RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Temporary One-Year Transfer and Exchange of Recaptured San Joaquin River Restoration Program Flows from Madera Irrigation District and Chowchilla Water District to Red Top

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
Sacramento, California

March 2013

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Table of Contents

List of Acronyms and Abbreviations

AF	Acre-Feet
Ag	Agricultural
Agreement	Cooperative Agreement for Water Utilization and Conveyance
BO	Biological Opinion
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic-Feet per Second
CNDDB	California Natural Diversity Database
Court	U.S. Eastern District Court of California
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWD	Chowchilla Water District
Delta	Sacramento-San Joaquin River Delta
DMC	Delta-Mendota Canal
DWR	Department of Water Resources
EA	Environmental Assessment
EA/IS	Environmental Assessment/Initial Study
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FWA	Friant Water Authority
FWCA	Fish and Wildlife Coordination Act
GHG	Green House Gases
HMWD	Henry Miller Water District
ITA	Indian Trust Assets
MBTA	Migratory Bird Treaty Act
MID	Madera Irrigation District
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
Order	Water Rights Order
Reclamation	Bureau of Reclamation
Settlement	Stipulation of Settlement in *NRDC, et al., v. Kirk Rodgers, et al.*
SJRRP	San Joaquin River Restoration Program

SJRRP Flows	Interim Flows and Restoration Flows
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLR	San Luis Reservoir
SWP	State Water Project
SWRCB	State Water Resources Control Board
USC	United States Code
USFWS	United States Fish and Wildlife Service
WY	Water Year

Definitions

Central Valley Project (CVP): The United States, acting through the Bureau of Reclamation, has constructed and is operating the Central Valley Project, California, for diversion, storage, carriage, distribution and beneficial use, for flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection and restoration, generation and distribution of electric energy, salinity control, navigation and other beneficial uses, of water of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries.

Class 1 Water: The supply of water stored in or flowing through Millerton Lake which, subject to the contingencies described in the water service or repayment contracts will be available for delivery from Millerton Lake and the Friant-Kern and Madera Canals as a dependable water supply during each Contract Year.

Class 2 Water: The supply of water which can be made available subject to the contingencies described in the water service or repayment contracts for delivery from Millerton Lake and the Friant-Kern and Madera Canals in addition to the supply of Class 1 water. Because of it uncertainty as to availability and time of occurrence, such water will be undependable in character and will be furnished only if, as, and when it can be made available as determined by the Contracting Officer.

CVP Water: All water that is developed, diverted, stored, or delivered by the Secretary in accordance with the statutes authorizing the CVP and in accordance with the terms and conditions of water rights acquired pursuant to California Law.

Friant Division: The main features of this division are: Friant Dam, Millerton Lake, Friant-Kern Canal (FKC), and Madera Canal, all constructed and operated by the Bureau of Reclamation.

Friant Division Long-Term Contractor Service Area: The area to which a Friant Division Long-Term Contractor is permitted to provide CVP Water under its contract.

Friant Division Long-Term Contractors or Friant Contractors: All long-term water service or repayment contracts between Friant Contractors and the United States Department of the Interior, Bureau of Reclamation that provide water service from the Friant Division of the CVP.

Water Year shall mean the period from and including March 1 of each calendar year through the last day of February of the following calendar year.

This page left blank intentionally

Section 1 Purpose and Need for Action

1.1 Background

In 1988, a coalition of environmental groups, led by the Natural Resources Defense Council (NRDC), filed a lawsuit challenging the renewal of long-term water service contracts between the United States and CVP Friant Division Long-Term Contractors (Friant Contractors). After more than 18 years of litigation, *NRDC, et al., v. Kirk Rodgers, et al.* (Settlement), a settlement was reached. On September 31, 2006, the Settling Parties, including NRDC, Friant Water Users Authority (now represented by the Friant Water Authority [FWA]), and the U.S. Departments of the Interior and Commerce, agreed on the terms and conditions of the Settlement, which was subsequently approved by the U.S. Eastern District Court of California (Court) on October 23, 2006. The Settlement establishes two primary goals:

- Restoration Goal – To restore and maintain fish populations in "good condition" in the main stem of the 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 Contractors that may result from the Interim Flows and Restoration Flows provided for in the Settlement.

The planning and environmental review necessary to implement the Settlement is authorized under Section 3406(c)(1) of the Central Valley Project Improvement Act (Public Law 102-575) and the San Joaquin River Restoration Settlement Act (Act), included in Public Law 111-11, the Omnibus Public Land Management Act of 2009. The Secretary of the Interior is authorized and directed to implement the terms and conditions of the Settlement through the Act. The San Joaquin River Restoration Program (SJRRP) will implement the Settlement. The Settlement identifies the need for a plan for recirculation, recapture, reuse, exchange or transfer of Interim Flows to reduce or avoid impacts to Friant Contractors.

1.2 Purpose and Need

National Environmental Policy Act (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 CFR 1502.13).

The purpose of the Proposed Action is to implement the provisions of the Settlement pertaining to the Water Management Goal by facilitating a temporary one-year transfer and/or exchangeof up to 20,000 acre-feet of recaptured SJRRP Interim and Restoration Flows from Madera Irrigation District (MID) and Chowchilla Water District (CWD) to the Red Top area. This action will occur during Water Year (WY) 2013, from April 1, 2013, through February 28, 2014. The need for the action is to reduce or avoid water supply impacts to Friant Contractors by providing

mechanisms to ensure that recirculation, recapture, reuse, exchange, or transfer of Interim and Restoration Flows (also referred to as SJRRP Flows in this EA) occurs.

1.3 Scope

MID and CWD are proposing to transfer and/or exchange up to 20,000 acre-feet of recaptured SJRRP Flows, made available by the Bureau of Reclamation to MID and CWD, to previously farmed lands in the Red Top area (see Figure 1 – Vicinity Map). This assists in achieving the Water Management Goal of the Settlement and the Act by allowing MID and CWD, both Friant-Division Long-Term Contractors, to transfer water to the Red Top area.

