and the San Joaquin River Restoration Settlement Act, Public Law 111-11.

The Mendota Pool Bypass would include conveying at least 4,500 cfs around the Pool from Reach 2B to Reach 3 and a fish barrier to direct upmigrating adult salmon into the bypass channel. This action would include the ability to divert 2,500 cfs to the Pool and may consist of a bifurcation structure in Reach 2B. The bifurcation structure would include a fish ladder to enable up-migrating salmon to pass the structure and a fish screen to direct out-migrating fish into the bypass channel and minimize or avoid fish entrainment to the Pool.

Improvements to Reach 2B would include modifications to the San Joaquin River channel from the Chowchilla Bypass Bifurcation Structure to the new Mendota Pool Bypass to provide a capacity of at least 4,500 cfs with integrated floodplain habitat. The options under consideration include potential levee setbacks along Reach 2B to increase the channel and floodplain capacity and provide for floodplain habitat. Floodplain habitat is included along the Reach 2B portion of the Project as required by the Settlement; floodplain habitat is being considered along the Mendota Pool Bypass channel because Central Valley floodplains have been shown to be of value to rearing juvenile salmon as they migrate downstream.

Figure 1.1 San Joaquin River Restoration Program Restoration Area Vicinity Map

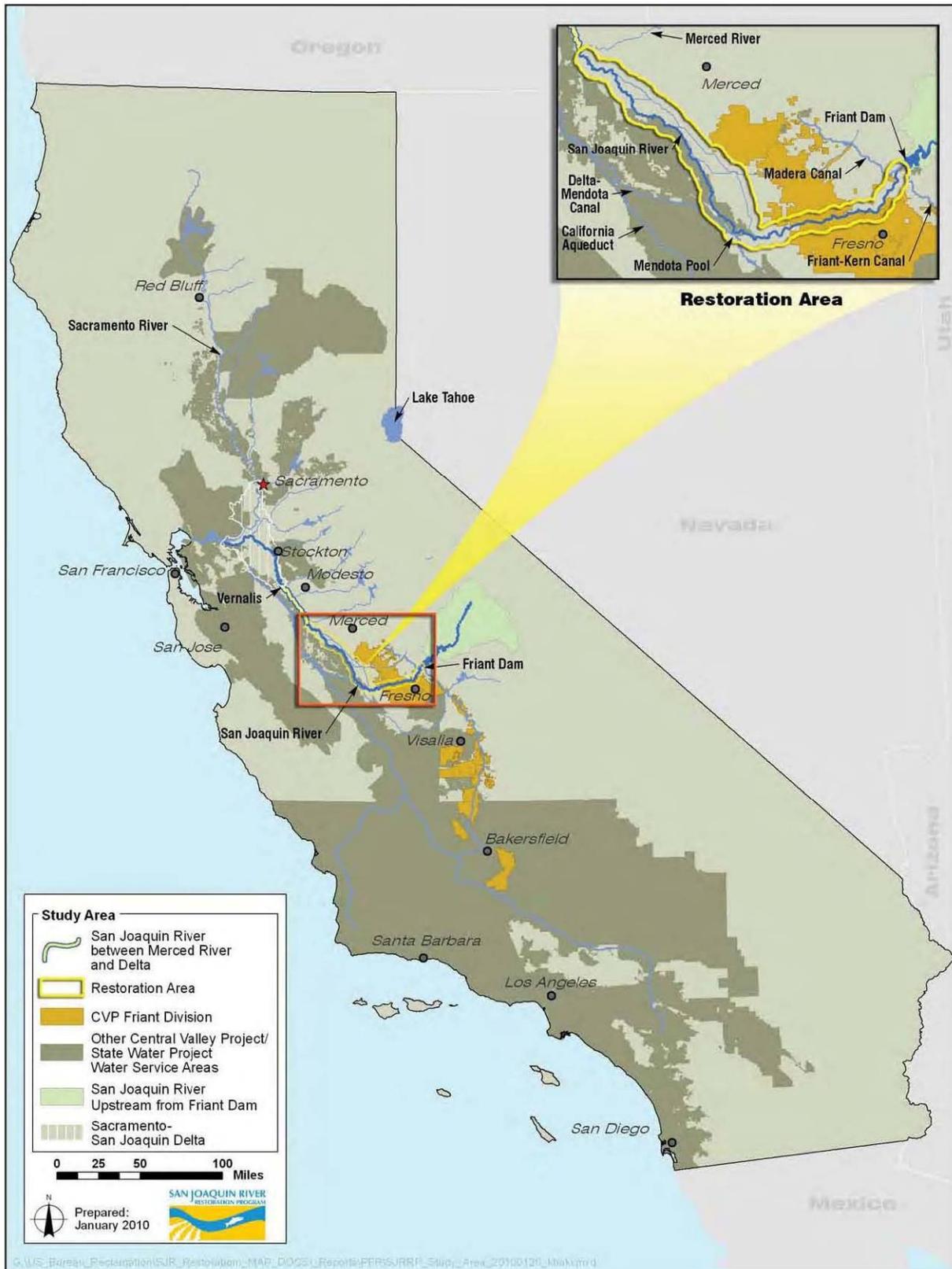
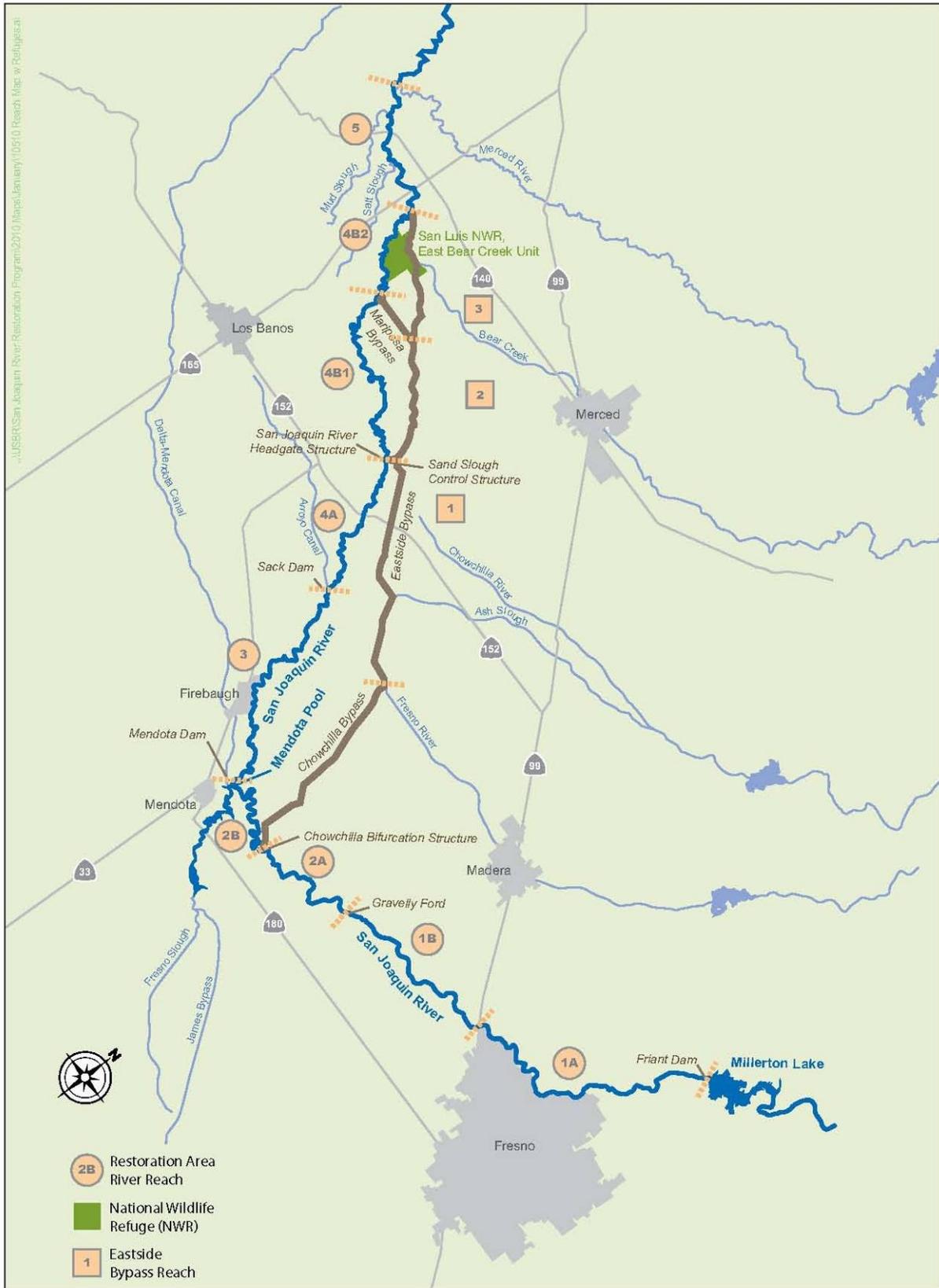


Figure 1.2 San Joaquin River Restoration Program Reaches and Features



2.0 Compliance with the National Environmental Policy Act (NEPA)

2.1 Statement of Purpose and need for Proposed Action

NEPA regulations require a statement of “the underlying purpose and need to which the agency is responding in proposing the alternatives, including the Proposed Action” (40 Code of Federal Regulations (CFR) 1502.13).

The existing cast iron gates at Mendota Dam are unreliable and require regular maintenance. Operating the dam during flood flow situations involves advance planning since flash boards and gates cannot be safely opened or removed during flood conditions. Also, the structure gates are not large enough to safely pass from the SJRRP Interim and Restoration flows which can be as much as 1,300 cubic feet per second (cfs) in a wet year. The purpose of the project is to modify the dam gates such that they can be operated safely and responsively when flow changes occur.

2.2 Scope

Reclamation determined that the replacement of the gates could be accomplished by draining Mendota Pool and using temporary inflatable barriers that can block one bay at a time so workers can access the sluice gates and replace the guides and gates. Therefore, replacement of the sluice gates is not dependent on the construction of the earthen cofferdam and pump system that is generally used to perform the biannual dewatering and maintenance. However, since CCID will be performing their maintenance work, sheet pile installation, and dewatering at the same time in Mendota Pool, those impacts are considered as cumulative impacts in this analysis.

2.2.1 Project Area and Study Area

The study area for this action includes Mendota Dam, a staging area on the west side of the dam, and if needed, a truck turnaround area on the east side of the dam on Columbia Road (Figure 1.1). The project area is approximately 1.2 acres in size.

2.2.2 Federal Involvement

CCID owns and operates Mendota Dam. Mendota Dam forms Mendota Pool which is a water distribution hub for various water delivery facilities like the Delta-Mendota Canal. Mendota Pool is a part of the Central Valley Project water delivery system. Reclamation is not involved in the year-to-year maintenance activities at Mendota Dam, but due to the implementation of the SJRRP, is providing funding for the replacement of the sluice gates because the existing gates are not able to adequately pass SJRRP Interim and Restoration flows.

2.2.3 Level of Analysis

This environmental assessment provides a review of the direct, indirect, and cumulative effects of the action, as well as existing conditions at Mendota Dam, Mendota Pool, and adjacent land uses. A substantial amount of information has already been gathered on the effects of the SJRRP on the San Joaquin River watershed in the SJRRP Program Draft EIS/R (Bureau of Reclamation. (2011). *San Joaquin River Restoration Program Draft Programmatic Environmental Impact Statement/Environmental Impact Report*. URL:

http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=2940). A draft environmental assessment was prepared for the long-term water supply agreement with the Mendota Wildlife Area (Bureau of Reclamation & CCID. (2007). *Conveyance of Refuge Water Supply, South San Joaquin Valley Study Area, Mendota Wildlife Area, Draft Environmental Assessment – Initial Study*). Applicable information regarding existing conditions and other important contextual information are summarized from the SJRRP and Mendota Wildlife Area documents and were used as reference material.

2.3 Alternatives Considered

2.3.1 Alternative A: No Action

Operation of the dam during flood flow situations would continue to be tenuous since flash boards and gates cannot be safely opened or removed during flood conditions. Since the Mendota Dam is not able to safely pass large pulses of interim and Restoration Flows from Friant Dam as a part of the SJRRP. Work on other conveyance features like the Mendota Pool Bypass would need to be sped up to meet the timeline in the SJRRP settlement. Alternative A may significantly delay the implementation of Restoration Flows in the San Joaquin River as well as result in damage to Mendota Dam and other water control facilities in the area.

2.3.2 Alternative B. Reimbursement Agreement between Reclamation and CCID to Replace the Mendota Dam Sluice Gates

Alternative B involves entering into a reimbursement agreement with CCID to reimburse CCID for the purchase of six sluice gates for Mendota Dam. By entering into a reimbursement agreement, both Reclamation and CCID would ensure that Mendota Dam's sluice gates are upgraded to safely withstand large interim flow pulses and a portion of the Restoration Flows from the SJRRP as they are released from Friant Dam. The federal action would be the purchase of the physical gates and equipment. However, there is a significant nexus that resides in supplying the gates and their subsequent installation. Therefore, the installation of the gates would also need to be analyzed for impacts associated with the human environment. The project area would focus primarily on Mendota Dam and adjacent staging areas. Reclamation has determined that replacing the gates would improve functionality for the passing of SJRRP Restoration Flows and be reasonable for the SJRRP to fund. The total cost to fund the sluice gate equipment is estimated by CCID at \$120,000. CCID shall be responsible for the cost of

labor and physical installation of the gates. The action under Alternative B is the replacement of the sluice gates.

Staging of equipment, including a boom truck mounted crane would be done west of the dam site on an unpaved pullout off Bass Avenue. All equipment would access the site off Bass Avenue which is a paved road. No equipment or trucks would be brought in from Columbia Road, which is unpaved. Equipment may use the widened part of Columbia Road on the east side of the dam to turn around.

There are presently six rectangular water control gates on the Mendota Dam operated by the CCID. Presently, two of the gates are controlled electronically using the District's centralized Supervisory Control and Data Acquisition (SCADA) system and four of the gates are controlled manually. The Proposed Action would include removal and replacement of all six existing gates. Additionally, the four manually operated gates are proposed to be upgraded with electric operators connected to the District's SCADA system. This work would be implemented concurrently with dewatering of the Mendota Pool for biannual California Department of Water Resources Division of Safety of Dams inspections.

The project would improve the function and reliability of gate operations. During repeated operations the existing older Calco brand gates have in failed in 2011 and in previous years. In addition, the project would allow for increased water level control capabilities in the Mendota Pool and provide the ability to release up to 1,300 cubic feet per second (cfs). Concurrently with Reclamation's action, CCID will be upgrading the existing SCADA system to remotely operate all new gates.

The gates are proposed to be lowered into slides using a boom mounted truck. Construction activities are proposed to be completed in November/December 2011. No disturbance to the river channel would be needed and all work would occur within the confines of the existing structure.

CCID states that replacing the sluice gates would:

1. Improve flow control capabilities at Mendota Dam to allow for more accurate releases of San Joaquin River Restoration Program (SJRRP) flows downstream while increasing control of Mendota Pool water levels needed by other Reclamation water service contractors and other water diverters. The gates would allow for more precise control of releases from Mendota Dam and would be integrated into the District's centralized Supervisory Control and Data Acquisition (SCADA) system.
2. Enable CCID to reliably pass up to 1,300 cfs SJRRP flows through automated gates that are monitored continuously.
3. Reduce operations and maintenance costs resulting from implementing SJRRP Interim Flows by increasing the District's capabilities and accuracy to remotely control water flow and pool levels and reduce staff time currently necessary to make manual adjustments at the dam.

4. Reduce maintenance costs due to elimination of gate failure and reduced maintenance requirements for the new Waterman heavy duty gates.
5. Increase safety for District staff due to reduced need to make manual adjustments at the dam.

3.0 Existing Site Conditions

3.1 San Joaquin River and Mendota Dam

Mendota Pool is located at the confluence of the San Joaquin River and Fresno Slough. Mendota Pool receives water from the San Joaquin River, the Sacramento-San Joaquin Delta via the Delta-Mendota Canal, groundwater pumping from the Mendota Pool Pumpers, and intermittently from the Kings River drainage in the south via the James Bypass into Fresno Slough. Water from the Mendota Pool is diverted for a variety of agricultural, municipal, and habitat management uses. Mendota Water Agency receives water from the Mendota Pool via Fresno Slough, which is managed by CCID as a water conveyance facility. Gates and pumps divert water from Fresno Slough to Mendota Wildlife Area.

The San Joaquin River from Gravelly Ford to the Mendota Pool (about 24 miles) is frequently dry except during flood control releases, because water from Friant Dam (Millerton Lake) is released to satisfy downstream water right agreements and the majority is diverted into the Madera and Friant-Kern Canals to meet contractual water supply obligations in accordance with the Reclamation Reform Act of 1982. Any flows passing Gravelly Ford percolate to groundwater and/or, during flood control releases, flows into Mendota Pool.