Incorporation of Related Environmental Documents
This Environmental Assessment (EA) incorporates the environmental analysis performed in the Draft Recirculation of Recaptured Water Year 2013-2017 San Joaquin River Restoration Program Flows Environmental Assessment, February 2013 (WY 2013-2017 Recirculation EA). The WY 2013-2017 Recirculation EA analyzes the potential environmental impacts of recirculating recaptured Interim and Restoration Flows for a five-year period utilizing existing conveyance facilities and without the addition of new facilities to recapture or recirculate released SJRRP flows from Friant Dam. While this EA generally corresponds in environmental impacts, the project description for this project varies in two ways: 1) the action proposed in this EA is a temporary one-year action (the WY 2013-2017 Recirculation EA is for five years); and, 2) the proposed action here includes the placement of a new pump or intake through a pipeline within an existing water diversion and conveyance facility (which varies from the definition of "without the addition of new facilities" in the WY 2013-2017 Recirculation EA, but does not propose construction of new facilities). Therefore, this EA was prepared separately in order to properly address these two items, but still incorporates by reference the environmental analysis in its entirety prepared for the WY 2013-2017 Recirculation EA for water resources, land use, biological resources, cultural resources, Indian Trust Assets, socioeconomic resources, Environmental Justice, air quality, global climate change, and cumulative impacts. The environmental analysis for these portions of the affected environment and environmental consequences from the WY 2013-2017 Recirculation EA are reiterated in the corresponding resource area analysis provided in this EA, where applicable.

The SJRRP Program Environmental Impact Statement/Impact Report (PEIS/R) was finalized in July 2012 and the corresponding Record of Decision (ROD) was issued on September 28, 2012. The PEIS/R and ROD analyzed at a project-level the reoperation of Friant Dam to release Interim and Restoration Flows to the San Joaquin River, making water supplies available to Friant Division long-term contractors at a pre-established rate, and the recapture of Interim and Restoration Flows at existing facilities within the Restoration Area, lower San Joaquin River, and the Delta. The PEIS/R and ROD also includes program-level actions, which are identified as actions that require the completion of additional analysis pursuant to NEPA and/or CEQA, as appropriate. One of the program-level actions identified in the document includes Settlement Paragraph 16(a) actions for the recirculation of recaptured Interim and Restoration Flows. The PEIS/R states that Reclamation will monitor and report the quantity and timing of Interim and Restoration Flows that are available for recirculation to the Friant Division long-term contractors. The PEIS/R acknowledges that additional analysis for NEPA and/or CEQA will be

needed in the future for the long-term recirculation plan, which may include modifications to new facilities or the construction of new facilities. The PEIS/R and ROD also anticipate that the long-term recirculation plan may require additional exchange agreements and negotiations with water users. Inasmuch, this EA incorporates by reference the following information from the PEIS/R:

- **Chapter 3.0 - Considerations for Describing the Affected Environment and Environmental Consequences**. This EA incorporates the analysis and assumptions presented in the chapter. Specifically, analysis of the Study Area for the PEIS/R, the explanation of significance criteria, impact comparisons, impact levels, and mitigation measures are incorporated into the contents of this EA.

- **Chapter 4.0 – Air Quality.** This EA incorporates the analysis performed to assess impacts related to program-level actions, which would include stationary sources associated with the recirculation of water. The assessment of impacts and ultimate determinations, all being less than significant for the operation of the SJRRP, are incorporated.

- **Chapter 5.0 – Biological Resources - Fisheries.** This EA incorporates the analysis performed in order to support the analysis for the SJRRP. The incorporated material from the PEIS/R also includes the quantitative and qualitative assessments of aquatic species impacts as a result of the implementation of the SJRRP, specifically related to physical processes such as water temperatures, water quality, flow patterns, fish habitat conditions, pollutant discharge and mobilization, turbidity, diversions and entrainment, predation, and food web support in the Sacramento-San Joaquin Delta. The assessment of impacts and determinations are incorporated.

- **Chapter 6.0 – Biological Resources – Vegetation and Wildlife.** This EA incorporates the analysis performed in the PEIS/R related to the assessment of sensitive species and habitats in or near the project area, including the CVP/SWP water service areas. The incorporated material includes the investigation of the impacts of the SJRRP on the alteration of riparian habitat, changes in invasive plant abundance and distribution, or alteration of special-status plant species or habitats between the Merced River and the Delta or in the Delta.

- **Chapter 7.0 – Climate Change and Greenhouse Gas Emissions.** This EA incorporates by reference the discussion of potential changes related to the implementation of the SJRRP. NEPA and CEQA standards related to climate change analysis varies greatly and the PEIS/R analysis incorporates the more stringent State of California measures to analyze and model greenhouse gas emissions. For project- level actions analyzed in the PEIS/R, it was found that there would be potentially significant and unavoidable impacts related to increased flow releases, which in turn could cause additional traffic from recreational visitors driving to the San Joaquin River and also by increased groundwater pumping and changes in the CVP/SWP energy generation and consumption. This is related to a long-term impact of the SJRRP's flow releases, which could result in an increased use of groundwater pumps due to changes in surface water availability. While

80-90 percent of groundwater pumps in the Friant Division are electric, the remaining additional diesel-powered pumping could result in increased greenhouse gas emissions. The impacts from the project-level implementation related to operations greenhouse gas emissions and the discussion of recapture of flows through the existing facilities in the Restoration Area and the Delta from the PEIS/R are thereby incorporated by reference into this document.

- **Chapter 12.0 – Hydrology – Groundwater.** The entirety of the PEIS/R chapter is incorporated into this EA. The chapter describes current and historical conditions and explains the aquifer regions surrounding the San Joaquin River, many of which suffer from groundwater overdraft, land subsidence, and water quality concerns. This EA also incorporates the discussion related to the changes and impacts associated with the implementation of the SJRRP in relation to changes in groundwater levels and quality in the CVP/SWP water service areas. Generally, both the groundwater levels and groundwater quality impacts are anticipated to potentially significant and unavoidable in association with the reduction of water supply to the Friant Division long-term contractors. This EA addresses a temporary one year action that is aimed at abating additional groundwater pumping within an area adjacent to the San Joaquin River. The proposed action in this EA would work to limit or reduce land subsidence that is addressed in the PEIS/R.

- **Chapter 13.0 – Hydrology – Surface Water Supplies and Facilities Operations**. This EA incorporates by reference the entirety of this PEIS/R chapter. This chapter outlines the operations for water deliveries, storage, and other relevant information related to the CVP and SWP and the impacts from implementation of the SJRRP. The chapter defines the impacts related to Delta operations and their interrelation to the SJRRP at a project-level of analysis.

- **Chapter 16.0 – Land Use Planning and Agricultural Resources.** This EA incorporates by reference the analysis performed to support the findings in Impact LUP-8: *Substantial Diminishment of Agricultural Land Resource Quality and Importance Because of Altered Water Deliveries*. As described in this EA in chapter on land use, no long-term changes are anticipated as a result of this temporary one year action.