Mendota Pool is a re-regulating reservoir for more than 1 million AF of CVP water pumped from the Delta and delivered by the Delta-Mendota Canal. The Mendota Pool is impounded by Mendota Dam, which is owned and operated by CCID. Currently, Mendota Pool is sustained by the inflow from the Delta-Mendota Canal, which typically conveys 2,500 to 3,000 cfs to the Mendota Pool during the irrigation season. San Joaquin River water is only conveyed to the Mendota Pool during periods of flood flow. Mendota Pool extends over 5 miles up the San Joaquin River Channel and over 10 miles into Fresno Slough and varies from less than 100 to several hundred feet wide. Water depth varies but averages about 4 feet. Mendota Pool contains approximately 8,000 ac-ft of water and has a surface area of approximately 2,000 acres when full. It is the largest body of ponded water in the San Joaquin Valley basin floor.

The primary function of Mendota Dam is to distribute water from the Delta-Mendota Canal and the San Joaquin River and pumped groundwater to a number of irrigation districts collectively known as Exchange Contractors. Other districts, such as WWD, James Irrigation District, and Tranquility Irrigation District, national wildlife refuges, and wildlife areas also rely on Mendota Pool for diversions. Water deliveries leave Mendota Pool in nearly every direction, including downstream into the San Joaquin River. Between 200 and 600 cfs of Delta-Mendota Canal water is released into the San Joaquin River downstream of Mendota Pool for diversion at Sack Dam (BOR, 2008).

3.2 Adjacent Water Control Facilities

3.2.1 Delta-Mendota Canal

The Delta-Mendota Canal, completed in 1951, carries water southeast from the Tracy Pumping Plant along the west side of the San Joaquin Valley for agricultural, municipal and industrial, and ecological purposes. This water is conveyed to replace San Joaquin River water that is impounded at Friant Dam. The canal is about 117 miles long and terminates at Mendota Pool. The initial diversion capacity is 4,600 cfs, which is gradually decreased to 3,211 cfs at Mendota Pool.

3.2.2 James Bypass (Fresno Slough Bypass) and the North Fork Kings River

The Kings River is regulated upstream by Pine Flat Dam, a Corps of Engineers facility, for flood control and water conservation storage and releases (KRWD & KRWA, 2003). Water deliveries are managed by the Kings River Water Association (KRWA). The North Fork Kings River is a distributary of the main channel, diverging approximately where the Friant-Kern Canal crosses the Kings River.

Water in the James Bypass predominantly comes from the Delta-Mendota Canal via the Mendota Pool. However, flood flows from the North Fork Kings River can reverse flow toward Mendota Pool (BOR, 2008). The principal use of James Bypass is the conveyance of flood flows from the North Fork Kings River to the San Joaquin River (USGS, 1996).

3.3 Adjacent Land Uses and Regional Concerns

3.3.1 Agricultural Production

The San Joaquin River Region is an important agricultural region for both California and the United States. Major municipal and industrial centers include the Cities of Fresno, Stockton, Tracy, Modesto, and Merced, which are industrial hubs for food and grain processing. Agriculture in the region is an important employer and affects the regional economy through farm expenditures as well as production of many crops that require processing or transportation after harvest. This region depends heavily on water supply diverted from the Mendota Pool. The Mendota Pool provides water supplies that affect at least 200,000 acres of land, mostly in Fresno and Merced Counties.

Recent cropping pattern analyses indicate a trend toward decreasing alfalfa/field crops and increasing vegetable production in Central California. Many of these vegetables are grown in winter. Livestock such as horses and sheep are kept in some of the properties adjacent to Mendota Pool and the Mendota Wildlife Area (BOR, 2008).

3.3.2 Wildlife Areas

There are several state, federal and private wetland areas that receive water from Mendota Pool in the region. The closest is the 12,425-acre Mendota Wildlife Area complex, located in western Fresno County, about 30 miles west of Fresno and 4 miles southeast of the City of Mendota. The wildlife area is on the south side of State Highway 180, south of the CDFG Alkali Sink Ecological Reserve and along both sides of Fresno Slough. The Mendota Wildlife Area is operated by CDFG and was purchased in increments by the California State Wildlife Conservation Board between 1954 and 1966.

The wildlife area was established to provide waterfowl habitat, to reduce crop depredation on adjacent lands caused by waterfowl, and to provide for public waterfowl hunting. Water is used to irrigate natural food crops, such as swamp timothy (*Criopsis schenoides*), alkali bulrush (*Scirpus maritimus*), smartweed (*Polygonum* sp.), and millet (*Panicum miliaceum*), and to flood seasonal, permanent, and semipermanent wetlands. Small grains, corn, and dense nesting cover for wildlife are also irrigated in the uplands. About 6,819 acres of Mendota WA lands are managed as seasonally flooded wetlands, 457 acres as semi-permanent wetlands, and 1,194 acres as permanent wetlands. A 1,373-acre parcel will ultimately be converted to wetlands. In addition to farmland, riparian corridor, and wetland acreage, several hundred acres of upland and alkali sink habitat are maintained at Mendota WA for upland species and special-status plant and wildlife species. Because the natural water regime has been changed by human activities, the Mendota Wildlife Area must be artificially maintained with surface irrigation water.

The Mendota Wildlife Area depends on water pumped out of Mendota Pool to sustain wetlands it manages. Draining the Mendota Pool for maintenance every two years prevents the WA from pumping in water from the pool for several months. In preparation of the Mendota Pool dewatering, the WA is notified by CCID and the WA pumps in and stores water in the WA. The amount of water pumped into the WA is generally much more than is desirable. The WA has identified several negative impacts that occur when water is stored in preparation of dewatering of Mendota Pool including increased salinity of the water and the germination of native plant species earlier in the season than they might normally germinate (BOR, 2008).

3.4 Natural Environment Context

Originating high in the Sierra Nevada Mountains, the San Joaquin River carries snowmelt from mountain meadows to the valley floor. The San Joaquin River is California's second longest river and discharges to the Sacramento–San Joaquin Delta (Delta) and, ultimately, to the Pacific Ocean through San Francisco Bay.

The San Joaquin River was a dynamic, alluvial river prior to the construction of Friant Dam. The San Joaquin River transitioned from a multi-channel gravel and bedrock bed to meandering sand beds in the lower reaches. The lower reaches supported extensive areas of tule marsh. In the unconfined valley reaches, the river floodplain contained numerous sloughs and oxbows that also served as rearing habitat for salmonids (*Oncorhynchus* sp.), splittail (*Pogonichthys macrolepidotus*), and other native fishes during winter and spring. The dam reduced populations

of all types of fish in the river sharply since many of the overflow areas such as tributary slough, tule marshes, and in-stream ponds disappeared within a few seasons. As these areas with rich soils were no longer subject to reoccurring inundation, they were tilled under and put into agricultural production (Leitritz, 1970).

Historically, the San Joaquin Valley floor contained a diverse and productive patchwork of aquatic, wetland, riparian forest, and surrounding terrestrial habitats that supported abundant populations of resident and migratory species of wildlife. Pronghorn (*Antilocarpa americana*), Tule elk (*Cervus elaphus*), and mule deer (*Odocoileus hemionus*), grazed the prairies, and large flocks of waterfowl occurred in the extensive wetlands. Such rich biological diversity and productivity supported the most concentrated nonagricultural population of Native Americans in North America (BOR, 2007).

Historically, the dominant plant communities in the San Joaquin Valley included grasslands, vernal pools, marshes, shrublands, oak woodlands, and riparian forests. Grasslands included several community types, such as non-native grass, pine bluegrass (*Poa scabrella*) grassland, dunes, valley needlegrass (*Nassella pulchra*) grassland, and valley sacaton (*Sporobolus airoides*) grassland (USFWS, 1998). Valley salt scrub, dominated by Valley saltbush (*Atriplex polycarpa*), occupied the valley floor in sandy, nonalkaline soils.

Upland habitats in San Joaquin Valley shrublands were dominated by shrubs less than six feet tall. Grasses, and herbaceous annuals and perennials typical of grassland communities, covered the ground between and under shrubs. Shrubs occurred in alkali sinks and playas, on alluvial fans, on dune remnants, in riparian areas, and in arid uplands. Uplands provided foraging habitat for migratory waterfowl and shorebirds during wet months. In summer months, ephemeral pools that had not dried provided foraging and nesting habitat for shorebirds, such as the black-necked stilt (*Himantopus mexicanus*) and American avocet (*Recurvirostra americana*). Other species of birds using this habitat were raven (*Corvus corax*), western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), American pipits (*Anthus spinoletta*), lesser nighthawk (*Chordeiles acutipennis*), and sage sparrow (*Amphispiza belli*). Mammals in the valley sink scrub included blacktailed hare (*Lepus californicus*), Tipton kangaroo rat (*Dipodomys nitratooides* ssp. *nitratooides*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Reptilian species included blunt-nosed lizard (*Gambelia sila*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), king snake (*Lampropeltis* sp.), and western rattlesnake (*Crotalus* sp.).

Much of the land in the San Joaquin Valley has been converted to agricultural, residential, and municipal and industrial uses. Although natural areas remain, they are significantly smaller in size. For example, less than 10 percent of California's pre-settlement riparian habitat remains (Faber, 2003). Consequently, remnants of other habitats, including vernal pool, marsh, riparian forest, valley oak savannah, and San Joaquin saltbush, are increasingly valuable.

Vegetation along the San Joaquin and Mendota Pool includes species associated with seasonal wetlands, semi-permanent wetlands, and upland habitats. Aquatic and terrestrial habitats along Fresno Slough and parts of Mendota Pool provide breeding and foraging habitat for ground-nesting birds, such as pheasants, ducks, and shorebirds. The nearby Mendota WA is one of only a few managed wetland habitat areas of substantial size in the south-central San Joaquin Valley,

and it constitutes a habitat oasis in the midst of intensive agricultural land uses. Mendota WA is on the Pacific Flyway, and provides valuable overwintering habitat for migratory waterfowl and shorebirds and year-round habitat for resident bird species. The Audubon Society reports that white-tailed kite (*Elanus leucurus*) and blue grosbeak (*Passerina caerulea*) maintain sizable populations the nearby Mendota Wildlife Area. Nearby, the Alkali Sink Ecological Reserve is regularly used by Greater and Lesser Sandhill cranes (*Grus canadensis* ssp. *tabida* and *Grus canadensis* ssp. *canadensis*), Northern harriers (*Circus cyaneus*), Swainson's Hawks (*Buteo Swainsoni*), mountain plovers (*Eupoda montana*), burrowing owls (*Athene cunicularia*), and tricolored blackbirds (*Agelaius tricolor*).

Water depth in Mendota Pool varies, but is generally less than 15 feet. When full, Mendota Pool contains approximately 3,000 ac-ft of water and has a surface area of approximately 500 acres. Mendota Pool provides perennially inundated open-water aquatic habitat. Mendota Pool consists of shallow backwater areas upstream of Mendota Dam, which provide habitat to support a sport fishery for non-native species such as bass, bluegill, and bullhead. Slower moving water behind the dam supports various aquatic plants such as duckweed (*Spirodela polyrhiza*), western water milfoil (*Myriophyllum hippuroides*), and waterweed (*Elodea* sp.).

Riparian habitat in the vicinity of Mendota Dam mostly occurs in small bands and is predominately composed of mature, widely spaced cottonwood and willow trees and decaying snags. Other trees and the majority of herbaceous groundcover are non-native species that have likely become established through downstream dispersal of agricultural plants and seeds. Other species observed included bur reed (*Sparganium americanum*), cattail (*Typha latifolium*), hardstem bulrush (*Scirpus acutus*), rabbitsfoot grass (*Polypogon monspeliensis*), and creeping wildrye (*Leymus triticoides*). A ten-acre, mature cottonwood/ willow forest occurs 200 feet east of the San Joaquin River at Mendota Dam; many trees in this forest have a diameter at breast height of more than 12 inches, and some more than 24 inches. Otherwise, Mendota Dam and its vicinity are subject to frequent human disturbance, and much of the riparian zone has been cleared of vegetation. The staging areas and vehicle turnaround area have been leveled and compacted over the years and contain no vegetation.

Riparian vegetation along the reach downstream of the San Joaquin River from Mendota Dam consists of willow and cottonwood. This vegetation provides stream shading, bank stability, and food sources for fish. In this reach of the river, native fish species have been extirpated or reduced to a minor portion of the fauna. The dominant fish in the San Joaquin River immediately downstream of Mendota Dam include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), bullhead (*Ameiurus nebulosus*), and other non-native warmwater fish. During or following large flood events, adult Chinook salmon occasionally have been known to migrate upstream as far as Mendota Dam.

Riparian habitat near the dam consists of black willow (*Salix gooddingii*), sandbar or narrowleaf willow (*Salix exigua*), cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), button brush (*Cephalanthus occidentalis*), species of saltbush (*Atriplex* sp.), and wildrose (*Rosa californica*). Subdominant riparian corridor vegetation includes bur reed, cattail, hardstem bulrush, rabbitsfoot grass, creeping wildrye, and many other species. In the ponded water above the dam, brownish-red algae, likely euglenas, are present.

Riparian corridors provide suitable habitat for a variety of resident and migratory passerine birds as well as various hawks, owls, egrets, and herons. Riparian habitat also supports raccoons (*Procyon lotor*), beavers (*Castor canadensis*), minks (*Mustela vison*), muskrats (*Ondatra zibethicus*), northwestern pond turtles (*Actinemys marmorata marmorata*), and giant garter snakes (*Thamnophis gigas*).

The project area is mostly denuded of vegetation. Non-native grasses along the lower banks of Mendota Pool around the staging area are kept low by the foot traffic of fisherman using the dam abutments and steep pool sides for fishing. North of the western abutment are a few individuals of trees of heaven (*Ailanthus altissima*), but these are outside of the staging area.

4.0 Affected Environment and Environmental Consequences

The geographic areas where effects may occur differ according to resource category and whether the effect is direct, indirect, or cumulative. Therefore, resource-specific descriptions of the affected environment are generally prepared to support the environmental effects analyses. Table 4-1 summarizes the changes to each of the resources evaluated.

Reclamation has determined that it is unlikely for the action to affect aesthetics, agricultural resources, geology and soils, food and fiber production, land use and planning, economy and employment, and paleontological resources, therefore further discussion of those resource areas have been omitted.

Below each resource area heading is a description of the direct, indirect, and cumulative effects of the action on that resource group.

**Table 4-1.
Summary of Changes to the Affected Environment and Environmental Consequences
Analysis from the Mendota Dam Sluice Gate Replacement Project**

Resource Topic	Changes to the Affected Environment	Environmental Consequences
Aesthetics	None	None
Agricultural Resources	None	None
Air Quality	Equipment movement on unpaved staging areas may result in fugitive emissions	With the implementation of AQ1 (see Section 4.4) the action would have temporary minimal impacts to air quality
Biological Resources – Open Space and Wildlife Habitat	None	None
Biological Resources – Aquatic Habitat	Work in the San Joaquin River would require the temporary dewatering of the dam bays	The impact to aquatic resources would be temporary and minor; no mitigation is proposed. The project would have a long-term impact to aquatic resources by facilitating Interim and Restoration Flows associated with the SJRRP and by improving the management of winter flows in the nearby Mendota Wildlife Area

Resource Topic	Changes to the Affected Environment	Environmental Consequences
Biological Resources – Protected Species, Critical Habitat and Essential Fish Habitat	None	None
Commercial and Recreational Fisheries	None	None
Cultural Resources	None	None
Economy and Employment	None	None
Energy Consumption and Generation	None	None
Environmental Justice and Communities	None	None
Food and Fiber Production	None	None
Geology and Soils	None	None
Hazardous Materials	None	None
Hydrology	None	None
Indian Trust Assets	None	None
Land Use and Planning	None	None
Mineral Resources	None	None
Noise	None	None
Paleontological Resources	None	None
Population and Housing	None	None
Public Services and Utilities	None	None
Recreation	None	None
Safety	None	None
Transportation and Traffic	None	None
Water Supply	None	None
Water Quality	None	None
Wild and Scenic Areas	None	None

4.1 Biological Resources

The scope of analysis for direct effects to biological resources includes the Mendota Dam (including the gates and apron), access routes, and staging areas. The scope of analysis for indirect affects to biological resources includes long-term impacts to Mendota Pool, downstream reaches of the San Joaquin River, and adjacent habitat after construction. The scope of analysis for cumulative impacts to biological resources includes the Reach 1 through Reach 5 of the San Joaquin River in the San Joaquin River Restoration Program, and if unique habitat types such as critical habitat are affected, it would include cumulative effects to those species or communities.

4.1.1 Open Space and Wildlife Habitat

Alternative A would have no effect on open space and wildlife habitat.

Alternative B would have only minimal indirect effects to nearby upland open space areas and wildlife habitat. Equipment brought in to install the new sluice gates would use Bass Avenue, Columbia Road, a staging area, and a turnaround area that is already compacted and denuded of vegetation. Noise from activity around the dam may temporarily disturb wildlife in the riparian area adjacent to the dam's east abutment. Trucks are common along this road since CCID patrols the area and fishermen use the area to park and fish.