- **Chapter 26.0 – Cumulative Impacts.** This EA incorporates by reference the discussion of the effects of the SJRRP in relation to past, present, and reasonably foreseeable future actions, specifically in the CVP/SWP water service area. This includes discussions of planned actions associated with the collective CALFED Water Resources Projects, other water resource projects, resource management plans and programs, and the related impact analysis from the SJRRP on cumulative air quality, fisheries, vegetation and wildlife, groundwater, surface water supplies and facilities operations, surface water quality, and land use planning.

The PEIS/R addresses the potential recapture of SJRRP Flows at several diversion locations. These locations include existing facilities: in the Delta; in the San Joaquin River at the Banta-Carbona Irrigation District facility and the West Stanislaus Irrigation District facility

downstream of the Stanislaus River confluence; at the Patterson Irrigation District facility between the Tuolumne and Merced River confluences; and, within the San Joaquin River Restoration Program Restoration Area (between Friant Dam and the confluence of the Merced River) which includes Mendota Pool at the downstream end of Reach 2B, the Lone Tree Unit of the Merced National Wildlife Refuge (NWR) (Lone Tree Unit) in the Eastside Bypass Reach 2, and the East Bear Creek Unit of the San Luis NWR (East Bear Creek Unit) in the Eastside Bypass Reach 3. Recirculation is subject to available capacity within the CVP and/or the SWP storage and conveyance facilities, including the Jones and Banks pumping plants, California Aqueduct, DMC, San Luis Reservoir (SLR) and related pumping facilities, and other facilities of CVP/SWP contractors. Available capacity is capacity that is available after all statutory and contractual obligations are satisfied to existing water service or supply contracts, exchange contracts, settlement contracts, transfers, or other agreements involving or intended to benefit CVP/SWP contractors served through CVP/SWP facilities.

Relation of Proposed Action to Settlement

The Water Management Goal of the Settlement and Act includes a requirement for the development and implementation of a plan for recirculation, recapture, reuse, exchange or transfer of interim flows for the purpose of reducing or avoiding impacts to water deliveries to all of the participating Friant Contractors. Paragraph 16 of the Settlement states:

> *16. In order to achieve the Water Management Goal, immediately upon the Effective Date of this Settlement, the Secretary, in consultation with the Plaintiffs and Friant Parties, shall commence activities pursuant to applicable law and provisions of this Settlement to develop and implement the following:*
>
> > *(a) A plan for recirculation, recapture, reuse, exchange or transfer of the Interim Flows and Restoration Flows for the purpose of reducing or avoiding impacts to water deliveries to all of the Friant Contractors caused by the Interim Flows and Restoration Flows. The plan shall include provisions for funding necessary measures to implement the plan. The plan shall:*
> >
> > > *(1) ensure that any recirculation, recapture, reuse, exchange or transfer of the Interim Flows and Restoration Flows shall have no adverse impact on the Restoration Goal, downstream water quality or fisheries;*
> > > *(2) be developed and implemented in accordance with all applicable laws, regulations and standards. The Parties agree that this Paragraph 16 shall not be relied upon in connection with any request or proceeding relating to any increase in Delta pumping rates or capacity beyond current criteria existing as of the Effective Date of this Settlement;*
> > > *(3) be developed and implemented in a manner that does not adversely impact the Secretary's ability to meet contractual obligations existing as of the Effective Date of this Settlement; and*
> > > *(4) the plan shall not be inconsistent with agreements between the United States Bureau of Reclamation and the California Department of Water Resources existing on the Effective Date of this Settlement, with regard to operation of the CVP and State Water Project.*

Reclamation, as the lead agency under the NEPA, is preparing this document. This EA analyzes the environmental effects of completing the transfer of water from MID, a Friant Contractor, to the Red Top area. The environmental effects of the recapture and recirculation plan will be analyzed once the plan has been developed and additional information on the specific actions in the plan are known.

1.4 Reclamation's Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action

Several Federal laws, permits, licenses and policy requirements have directed, limited, or guided the NEPA analysis and decision-making process of this EA and include the following as amended, updated, and/or superseded:

- Stipulation of Settlement in *NRDC, et al., v. Kirk Rodgers, et al.*,
- San Joaquin River Restoration Settlement Act, included in Public Law 111-11, the Omnibus Public Land Management Act of 2009,
- Central Valley Project Improvement Act (Public Law 102-575),
- Long-Term Water Service Contracts for Friant Division,
- Title XXXIV Central Valley Project Improvement Act (CVPIA), October 30, 1992, Section 3405(a),
- Reclamation Reform Act, October 12, 1982,
- Reclamation's Interim Guidelines for Implementation of Water Transfers under Title XXXIV of Public Law 102-575 (Water Transfer), February 25, 1993,
- Reclamation and United States Fish and Wildlife Service (USFWS) Regional, Final Administrative Proposal on Water Transfers April 16,1998,
- Reclamation's Mid-Pacific Regional Director's Letter entitled "*Delegation of Regional Functional Responsibilities to the CVP Area Offices - Water Transfers*", March 17, 2008, and
- National Marine Fisheries Service and U.S. Fish and Wildlife Service Biological Opinion on the Coordinated Operations of the CVP and SWP, 2008
- National Marine Fisheries Service CVP/SWP Operations BO, 2009
- California State Water Resources Control Board, Division of Water Rights, Temporary Urgent Change and Instream Flow Dedication Pursuant to Water Code Sections 1435 and 1707, October 1, 2012
- San Joaquin River Restoration Program Record of Decision, September 28, 2012.

1.5 Resources of Potential Concern

Potentially affected resources and cumulative impacts in the project vicinity include: water resources, land use, biological resources, cultural resources, Indian Trust Assets (ITA), air quality, and global climate change.

Section 2 Alternatives Including the Proposed Action

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not facilitate a water transfer and/or exchange from MID and CWD to the Red Top area. MID and CWD could attempt to utilize, transfer, or exchange the recaptured SJRRP Flows to itself or other willing buyers. However, given the fact that the water in this instance is being diverted for the purpose of slowing the rate of groundwater pumping, and thus the land subsidence rates in the area just east of San Joaquin River and on the Eastside Bypass, the rate of land subsidence would continue unabated due to continued demands for groundwater in the area. Current subsidence rates in the general vicinity range from fifteen inches to six inches per year due to groundwater overdraft.

2.2 Proposed Action

The Proposed Action is located on the western side of Fresno and Madera counties the San Joaquin Valley. The Red Top area is a location south of Highway 152, near the areas of Avenue 18 ½ and Avenue 20 ½, near the Eastside Bypass and the San Joaquin River (See Figure 1 – Vicinity Map). The land use in the area consists of existing agricultural utilization for the growing of pistachios, vineyards, and alfalfa. The Red Top area has been found to be an area of substantial land subsidence as a result of groundwater well pumping in the area. The subsidence in this area has ranged from four to six inches per year.