4.1.2 Aquatic Resources: Riparian, Riverine, and Wetland Habitats

Alternative A would have no effect on riparian, riverine, and wetland habitats.

Since Mendota Pool will be dewatered this winter for regular maintenance by CCID, Alternative B would use the dewatering opportunity to access and replace the gates. Dewatering will have a short-term adverse affect to the aquatic habitat in Mendota Pool and the San Joaquin River. The new sluice gates will require less maintenance over the long-term. The need to dewater Mendota Pool to make repairs to the dam would greatly decrease or be entirely eliminated once CCID's work this winter is complete. Replacing the sluice gates would also support the restoration goals of the SJRRP by passing larger pulse and Restoration Flows and improving the habitat quality along the river. Thus the action is likely to contribute to long-term beneficial impacts to aquatic habitat along the San Joaquin River.

Alternative B would require a Rivers and Harbors Act Section 10 permit from the Corps of Engineers. Alternative B may also require a Clean Water Act Section 404 permit from the Corps of Engineers for dewatering the pool using an earthen berm in the river channel. All permitting and environmental compliance for maintenance work not covered in the cost-share agreement is CCID's responsibility.

4.1.3 Protected Species, Critical Habitat, and Essential Fish Habitat

Field surveys have been completed in the area for the Mendota Pool Bypass and Reach 2B Improvements Project and are described in the *Mendota Pool Bypass and Reach 2B Improvements Project, Technical Memorandum on Environmental Survey Results* (TM), dated November 2011. A more recent species list was downloaded on December 6, 2011, from the USFWS Sacramento Fish and Wildlife Office Endangered Species Division webpage. No changes to the federal list have occurred in the Mendota area since the surveys for the TM were conducted.

**Table 4.2. Federally-Listed Threatened and Endangered Species
That May Occur in the Mendota Dam, Calif. 7.5' USGS Quadrangle**

Scientific Name	Common Name	Federal Listing Status	Habitat Requirements
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Threatened	Found in vernal pools, particularly small, clear-water sandstone depression pools and grassy swale, earth slump, or basalt-flow depression pools.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	Threatened	Elderberry shrubs with stem diameters of 2 to 8 inches. Species always found close to host plant. Larvae may remain in stems for up to 2 years.
<i>Hypomesus transpacificus</i>	Delta smelt	Threatened	Smelt are mostly found within a salinity range of 2 to 7 parts per thousand and have been collected from the estuarine waters up to 14 parts per thousand. There are four primary constituent elements of delta smelt habitat: (1) shallow freshwater to slightly brackish sites for spawning; (2) protected channels and rivers to provide transport of larvae to downstream rearing sites; (3) estuary rearing habitat that provides a shallow, protective, food-rich environment; and (4) unrestricted access to spawning sites between December and July (59 FR 65260).
<i>Oncorhynchus mykiss</i>	Central Valley steelhead	Threatened	NMFS has defined six primary constituent elements of Central Valley steelhead habitat: (1) freshwater spawning sites; (2) freshwater rearing sites with sufficient shade, foraging areas, and space for growth and movement; (3) freshwater migration corridors with sufficient areas of cover; (4) estuarine areas that provide areas for foraging and cover; (5) near shore marine areas that allow for juvenile transition from natal streams to offshore environments; and (6) off-shore marine areas with sufficient forage (70 FR 52521).
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	Grasslands and understory of valley-foothill hardwood habitats. Require vernal pools or other seasonal water sources for breeding and mammal burrows or other underground refuges.
<i>Rana draytonii</i>	California red-legged frog	Threatened	Pools with emergent vegetation, typically without predatory fish, and upland hibernacula, such as small mammal burrows or moist leaf litter.

Scientific Name	Common Name	Federal Listing Status	Habitat Requirements
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	Endangered	Sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seek cover in mammal burrows, under shrubs or structures such as fence posts.
<i>Thamnophis gigas</i>	Giant garter snake	Threatened	Marshes, low-gradient streams, canals, and irrigation ditches with dense emergent vegetation, water persisting throughout the active period, open areas along water margins, and access to upland habitat for hibernation and escape from flooding.
<i>Dipodomys nitratoides exilis</i>	Fresno kangaroo rat	Endangered	Restricted to native grasslands in Fresno County within the San Joaquin Valley; nearly level, light, friable soils in chenopod scrub and grassland communities.
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Grassland or grassy open stages with scattered shrubby vegetation; requires loose textured sandy soils for burrowing; requires suitable prey base of small rodents.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Candidate for listing	Large blocks of riparian habitats (particularly woodlands with willow and cottonwood) along floodplains of larger river systems. Dense understory foliage important.

The TM results indicate that there is a low likelihood of vernal pool fairy shrimp occurring in the area due to an absence of suitable habitat. The likelihood of California tiger salamander being present was assumed to be low since the Mendota area is outside the known range for the frog and the area does not contain suitable habitat. California red-legged frog is not expected to be present in the area based on its known distribution, presence of two invasive frog species and the large numbers of predatory fish species in Mendota Pool. Delta smelt is not expected to be in the area because Mendota Pool is more than 100 river miles from the nearest occupied delta smelt habitat. The TM concluded that it was extremely unlikely for steelhead to be present in the area due to the high water temperatures in Mendota Pool during the summer months. Western yellow-billed cuckoos are not likely to occur in the area due to an extended absence from the region and since Mendota is outside of the current known range. The likelihood of encountering San Joaquin Valley kit fox is also considered to be low due to previous surveys being unable to confirm its presence. The USFWS assumes the kit fox has been extirpated in the area.

The TM determined that the likelihood of Fresno kangaroo rat to be present in the area was moderate. Trapping surveys conducted early in 2011 did not result the capture of a Fresno kangaroo rat. The rat is known to occur in the upland areas upstream of Mendota Pool, confirmed by survey trapping conducted in 1992. Blunt-nosed leopard lizard was not observed during the recent field surveys. Sites containing potentially suitable habitat for the lizard were

not accessible during this year's survey so the TM concluded that the likelihood of encountering blunt-nosed leopard lizard was moderate.

Based on the field surveys discussed in the TM, giant garter snake (GGS) and valley elderberry longhorn beetle (VELB) have a high likelihood of occurrence near Mendota Dam. Giant garter snakes have been previously observed in the area including portions of the San Joaquin River near Mendota Dam and in Fresno Slough. Elderberry shrubs (*Sambucus mexicanus*), the host plant for VELB are abundant around Mendota Pool and in the willow scrub area adjacent to Mendota Dam. Many of the mature elderberry shrubs and trees contain beetle exit holes. Based on the presence of exit holes, the field surveys concluded that the likelihood of VELB being present in the area is high.

The National Marine Fisheries Service (NMFS), has informally determined that the San Joaquin River up to Friant Dam as EFH for fall-run and spring-run Chinook salmon (*Oncorhynchus tshawytscha*). Salmon have been extirpated from a majority of the San Joaquin River due to Friant Dam operations. One of the central goals of the SJRRP is to re-establish a spring-run Chinook population in the river. When the population is re-established it would be considered part of the Central Valley Spring-Run Chinook Evolutionarily Significant Unit (ESU).

Alternative B (the proposed action) would be completed during winter and when Mendota Pool is dewatered. During the winter months, GGS hibernate in upland areas and are unlikely to be active in Mendota Pool and its margins. Suitable hibernacula for wintering snakes such as debris piles and mammal burrows are outside of the staging areas and outside of the main channel of the San Joaquin River where work will occur. In addition, dewatering Mendota Pool for biannual maintenance would eliminate the chances of GGS being in the pool near the dam site while the work to replace the gates is being completed.

Construction and equipment staging would occur outside of any riparian areas or elderberry savannah habitat. Equipment access will be limited to Columbia Road and the gravel lot and turnaround on either side of Mendota Dam. The closest documented elderberry shrub is approximately 1.5 miles linear miles or 3.25 river miles upstream of Mendota Dam. Since no elderberry shrubs would be impacted the project would have no effect on VELB.

Areas where staging and work in the San Joaquin River would occur as a part of Alternative B are not suitable habitat for blunt-nosed leopard lizard, Fresno kangaroo rat, vernal pool fairy shrimp, California tiger salamander, California red-legged frog, delta smelt, western yellow-billed cuckoo, steelhead, and Chinook salmon. Therefore Alternative B would have no effect on the lizard, kangaroo rat, shrimp, salamander, frog, smelt, cuckoo, steelhead, and salmon.

Alternative A and B would not adversely modify EFH. Reclamation has determined that Alternative B would contribute to the SJRRP by improving hydraulic capacity and control conditions, supporting the long-term habitat improvements along the San Joaquin River that would benefit salmon.

4.2 Physical Environment

The scope of analysis for direct, indirect, and cumulative effects to the physical environment is similar to the area considered for biological resources.

4.2.1 Water Supply, Water Quality and Hydrology

Water Supply

Alternative A would result in the continued biannual disruptions to water users like the Mendota Wildlife WA as Mendota Pool would have to be dewatered to maintain the dam. As it happens now, CCID notifies the Mendota WA before dewatering the pool so they can pump in more water into the wetland areas. Pumping in additional water triggers the early germination of native plants, increases salinity levels and causes overall habitat degradation.

Reducing the maintenance requirements of the dam by replacing the sluice gates through Alternative B, would have a beneficial impact on water management at Mendota WA and for other users.

Water Quality

There would be no impact to water quality in the San Joaquin River watershed under Alternative A.

Equipment staging and use will be limited to upland staging areas and the top of the dam under Alternative B. Personnel installing the gates will access the dam face and use the dam apron as a platform to perform the work by foot. Under Alternative B, no impacts to water quality are anticipated.

Hydrology

Alternative A would have no effect on the existing operations at Mendota Dam. However, the flows required to meet the Settlement Agreement for the SJRRP would exceed the flow capacity of Mendota Dam, creating a significant safety hazard until the Mendota Bypass or a similar project is constructed. CCID would also continue to dewater Mendota Pool every other year for maintenance of Mendota Dam.

Over the long-term, replacing the sluice gates by implementing Alternative B would have a beneficial effect on restoring flows in the San Joaquin River and would support the re-establishment of salmon as a part of the SJRRP.

4.2.2 Air Quality

General air quality conformity requirements were adopted by the U.S. Congress as part of the Clean Air Act (CAA) Amendments in 1990, and were implemented by EPA regulations in 1993. General conformity applies in both Federal non-attainment and Federal air quality maintenance areas. Under the conformity provisions of the CAA, a Federal agency cannot approve a project unless the project has been demonstrated to conform to the applicable air quality management plan or State Implementation Plan. These conformity provisions were put in place to ensure that Federal agencies would not interfere with plans for attaining the national ambient air quality standards.

The Environmental Protection Agency has issued two types of conformity guidelines: transportation conformity rules that apply to transportation plans and projects, and general conformity rules that apply to all other Federal actions. A conformity determination is only required for the alternative that is ultimately selected and approved. The general conformity determination is submitted in the form of a written finding, issued after a minimum 30-day public comment period on the draft determination. A project that produces emissions that exceed conformity thresholds is required to demonstrate conformity with the State Implementation Plan (SIP) through mitigation or other accepted practices. The California Air Resources Board (ARB) oversees California air quality policies and is responsible for preparing and submitting the State Implementation Plan to EPA. California established State ambient air quality standards in 1969. These standards are generally more stringent and include more pollutants than the national standards. The California CAA was approved in 1988 and requires each local air district in the State to prepare an air quality plan to achieve compliance with California ambient air quality standards. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the local air district that covers the project area.

The closest SJVAPCD air quality monitoring station is in Tranquility, southeast of the project site. Tranquility monitors gas concentrations, fine particulates (PM_{2.5}), and meteorological data. The closest monitoring station gathering data on particulate matter (PM₁₀) and toxic air pollutants is located on First Street in Fresno, east of the project site. During the past several years, both the Federal eight-hour and the California one-hour ozone standards have been exceeded. The California standards for PM₁₀ and PM_{2.5} have also been exceeded. Regulatory Setting Federal. National air quality policies are regulated through the CAA. Pursuant to this act, the EPA established national ambient (meaning a concentration at which a pollutant is known to cause adverse health effects to sensitive population groups) air quality standards for the following air pollutants (termed “criteria” pollutants): CO, ozone, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and lead. The CAA was amended in 1977 to require each state to maintain a State Implementation Plan for achieving compliance with the national ambient air quality standards. In 1990, the CAA was amended again to strengthen regulation of both stationary and motor vehicle emission sources.

Mendota Dam and Mendota Pool are within the San Joaquin Valley Air Basin (SJVAB), which includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties, and the western portion of Kern County. The SJVAB is defined by the Sierra Nevada Range in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in

elevation), and the Tehachapi Mountains in the south (6,000 to 8,000 feet in elevation). The valley opens to the sea at the Carquinez Straits, where the Delta empties into San Francisco Bay (SJVAPCD, 2002). These topographic features result in weak airflow, which becomes blocked vertically by high barometric pressure over the SJVAB (SJVAPCD, 2002). As a result, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD, 2002). The air basin is currently in nonattainment of both federal and state standards, indicated in Table 4-1 below.

Table 4-1 Attainment Status for San Joaquin Valley Air Basin		
Pollutant	Federal Standard	State Standard
Ozone (1-hour)	N/A	Nonattainment/Severe
Ozone (8-hour)	Nonattainment/Serious	N/A
PM10	Nonattainment/Serious	Nonattainment
PM2.5	Nonattainment	N/A

Source: SJVAPCD Web site, <http://www.valleyair.org/aqinfo/attainment.htm>.

Since no work would be done under Alternative A, Alternative A would have no effect on air quality.

Alternative B would involve the use of a crane on a diesel boom truck would be used to lower the gates in place from the top of the dam. A flatbed or other delivery truck would be used to transport the new gates and to remove the old gates for disposal. Additional CCID vehicles may be brought to the site to conduct and oversee the work. Work would be conducted during winter months. Pollutants of concern during winter months in the valley are PM₁₀ and PM_{2.5}, primarily generated by wood burning, agricultural activities, and mobile sources.

Figure 4.1. Example of a Boom Truck and Crane



Particulate matter can be a mixture of solid particles and liquid droplets that include smoke, soot, dust, salt, acids and metals. Particulate matter can form from man-made emissions such as automobile exhaust and industrial operations. It can be produced by nature in the case of pollen. Respirable particles, of ten microns or less in diameter (PM₁₀) are those that can be inhaled and passed through deep into the lungs and have been linked to premature deaths, chronic bronchitis, and asthma (SJVAPCD).

Fugitive emissions of dust particles may result from equipment moving in the unpaved staging areas. The unpaved surfaces in the staging and turnaround area are covered with gravel. Diesel and gasoline trucks would generate particulate emissions. Trackout onto paved roadways would be minimal since staging and turnaround would occur on a graveled surface. Based on the limited amount of time that is needed to complete the work and type of equipment that would be used, air quality impacts would be *de minimis* under Alternative B.

4.2.3 Noise

Existing noise levels at the Mendota Pool are generally at or below a day-night average sound level of 65 decibels adjusted (dBA), which is the generally accepted limit for outdoor noise levels in residential areas. Generally, modern residential building shells generally yield interior noise levels that are approximately 20 dBA lower than exterior levels (windows and doors closed). Typical sources of noise include automobiles and trucks, with the higher noise levels occurring near transportation routes. Noise generators in the project area are Highway 180, Highway 33, agricultural operations, and aircraft flyovers (BOR, 2008).

Alternative A would not generate any noise since no work would be completed. Alternative B would generate a moderate amount of construction noise during the two months that Mendota Pool is dewatered and CCID is performing their regular maintenance work. There are no sensitive noise receptors located within a mile of the work area. Since work would be done while Mendota Pool is drained, there is no risk of hydroacoustic impacts that may injure fish.

4.3 Socioeconomic Resources

The scope of analysis for direct, indirect, and cumulative effects to socioeconomic resources is similar to the area considered for biological resources.

4.3.1 Commercial and Recreational Fisheries

In Mendota Pool, the predominant fish species include threadfin shad (*Dorosoma petenense*), channel catfish (*Ictalurus punctatus*), inland silverside (*Menidia beryllina*), striped bass (*Morone saxatilis*), black crappie (*Pomoxis* sp.), and bluegill (*Lepomis macrochirus*) (Jones & Stokes Associates, 1986). Threadfin shad are commonly used as bait for bass fishing (CDFG) and black crappie are easy to clean and cook.

At present, Mendota Pool is drained every two years for CCID to perform maintenance on Mendota Dam, adversely affecting the recreational fishery Mendota Pool and the San Joaquin River provide. Alternative A, a reflection of current conditions, would result in the regular, biannual impacts to the recreational fishery at Mendota Pool. If Alternative B were implemented, there would be major beneficial impacts to the recreational fishery at Mendota Pool by reducing or eliminating the need to dewater the pool for maintenance.

4.3.2 Recreation

Fisherman are known to fish off of the Mendota Dam. Recreational users like boaters and swimmers typically access the San Joaquin River downstream of Mendota Dam from roadway shoulders. Approximately 500 feet upstream of the dam on the western bank of the San Joaquin River, there is noticeable pedestrian and vehicle access to the river due to the degraded condition of the river bank.