Henry Miller Reclamation District (HMRD) owns and operates Sack Dam and Arroyo Canal. Arroyo Canal's headworks are located just west of the San Joaquin River and it diverts flows off of the San Joaquin River channel, obtaining water from Delta Mendota Canal deliveries, which are released from Mendota Pool approximately 20 miles upstream, or from Friant Dam. Arroyo Canal diversions range from zero to 800 cubic feet-per-second, but typically do not exceed 620 cubic feet-per-second. Sack Dam was constructed in the 1940s and is a 5.75-foot high concrete and wooden diversion structure that creates enough head differential to divert flows in the San Joaquin River channel down the Arroyo Canal.

The Delta Mendota Canal (DMC) carries water southeasterly from the Tracy (C.W. "Bill" Jones) Pumping Plant, located in the Sacramento-San Joaquin River Delta (Delta), 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 Canals. The DMC is about 117 miles long and terminates at the Mendota Pool, about 30 miles west of Fresno. The DMC is a part of the CVP, Delta Division.

MID holds a contract with Reclamation for the delivery of, subject to certain shortage provisions, up to 85,000 acre-feet per year of Class 1 and 186,000 acre-feet per year of Class 2 Agricultural

water from the Friant Division of the CVP. MID would facilitate the transfer of water under the Proposed Action and is a Friant Division Long-Term Contractor.

Chowchilla Water District has a total contract allocation under two contracts under the CVP for a total of 260,000 acre-feet per year. Chowchilla would facilitate an exchange of water under the Proposed Action and is a Friant Division Long-Term Contractor.

The Proposed Action involves the facilitation by Reclamation of a temporary one-year transfer and/or exchange of up to 20,000 acre-feet from MID and CWD to the Red Top area of recaptured SJRRP Interim Flows during WY 2013. Recaptured Interim and Restoration Flows that would be made available to Friant Division Long-Term Contractors, specifically to MID and CWD in this instance, through direct diversion or in San Luis Reservoir would be routed through the DMC to the Mendota Pool and down the San Joaquin River to the Arroyo Canal. In addition, some SJRRP Flows that cannot be conveyed down the San Joaquin River may be directly recaptured and made available to MID for recirculation at the Arroyo Canal. The additional flows would be picked up in one of two methods:

1) At the diversion facilities for the Arroyo Canal through a temporary portable pump. The pump would be a Model DV 350c diesel-engine-powered portable pump capable of pumping 15 to 20 cubic feet-per-second of flow. This pumped water would be placed in a pipeline over Sack Dam and delivered to the Red Top Area, as facilitated by the San Joaquin River Exchange Contractors (SJREC).

2) HMRD would install a pipe whose intake would be in the vicinity of the diversion of the Arroyo Canal. The intake would be routed either through the wingwall of Sack Dam or through a berm on the east bank that is maintained by HMRD. The pipe would feed a pump on private property on the east bank of the San Joaquin River, east of Sack Dam. Additionally, a pump for this option would most likely be electrical because of ready access to an electrical supply on the east bank. This method would also be facilitated by the SJREC and subsequently delivered to the Red Top Area.

The water under either option would be routed to the Red Top area in order to aid in eliminating or reducing the land subsidence rates and to monitor the results utilizing the existing subsidence monitoring dome located within the area.