Figure 4.2. Fisherman on Mendota Dam



Figure 4.3. Pedestrian Access Point to the San Joaquin River Downstream of Dam



Alternative A would be a continuation of existing conditions. Recreational opportunities at Mendota Pool and the San Joaquin River downstream of the dam would be interrupted biannually for maintenance activities. Alternative B would lessen or eliminate the need to dewater Mendota Pool in the future, having a long-term, moderate beneficial impact to recreational opportunities in the area.

4.3.3 Protected Areas: Wilderness Areas, Wild and Scenic Rivers, Scenic Routes and Preserves

Mendota Wildlife Area and other preserves that depend on water from Mendota Pool under Alternative A would continue to be adversely affected during the biannual dewatering of Mendota Pool by CCID for dam maintenance. Reclamation prepared an investigation in 2007 to determine how water deliveries to Mendota Wildlife Area could be improved. The environmental assessment prepared after the investigation considered replacing Mendota Dam as one alternative to improving water dependability primarily because of the biannual dewatering needed for maintenance.

Alternative B would eliminate the need to dewater Mendota Pool, resulting in the beneficial effects to the management of nearby wildlife areas.

4.3.4 Cultural Resources

The term “cultural resources” are several different types of properties: prehistoric and historical archaeological sites; architectural properties such as buildings, bridges, and infrastructure; and resources important to Native Americans. Cultural resources known to exist along the San Joaquin River consist of engineering structures such Mendota Dam, weirs, and bridges crossing the San Joaquin River. Archaeological remains could also be present along the river, in undisturbed soils outside of previous any construction corridors.

The National Historic Preservation Act (NHPA) stipulates that the Federal agencies must take into consideration possible effects of a proposed action on historic properties. Historic properties are defined as historic or prehistoric sites, structures, buildings, districts or objects that are listed in or eligible for listing in the National Register. Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

The affected environment for cultural resources is identified as the area of potential effects (APE), in compliance with the NHPA (36 CFR 800). The APE is the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties.

A previous records search and cultural resources survey that included the current APE was conducted in 1997 by Reclamation Archaeologists Patrick Welch and G. James West as part of a Class III archaeological survey for a proposed project to construct a new dam downstream of Mendota Dam. This report, completed in 1998, determined that there were no archaeological resources within the APE and that Mendota Dam was eligible for inclusion in the National Register under Criterion B. SHPO concurred with this determination on July 27, 1998 (BUR980616A).

For the purposes of this undertaking, Reclamation assumed that Mendota Dam is eligible for inclusion in the National Register under Criterion A, for its contributions to expanding irrigation in the Central Valley and the growth of agribusiness in the region. The installation of gates on Mendota Dam would have minimal aesthetic changes and would not substantially alter the eligibility of the facility for listing in the National Register.

Reclamation consulted with the California State Historic Preservation Officer (SHPO) seeking concurrence on a finding of no adverse effect to historic properties. SHPO concurred on December 5, 2011, concluding the Section 106 process. Due to this concurrence, the Proposed Action will result in no impacts to cultural resources.

4.3.5 Indian Trust Assets

Indian trust assets (ITAs) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individual Indians. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITAs cannot be sold, leased or otherwise alienated without United States' approval. ITAs may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITAs may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITAs reserved by Indian tribes, or individual Indians by treaty, statute, or Executive Order.

An ITA records search was conducted in October 2011. No Indian Trust Assets are located near Mendota Dam. The closest assets are located over 40 miles away.

4.3.6 Public Health and Safety

The area immediately surrounding Mendota Dam and CCID facilities at Mendota Pool is not populated. Mendota is the closest populated area and is located south-southwest of the dam. The equipment needed would create minor increases in traffic during the morning and evening commute hours. Given the primarily rural nature of the project area, impacts to traffic will be negligible. Routes used by emergency vehicles will not be blocked, restricted, or detoured therefore the project will have no effect on emergency vehicle response times.

Alternative A over the long-term may have a moderate adverse effect to public safety due to the dam's inability to pass Interim and Restoration Flows from the SJRRP. Alternative B would improve dam operations, including reaction times to high water events like floods and increase the capacity of flow that can be sent through the dam. This will overall improve channel functions, minimizing the risk of the dam being compromised and flooding in the area.

4.3.7 Energy Production, Consumption, and Conservation

There are no hydroelectric facilities or other power generation facilities within the immediate vicinity of Mendota Dam. Electricity transmission lines are located along the roadway that runs perpendicular to the dam.

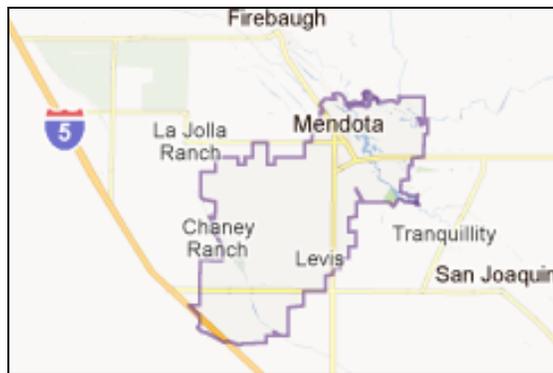
Alternative A would have no effect on energy production, consumption, or conservation. The new sluice gates at Mendota Dam would be controlled remotely. Power would be brought in from the overhead utility line to a 10-foot by 10-foot masonry electrical housing that would serve as the electrical hub for the gates. Operation of the gates would be remotely controlled through a radio transmission system at the CCID office in Los Banos. Therefore, replacing the dam gates under Alternative B would result in a minor increase in the long-term electricity consumption by CCID to operate and monitor the gates remotely.

Equipment used during construction, such as heavy-duty and light-duty trucks are expected to consume minor amounts of diesel and gasoline fuel for the transportation and installation of the gates. Alternative B over the long-term would reduce the number of trips CCID would need to make in order to operate the gates.

4.3.8 Population and Housing

Mendota Dam and the town of Mendota are in zipcode 93640. The zipcode also includes a large area of farmland to the southwest of Mendota. The U.S. Census Bureau has tabulated demographic data for zipcode 93640 for the 2000 federal census and the information is available on their website, factfinder.census.gov.

**Figure 4.4. Zipcode 93640
Tabulation Area for 2000 U.S. Federal Census**



© 2011 Google; Source: Google Maps™ mapping service

At 57% of the population, there are a greater number of men than women in the Mendota area. The median age is 25.7 with 64% of the population reporting that they are non-white or are of two or more races. A large majority of the minority group in the Mendota area identify themselves as Hispanic or Latino, with many reporting being foreign born. Only 20% of the residents reporting in the census indicated they were high school graduates, compared to 80% nationwide. The median household income in the area is \$23,488 with approximately 40% of the population considered to be at or below the poverty level. In 2000, the total population in the zipcode tabulation area is 9,160 versus only 754 single-family occupied homes (U.S. Census Bureau). This indicates many families may live in apartments or as multiple families in single-family homes. Additional single-family homes have been constructed in Mendota since the 2000 census.

There are no houses in the immediate vicinity of Mendota Dam and the project will not affect the availability of housing in the area.

Based on this information, none of the alternatives are expected to have an effect on population and housing.

4.3.9 Communities and Environmental Justice

The closest public facilities and concentration of housing constituting a community are in the town of Mendota. The demographic data for the area indicates there is a large Hispanic community in the Mendota area and many of those are likely migrant farm workers. Due to their immigration status, undocumented workers are generally underrepresented in the census data

(U.S. Census Bureau, 2009). Homeless persons, who are also generally underrepresented in census data may also be present near the project area. The wooded areas around Mendota Pool and near Mendota Dam may serve as camp areas for homeless persons. Homeless persons are known to bathe in the irrigation canals around the Mendota area (Black). The likelihood of encountering homeless persons or squatters that may be camping immediately adjacent to the dam facility is unlikely given that most of the area is patrolled frequently by CCID. Also, no homeless camp sites or persons were observed during the September 2011 site visit.

There are no community facilities, stores, places for gathering, or homesites in the area near Mendota Dam that could be affected. Therefore none of the alternatives are expected to affect homeless persons, migrant workers, low-income populations, minority communities, or communities of color.

4.3.10 Traffic and Transportation

There is one major road in the area of Mendota Dam: Helm Canal Road. Helm Canal Road originates to the west and follows Helm Canal. Bass Avenue and Helm Canal Road run a short distance together before Bass Avenue ends. At the fork in the road north of Mendota Dam, Helm Canal Road continues northwest, making a complete loop near Firebaugh. Helm Canal Road is a two-lane rural road with little or no shoulder. It primarily serves local residents and farm workers.

Columbia Road crosses the San Joaquin River over Mendota Dam. The dam is gated to limit auto traffic to CCID. The nearest crossing of the San Joaquin River other than Columbia Road over the San Joaquin River is State Route 180, 4-miles to the south or the Avenue 7 ½ (also known as West Nees Avenue or Firebaugh Boulevard) crossing approximately 9 miles to the north in Firebaugh.

Alternative A would have no effect on traffic conditions or modes of transportation in the Mendota area.

Alternative B would involve the use of heavy equipment brought in by truck to replace the dam gates. Equipment would be brought in from the Los Banos and Fresno area. The gates would be purchased and shipped from a manufacturer in Exeter, California. Trips back and forth from the CCID yard for performing and overseeing the work would mainly be made along Bass Avenue and Highway 33 during the morning and evening hours. A crane would be hired, likely from the Fresno area, for 4 weeks and will be left onsite. Implementation of Alternative B would result in the temporary blockage of Columbia Road over Mendota Dam. However, the portion of Columbia Road over Mendota Dam is only used for CCID maintenance activities. The relatively small number of trucks would be used to import equipment and for travel to and from CCID facilities would be expected to cause only minor, adverse effects to traffic conditions locally and in the region.

4.3.11 Hazardous Materials

The closest hazardous waste site is a Brownfield approximately 2 miles south of the project site in the town of Mendota at Belmont Avenue and Derrick Avenue. The town of Mendota is proposing to construct a new junior high on the property. The U.S. Environmental Protection Agency has assessed the site but cleanup has not started (USEPA, 2011).

No known contaminated sites exist in the project area. All of the alternatives considered would not result in the release of hazardous materials or the disturbance of soil containing hazardous materials.

4.3.12 Utilities

Alternative A would have no effect on public utilities.

Alternative B would not disrupt raw water deliveries or the generation of power at upstream power facilities. The project does not require the removal or replacement of municipal utility lines to accomplish the work.

CCID is pursuing the construction of a new electrical station that is a part of gate operations that would require a service drop from the existing overhead electrical lines. The new connection would be accomplished with a short-term disruption of power to users in the area. Since Reclamation would not reimburse CCID for the electrical operation components of the sluice gates, the service drop would be a cumulative impact.

4.4. Cumulative Impacts

During the biannual dam maintenance cycle, CCID dewater Mendota Pool by diverting the San Joaquin River flows into CCID's Outside Canal and Main Canal. The pool is dewatered by constructing an earthen dike with material from the river bottom. To complete the dewatering, CCID often pumps the remaining water to the downstream part of the dam. During the 2011-2012 winter maintenance, CCID will be clearing the mud from the upstream and downstream floors of the dam apron, visually inspecting and checking the subgrade under the concrete slabs, and performing repairs as directed in consultation with the Division of Dam Safety. (Dewatering at Mendota Pool began on November 15, 2011.) CCID will replace flash boards as needed in the dam bays that do not operate using sluice gates. In addition, CCID will be installing new sheet piling through the upstream dam apron to eliminate under seepage. These activities will be happening concurrently with the installation of the new sluice gates.

CCID will use timber mats in Mendota Pool to access the bottom work area adjacent to the upstream side of the concrete platform. No equipment will be allowed on the upstream concrete apron platform. CCID will excavate the existing soil on top of the upstream platform. An excavator will place the soil into 10-wheel dump trucks, hauling it approximately a quarter mile to a stockpile location on CCID land.

CCID will take the sheet piling and drive it along the slot in the concrete platform. After all the piling is driven, the crane will lift the timber mats out of the bottom area. The soil previously excavated will not be returned to Mendota Pool.

The next activity will include pressure washing and sandblasting the existing concrete platform adjacent to the new sheet-pile wall. This cleaning is included along with a bonding material to provide a good seal adjacent to the sheet-pile wall. A 1-foot-thick concrete cap extending over the prepared area will be pumped using a slick line from concrete trucks positioned on the west abutment and down the edge of the timber mat ramp. Work will be conducted from November 15, 2011 to January 15, 2012.

Dewatering Mendota Pool has substantial adverse impacts to the winter water management at the nearby Mendota Wildlife Area as well as fish species that occur in Mendota Pool. In combination with the sheet pile installation, replacing the sluice gates with a more reliable model will greatly reduce or eliminate the need to dewater Mendota Pool to inspect Mendota Dam. This would result in a net cumulative beneficial impact to the management of the Mendota Wildlife Area and habitat around Mendota Pool.

4.5 Mitigation Measures

AQ 1: Implement a Fugitive Emissions Control Measures

During construction, the project proponent will comply with SJVAPCD's Regulation VIII, "Fugitive Dust PM₁₀ Prohibitions," and will implement all applicable control measures. Regulation VIII contains the following required control measures:

- Prewater the site enough to limit visible dust emissions (VDE) to 20 percent opacity.
- Phase the work to reduce the amount of surface area disturbed at any one time.
- During active construction:
 - Apply enough water or chemical/organic stabilizers or suppressants to limit VDE to 20 percent opacity.
 - Construct and maintain wind barriers sufficient to limit VDE to 20 percent opacity.
 - Apply water or chemical/organic stabilizers or suppressants to unpaved access/haul roads and unpaved vehicle/equipment traffic areas in sufficient quantity to limit VDE to 20 percent opacity and meet the conditions of a stabilized unpaved road surface.
 - Limit the speed of vehicles traveling on uncontrolled, unpaved access/haul roads within construction sites to a maximum of 15 miles per hour (mph).
- Prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved-surface exit point of a site.
- Clean up carryout and trackout using one of the following methods:
 - Manually sweeping and picking up.
 - Operating a rotary brush or broom accompanied or preceded by sufficient wetting to limit VDE to 20 percent opacity.
 - Operating a PM₁₀-efficient street sweeper that has a pickup efficiency of at least 80 percent.
 - Flushing with water, if curbs or gutters are not present and if using water would not result in a source of trackout material, adverse impacts on 24 stormwater drainage

systems, or violate any National Pollutant Discharge Elimination System permit program

5.0 Consultation and Coordination

This section reviews agency consultation and coordination that occurred before and during the preparation of this environmental assessment (EA). It reviews the steps in the NEPA review process that follow release of this EA.

The draft EA will be distributed for public review and written comment for a 15-day review period. A Notice of release of the draft EA will be provided to all individuals on the SJRRP public notification mailing list, which is updated automatically when individuals access the public website (www.restoresjr.net) and place themselves on the mailing list. Interested parties will have an opportunity to express their views regarding the environmental effects and other views regarding the proposed action. After the public review and comment period closes, Reclamation will prepare written responses to the comments received. If Reclamation determines that the proposed action does not warrant the preparation of an Environmental Impact Statement (EIS), a Finding of No Significant Impact (FONSI) will be prepared.

The following agencies and persons were consulted in the development of this project and the preparation of this document:

- U.S. Department of Interior – Bureau of Reclamation, Mid Pacific Region
- California State Historic Preservation Office
- U.S. Army Corps of Engineers

An application for a permit from the Corps of Engineers for authorization to perform the work under Section 10 of the Rivers and Harbors Act will be submitted to the Corps of Engineers when the draft environmental assessment becomes available for public comment. A Clean Water Act, Section 401 Water Quality Certification is not required because this action will not result in the discharge of fill material that would otherwise require authorization under Section 404 of the Clean Water Act.

A request for consultation with the State Historic Preservation Officer (SHPO) seeking concurrence on a finding of no adverse effect to historic properties was submitted on November 26, 2011. The SHPO responded on December 5, 2011, with a letter concurring with Reclamation's determination that the action would have no adverse effect to historic properties.

For information purposes, the public notice for the proposed action will be sent to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service with a copy of the draft environmental assessment. Reclamation has determined that the action will have no effect on federally listed threatened and endangered species and will not adversely modify essential fish habitat (EFH).

CCID has a Lake and Streambed Alteration Agreement (LSAA) with the California Department of Fish and Game to perform the biannual Mendota Pool Dewatering and Mendota Dam maintenance and repair work.

Under the Fish and Wildlife Coordination Act, federal agencies undertaking water projects are required to fully consider the recommendations made by the U.S. Fish and Wildlife Service

(USFWS), the National Marine Fisheries Service, and other appropriate fish and wildlife agencies like the California Department of Fish and Game to implement measures that reduce impacts on fish and wildlife. Reclamation notified the USFWS prior to the public release of the draft EA, that a no effect determination would be made on the proposed action and requested that the USFWS provide any comments on Reclamation's determination and/or provide recommendations to avoid and minimize impacts to wildlife resources.

6.0 List of Preparers

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