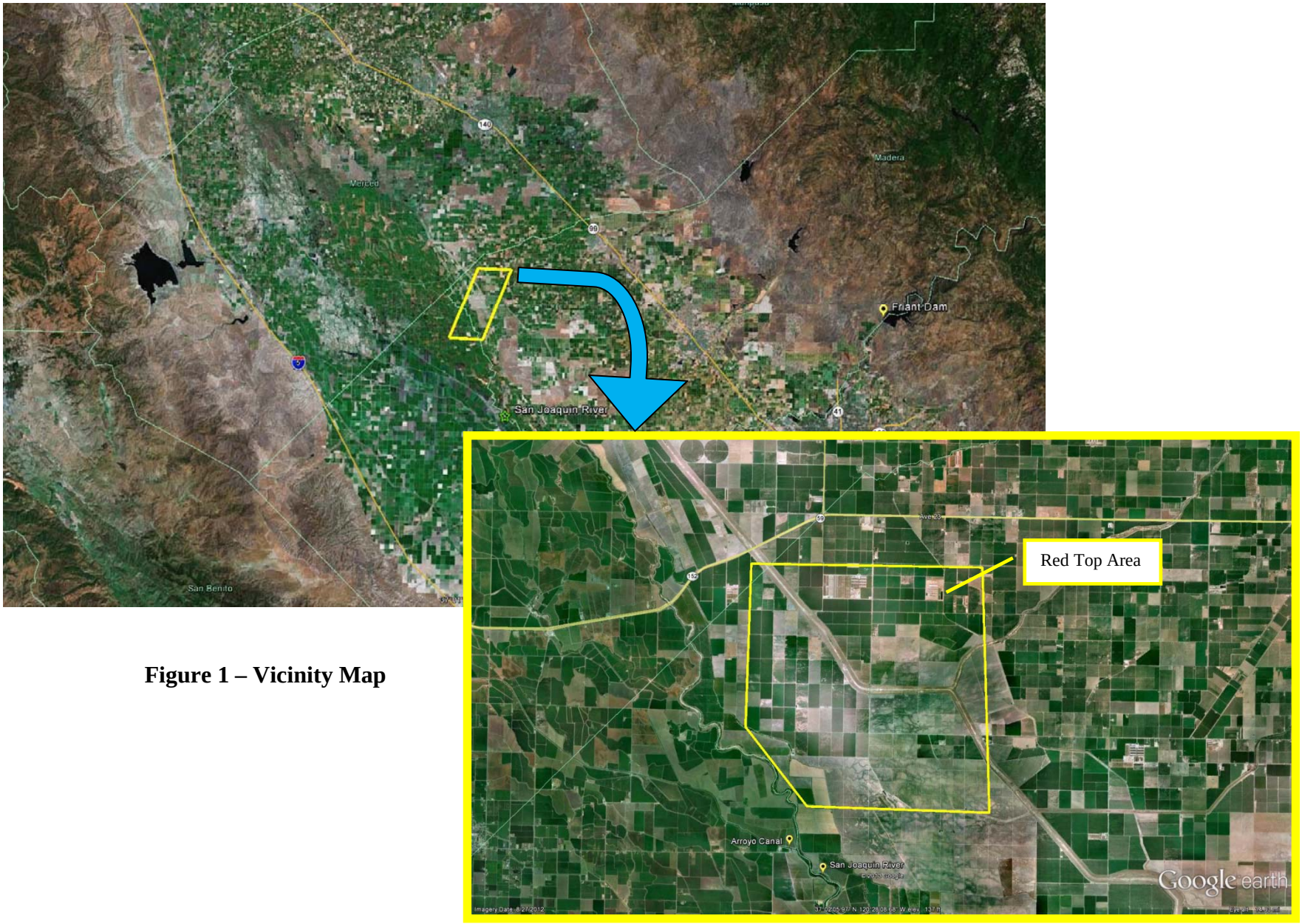

Figure 1 – Vicinity Map

The transfer and/or exchange in this Proposed Action from MID and CWD to the Red Top area would not exceed 20,000 acre-feet in WY 2013 and would only be a temporary, one-year action. The areas defined within this action are currently within the Central Valley Project (CVP) place-of-use. Additionally, Arroyo Canal and associated diversion facilities is a point of diversion off of the San Joaquin River as stipulated in Reclamation's California State Water Resources Control Board (SWRCB), Division of Water Rights, Temporary Urgent Change and Instream Flow Dedication Pursuant to Water Code Sections 1435 and 1707, dated October 1, 2012. Reclamation would continue to comply with any new water rights orders or dedications as provided by applicable law and as overseen by the SWRCB in undertaking the Proposed Action.

The transfer shall further be subject to the following parameters:

- No native or untilled land (fallow for three consecutive years or more) would be cultivated with the water involved in this action.
- Transferred water can only be used for Agricultural (Ag) purposes.
- The ultimate purpose of use is Ag and/or groundwater recharge.
- The transfer will be between willing sellers and willing buyers.
- The transfer shall be limited to existing supply and will not increase overall consumptive use.
- The transfer for Ag water will be used on lands irrigated within the last three consecutive years.
- The transfer will not lead to any land conversions.
- The transfer shall comply with all applicable Federal, State, Local or Tribal laws or requirements imposed for the protection of the environment and ITA.
- The transfer cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., in order to not to have a detrimental effect on fish or wildlife, or their habitats.

Section 3 Affected Environment and Environmental Consequences

This section provides an overview of the physical environment and existing conditions that could be affected by the Proposed Action consistent with NEPA guidelines. Each resource discussion in this section evaluates the impacts of the Proposed Action's alternatives. The baseline conditions assumed consist of the existing physical environmental conditions as of March 2013. Therefore, the baseline environment includes the existing releases and recapture of Interim Flows on the San Joaquin River between Friant Dam and the confluence of the Merced River. Baseline conditions assume that water is stored in San Luis Reservoir is immediately ready for transfer.

Council on Environmental Quality (CEQ) regulations for implementing NEPA specify that environmental documents must succinctly describe the environment in the areas to be affected or created by the alternatives under consideration. The descriptions shall be no longer than necessary to understand the effects of the alternatives. The data and analyses must be commensurate with the importance of an impact, with less important material summarized, consolidated, or simply referenced.

3.1 Water Resources

3.1.1 Affected Environment

Madera Irrigation District
MID is a Friant Division Long-Term Contractor and holds a contract with Reclamation providing for the delivery, subject to certain shortage provisions, of up to 85,000 acre-feet per year of Class 1 and 186,000 acre-feet per year of Class 2 Ag water from the Friant Division of the CVP. In 1975 Hidden Dam was completed on the Fresno River, providing a more regulated flow. MID entered into a long-term contract with Reclamation for water from Hensley Lake behind Hidden Dam. MID annexed lands for 24,000 acre-feet per year projected average yield for new water generated by the Hidden Dam project. This 24,000 acre-feet per yearis both federal water and MID's water rights water from the Fresno River, including Big Creek Diversion from the Merced River watershed and the Soquel Diversion from the San Joaquin River watershed. MID has pre-1914 water rights of 20,000 acre-feet per year from Soquel-Big Creek.

Water supplied under the Hidden Dam contract with Reclamation is for the conservation yield. The Big Creek and Soquel diversions provide an annual average supply of 10,000 and 9,700 acre-feet respectively. The Fresno River adjudicated and appropriative average annual supply is approximately 20,000 acre-feet and is inclusive of the Big Creek and Soquel diversions.

MID and surrounding area is within a groundwater deficient area as designated by the State DWR. MID considers their recharge to be from percolation ponds located throughout the district. MID monitors the depth to static water level within the district although MID does not provide groundwater. Private landowners have wells and extract groundwater when surface water

supplies are not available. The groundwater quality is considered to be of excellent quality as it does not exceed any of the maximum contaminant levels for secondary drinking water standards. However, in recent years the groundwater in areas near Hwy 99 and Avenue 12 has a plume of the nematicide (dibromochloropropane (DBCP)) that flows southwesterly through the basin. Studies conducted in 1993 indicated the DBCP in the groundwater had decreased significantly. The groundwater in areas surrounding the Tri-Valley Growers olive plant (Oberti Olives) near Avenue 13 and Road 26 contains salt brine. Tri-Valley Growers are implementing remediation measures to correct this problem under the regulatory direction of the Regional Water Quality Control Board.

A portion of the city of Madera lies within the boundaries of MID. These lands are assessed on a per square-foot basis and receive groundwater recharge benefit from canals that pass through the city. MID does not provide surface water supplies to the city of Madera. The main crops in Madera Irrigation District's service area are grapes, almonds, cotton, cereals, and grasses.

Chowchilla Water District
CWD encompasses 123.95 square miles of land primarily to the west of California State Highway 99 and straddling California State Highway 152. There are 65,000 irrigated acres in the district, all of which is irrigated with CVP water. The district grows 6 primary crops and receives an average of 125,000 acre-feet per year. The total contract total allocated for the district is 265,000 acre-feet per year under 2 contracts.

As of 1999, there were 13,200 acres of alfalfa, 14,600 acres of almonds, 7,600 acres of cotton, 9,000 acres of corn, 8,100 acres of grapes and 5,000 acres of sorghum grown in the district. The district maintains and operates 160 miles of unlined canals and 46 miles of pipe for agricultural water delivery. The primary way that the district gets its water is through the Madera Canal and the Fresno River.

3.1.1.1 Groundwater Resources

San Joaquin River Hydrologic Region The San Joaquin River Hydrologic Region covers approximately 9.7 million acres and includes all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus counties, most of Merced and Amador counties, and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito counties. The region is heavily reliant on groundwater. Changes in groundwater levels are evaluated on annual water level measurements by the DWR and cooperators. Water level changes were evaluated at the quarter-township level using a DWR computer modeling program. On average, the sub basin water level has increased by 2.2 feet total from 1970 through 2000. The period from 1970 through 1985 showed a general increase, topping out in 1985 at 7.5 feet above the 1970 water level. The nine-year period from 1985 to 1994 saw general declines in groundwater levels, reaching back down to the 1970 groundwater level in 1994. Groundwater levels rose in 1995 to about 2.2 feet above the 1970 groundwater level, then water levels fluctuated around this value until 2000 (DWR 2003).

Tulare Lake Hydrologic Region The Tulare Lake Hydrologic Region covers approximately 10.9 million acres and includes all of Kings and Tulare counties and most of Fresno and Kern counties. The extensive use of groundwater has historically caused subsidence of the land surface

along the west and south end of the San Joaquin Valley. Groundwater levels were generally at their lowest levels in the late 1960s, prior to importation of surface water. Groundwater levels gradually increased to a maximum in about 1987-1988. Water levels began to drop again during the 1987-92 drought. Through a series of wet years after the drought, water levels recovered to nearly 1987-88 levels by 1998 (DWR 2003).

3.1.1.2 Conveyance Facilities

California Aqueduct/San Luis Canal and San Luis Reservoir/O'Neill Forebay

Except for the California Aqueduct, these joint-use facilities are a part of the SWP and CVP, respectively. The San Luis Canal is the Federally-built and operated section of the California Aqueduct and extends 102.5 miles from O'Neill Forebay in a southeasterly direction to a point west of Kettleman City. At this point, the facility becomes the State's California Aqueduct; however, the California Aqueduct actually begins at the Banks Pumping Plant where the canal conveys water pumped from the Sacramento-San Joaquin River Delta directly into O'Neill Forebay. The overall average capacity of the California Aqueduct is 13,100 cubic feet-per-second.

SLR serves as the major storage reservoir and O'Neill Forebay acts as an equalizing reservoir for the upper stage dual-purpose pumping-generating plant. O'Neill Forebay is used as the hydraulic junction point for Federal and State waters. Pumps located at the base of O'Neill Dam take water from the Delta-Mendota Canal (DMC) through an intake channel (a Federal feature) and discharge it into O'Neill Forebay. The pumping-generating units lift the water from O'Neill Forebay and discharge it into SLR. When not pumping, these units generate electric power by reversing flow through the turbines. During irrigation months, water from the California Aqueduct flows through O'Neill Forebay into the San Luis Canal instead of being pumped into SLR. Both reservoirs also provide recreation and flood control benefits.

Delta-Mendota Canal

The DMC, 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 Canals. The DMC is about 117 miles long and terminates at the Mendota Pool, about 30 miles west of Fresno. The initial diversion design capacity is 4,600 cubic feet-per-second, which is gradually decreased to 3,211 cubic feet-per-second at the terminus. The DMC is a part of the CVP, Delta Division.

Madera Canal

The Madera Canal originates at Millerton Lake and runs approximately 36 miles north along the eastern edge of the San Joaquin Valley, ending at the Chowchilla River. The canal makes CVP water deliveries to the north to augment irrigation capacity. The canal has a design capacity of 1,000 cubic feet-per-second, and decreases in capacity along its length to 625 cubic feet-per-second at the terminus. Water conveyed in the Madera Canal is considered of good quality as its origin is that of snow melt from the Sierra Nevada range. The canal is maintained by the Madera-Chowchilla Water and Power Authority.

3.1.2 Environmental Consequences

3.1.2 Affected Environment

It has recently been discovered that the Red Top Area has experienced increasing subsidence due to groundwater overdraft in the area. This land subsidence, based on studies by various state, local, and federal agencies, indicates subsidence rates of between four to fifteen inches per year. This is generally due to the lack of surface water supplies within the area and the increasing demand for groundwater, which has caused water to be drawn in overdraft from below the area's Corcoran clay layer.

3.1.2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not facilitate a water transfer and/or exchange from MID and CWD to the Red Top area. MID and CWD could attempt to utilize, transfer, or exchange the recaptured SJRRP Interim Flows to other willing buyers. Groundwater pumping would continue through WY 2013 unabated and likely resulting in the continuance of land subsidence of approximately four to fifteen inches per year.

3.1.2.2 Proposed Action

Under the Proposed Action, recirculation of water would occur through the execution of a transfer and/or exchange from MID and CWD to the Red Top area. The exchange would not increase or decrease existing CVP or SWP allocations. Additionally, the water being transferred would be a beneficial, albeit short-term, impact to the surrounding environment because the water would be utilized to temporarily abate and monitor land subsidence as a result of decreased groundwater pumping and increased surface water supply deliveries in order to determine if there is a substantial change or net benefit as a result of the action. The transfer would be for a period of up to one year and would not result in any long-term changes in surface water diversions or groundwater supplies.

The California State Water Resources Control Board (SWRCB), Division of Water Rights issued a Temporary Urgent Change and Instream Flow Dedication Pursuant to Water Code Sections 1435 and 1707 on October 1, 2012. Condition #3 of the Order states in part:"*Any San Joaquin River Settlement Interim Flows that are recaptured and stored or routed through San Luis Reservoir shall be used consistent with the Settlement and Settlement Act. The water need not be delivered back to the Friant Division Contractors, but may be made available to others through transfers, exchanges and sales. Reclamation shall document that it has taken all practicable measures to provide contract water to the Friant Division Contractors, while complying with all other conditions of this water right.*"

Therefore, this Order allows for transfers and exchanges of Friant water that need not be directly delivered to the Friant contractors provided this water is put to beneficial use in other areas. The Proposed Action would comply with this approval from the SWRCB.

The Order specifies necessary terms and conditions to be carried out for WY 2013 until the end of March 2013. It is anticipated that Reclamation will obtain either a long-term water rights order with similar terms and conditions for the release, recapture, and recirculation of Interim

and Restoration flows, or that another temporary change with a similar condition will be issued on or before March 30, 2013, which is the expiration of the temporary urgency order.

3.2 Land Use

3.2.1 Affected Environment

The Red Top Area is primarily agricultural in use with the primary plantings consisting of almonds, pistachios, vineyards, and alfalfa crops. While in the CVP place-of-use, the area generally does not rely on surface water supplies and obtains irrigation via groundwater wells.

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, MID and CWD would not facilitate a transfer and/or exchange to the Red Top area and the agricultural lands in the vicinity would continue to be irrigated utilizing the existing groundwater wells, or potentially sinking more wells in order to meet the irrigation demands. Land use would not change, but would continue using water from overdrafted groundwater resources.

3.2.2.2 Proposed Action

Under the Proposed Action, there would not be any land conversions and no land fallowing or habitat restoration would be deferred as a result of the transfer of only one year of recaptured SJRRP Interim Flows. No lands would be brought into agricultural production as a result of this action. Existing land use is agricultural and this is not expected to change as a result of the transfer of water under the Proposed Action. The Proposed Action would not provide a long-term or reliable supply to support long-term land use changes.

3.3 Biological Resources

3.3.1 Affected Environment

By the mid-1940s, most of the valley's native habitat had been altered by man, and as a result, was severely degraded or destroyed. It has been estimated that more than 85 percent of the valley's wetlands had been lost by 1939 (Dahl and Johnson 1991). Prior to widespread agriculture, land within the Proposed Action area provided habitat for a variety of plants and animals. With the advent of irrigated agriculture and urban development over the last 100 years, many species have become threatened and endangered because of habitat loss. Of the approximately 5.6 million acres of valley grasslands and San Joaquin saltbush scrub, the primary natural habitats across the valley, less than 10 percent remains today. Much of the remaining habitat consists of isolated fragments supporting small, highly vulnerable populations (Reclamation 1999). The Proposed Action area is dominated by agricultural habitat that includes field crops, orchards, and vineyards.

Reclamation requested an official species list from the United States Fish and Wildlife Service (USFWS) through the Sacramento Field Office's and Ventura Field Office's website on March 20, 2013. The list is for Fresno and Madera in the United States Geological Survey 7 ½ Minute Quadrangles (Appendix A), Document Number 130320095909.

The transfer in this Proposed Action is occurring between San Luis Reservoir, the DMC, the Arroyo Canal, and the Red Top Area through existing conveyance or supply facilities covered under existing biological opinions (BO) or via overland temporary piping that will not result in a long-term impact to biological resources. Therefore, it can be assumed that anadramous and Delta species, such as steelhead and any species listed by National Marine Fisheries Service (NMFS) and their designated critical habitat, are outside of the Proposed Action area and are therefore not discussed further.

Existing Biological Opinions

Reclamation and certain CVP Contractors are subject to commitments from two biological opinions that govern transfers, among other things. These are the "Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP" issued in 2000, and the "Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contracts" issued in 2001. The commitments are listed below. The second opinion governs exchanges and transfers involving Friant and/or Cross Valley Contractors.

CVPIA Biological Opinion

Transfers will be consistent with section §3405(a)(1) of the CVPIA in that, among other considerations: (1) no transfer will be authorized unless the transfer is consistent with State law, including but not limited to provisions of the California Environmental Quality Act (§3406(a)(1)(D)); (2) no transfer will be authorized if it has a significant adverse impact on the ability to deliver CVP contract water or fish and wildlife obligations under the CVPIA because of limitations in conveyance or pumping capacity (§3406(a)(1)(H)); and (3) no transfer will be authorized if it results in a significant reduction in quantity or quality of water currently used for fish and wildlife purposes, unless it is determined that such adverse effects would be more than offset by the benefits of the proposed transfer. In the event of such a determination, mitigation activities will be developed and implemented as integral and concurrent elements of any such transfer, so as to provide fish and wildlife benefits substantially equivalent to those lost as a consequence of such transfer (§3406(a)(1)(L)).

2001 Friant/Cross Valley Biological Opinion

1. Transfers and exchanges will be executed for one year only for any district that does not have an established listed-species baseline as described in the draft BO on operations and maintenance of the CVP and implementation of the CVPIA;
2. Transferred or exchanged water will be delivered and applied only to areas that were in cultivation from October 15, 1991 (the date of the Friant BO), until one of the following occur and there is no net loss of potential listed-species habitat as a direct or indirect result of the transfer:
    - consultation on the effect of putting the area into cultivation has been completed, or,
    - there is an HCP in place that addresses impacts to the area receiving the water, or,
    - the CVP Conservation Program has a line-item, specific increase in funding to compensate fully for the transfer and is in place prior to the transfer.
3. All other non-historic CVP transfers and exchanges that do not meet the above criteria would require separate section 7 or section 10 authorization. [carried over from 2000 Interim
   Opinion Term and Condition IV(F)].

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action Alternative, MID and CWD would not transfer and/or exchange water to the Red Top area and would potentially engage in another mechanism to direct deliver, transfer, or exchange recaptured SJRRP Interim Flows. It is anticipated that these recirculation mechanisms would utilize existing conveyance facilities which would have no known effect to species or critical habitat in area.

3.3.2.2 Proposed Action

The Proposed Action plans to utilize existing facilities to transfer recirculation water that will be directed diverted from the Arroyo Canal or stored in San Luis Reservoir or directly diverted at the Arroyo Canal diversion facilities. As a result, there will be no disturbance of ecologically sensitive lands due to construction activities. While a temporary portable pump will be installed in the Arroyo Canal diversion facilities or on the east bank of the San Joaquin River, the

installation of this pump and the temporary piping over Sack Dam would not involve construction that would result in disturbance to sensitive species or habitats. As this is a one year short-term transfer to recirculate the recaptured water released from the SJRRP, no land use changes will occur due to increases or decreases in cultivation activities or fallowing of fields. All water will be delivered to existing agricultural lands. As no land use changes or additional disturbance would occur as a result of the Proposed Action, no habitat changes would occur that could potentially affect species covered under the Migratory Bird Treaty Act (MBTA).

Because there will be no significant disturbance or land use changes associated with this Proposed Action, there will be no effect to listed species, critical habitats, or species listed under MBTA.

3.4 Cultural Resources

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

3.4.1 Affected Environment

The San Joaquin Valley is rich in both prehistoric and historical cultural resources. Prehistoric resources include a variety of cultural remnants, resulting from the use of the area by indigenous human populations for thousands of years before European settlement in the West. Prior to the 18th Century, numerous Native American groups inhabited California's Central Valley, with the San Joaquin Valley and surrounding foothills supporting extensive populations.

Ethnographically, Northern Valley Yokuts, Southern Valley Yokuts, and Foothill Yokuts were the principal inhabitants of these areas. Land conversion and intensive farming practices over the past century have impacted many Native American cultural sites; however, it is possible that additional Native American cultural resources lie undiscovered throughout the region.

Historic-era cultural resources within the San Joaquin Valley include various built environment features related to agriculture, ranching, and transportation. Many water storage and conveyance features, such as those comprising the CVP and SWP, have historical significance and can be considered cultural resources. Several components of the CVP have been determined to be historic properties eligible for inclusion in the NRHP. A multiple properties submission for the CVP, in which the eligible property types and CVP contributing elements are identified, is under review for submission to the Keeper of the NRHP.

Recent cultural resources investigation in the area, associated with Sac Dam/Arroyo Canal fish bypass project, did not identify archaeological resources both above and below the ground surface. Sack Dam has previously been determined not eligible for inclusion in the National Register of Historic Places, and Arroyo Canal has been treated as a potentially significant historic property; however, remains formally unevaluated.

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the No Action Alternative, Reclamation would not engage in the transfer and/or exchange of recaptured SJRRP Interim Flows from MID and CWD to the Red Top area. There would be no Federal undertaking as defined in Section 301(7) of the NHPA, and Reclamation would be under no obligation to complete the Section 106 process, as described in the NHPA implementing regulations at 36 CFR Part 800. The No Action Alternative would result in no impacts to cultural resources.

3.4.2.2 Proposed Action

The Proposed Action Alternative to facilitate the transfer and/or exchange of recaptured SJRRP Interim Flows from MID and CWD to the Red Top area is an undertaking as defined in Section 301(7) of the NHPA and subject to Section 106 review. The actions as described above include the use of temporary pumps and pipelines to be placed on the surface of existing facilities. While the action will not modify existing facilities, the act of placing the pump and pipeline on the surface does have the potential to cause effect to historic properties assuming they are present. Cultural resources investigations for the Sack Dam Arroyo Canal Fish Bypass project (Reclamation Cultural Resources Tracking No. 12-SCAO 043 SJRRP) thoroughly documented in consolation with the California State Historic Preservation Officer (SHPO) that no archaeological resources are present on the surface. Similar actions were considered during that Section 106 consultation effort and are recent and sufficient enough to document that no impacts to cultural resources will occur as a result of the temporary pipe and pump installation. The transfer of water, as described would occur through existing facilities or within current water service area boundaries, without modification to existing facilities, construction of new facilities, or change in land use, the transfer of the water has no potential to cause effects on historic properties pursuant to 36 CFR Part 800.3(a)(1). The Proposed Action Alternative would result in no impacts to cultural resources.

3.5 Indian Trust Assets

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

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

3.5.1 Affected Environment

ITA are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. “Assets” are anything owned that holds monetary value. “Legal interests” means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. ITA cannot be sold, leased or otherwise alienated without the United States’ approval. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something; which may include lands, minerals and natural resources in addition to hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.
Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, Reclamation would not facilitate the transfer and/or exchange from MID and CWD to the Red Top area and conditions would remain the same as existing conditions; therefore, there would be no impacts to ITA.

3.5.2.2 Proposed Action

Approval of the transfer and/or exchange between MID and CWD and the Red Top area would not involve any construction and would utilize existing conveyance facilities; therefore, activities associated with the Proposed Action would not impact ITA.

3.6 Air Quality

Section 176 (c) of the Clean Air Act (CAA) (42 U.S.C. 7506 (c)) requires that any entity of the Federal government that engages in, supports, or in any way provided 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 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 a 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 will, in fact conform to the applicable SIP before the action is taken. On November 30, 1993, the Environmental Protection Agency promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.6.1 Affected Environment

The project area is located within the San Joaquin Valley Air Basin (SJVAB) which is the second largest air basin in California. Despite years of improvements, the SJVAB does not meet State and Federal health-based air quality standards. The governing body over the SJVAB, the San Joaquin Valley Air Pollution Control District (SJVAPCD), has adopted stringent control measures to reduce emissions and improve overall air quality within the SJVAB.

3.6.2 Environmental Consequences

3.6.2.1 No Action

Under the No Action Alternative, there would be no increase in emissions and, therefore, it is reasonable to assume there would be no impacts or change to air quality. However, the lack of a surface water supply would indicate that the Red Top area would continue to pump groundwater from pumps that currently utilize petroleum as a fuel source and these pumps would continue to generate emissions.

3.6.2.2 Proposed Action

Under the first option of the Proposed Action, the transfer of water from the Arroyo Canal diversion facilities, via a diesel powered pump, to the Red Top area could result in a marginalized increase in air emissions. However, the increase from this pump, which has a capability of delivering 15 to 20 cubic feet-per-second of flow, would be small. This is especially nominal in comparison to the multiple petroleum-powered groundwater pumps that would be running in the Red Top area, were the Proposed Action not implemented. Thus, it is anticipated that the running of one diesel-powered pump to deliver surface water supplies to the Red Top area is smaller than the running of several pumps to raise groundwater above the Corcoran clay in the deep water aquifer in the area and would result in a beneficial impact.

Under the second option in the Proposed Action, the pump on the east bank would most likely be electrical and would not result in additional increases in air emissions.

3.7 Global Climate Change

3.7.1 Affected Environment

Climate change refers to significant change in measures of climate that last for decades or longer. Many environmental and anthropogenic factors can contribute to climate change, including the burning of fossil fuels, deforestation, changes in ocean currents, urbanization, etc.). Carbon dioxide, which is produced when fossil fuels are burned, is a green house gases (GHG) that effectively traps heat in the lower atmosphere. Some carbon dioxide is liberated naturally, but this may be augmented greatly through human activities.

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. Approximately 20 million Californians rely on the CVP and SWP for water deliveries. Global shifts related to climate change may lead to impacts to California's water resources and project operations.

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

Under the No Action Alternative, there would be no increase in emissions and, therefore, it is reasonable to assume there would be no impacts or change to air quality. However, the lack of a surface water supply would indicate that the Red Top area would continue to pump groundwater from pumps that currently utilize petroleum as a fuel source and these pumps would continue to generate GHGs associated with the combustion of fossil fuels and would impact air quality.

3.7.2.2 Proposed Action

Under the first option for the Proposed Action, the transfer of water from the Arroyo Canal diversion facilities, via a diesel powered pump, to the Red Top area could result in a marginalized increase in GHGs. However, the GHG increase from this pump, which has a capability of delivering 15 to 20 cubic feet-per-second of flow, would be small. This is especially nominal in comparison to the multiple petroleum-powered groundwater pumps that would be running in the Red Top area, were the Proposed Action not implemented. Thus, it is anticipated that the running of one diesel-powered pump to deliver surface water supplies to the Red Top area is smaller than the running of several pumps to raise groundwater above the Corcoran clay in the deep water aquifer in the area and would result in a beneficial impact in relate to the overall emissions of GHGs. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would not result in increases in GHG emissions.

Under the second option in the Proposed Action, the pump on the east bank would most likely be electrical and would not result in additional increases in GHG emissions.

3.8 Cumulative Impacts

The facilitation of a temporary one-year transfer and/or exchange of recaptured SJRRP Interim Flows for WY 2013 from MID and CWD to the Red Top area would not have any controversial or highly uncertain effects, or involve unique or unknown environmental risks. The Proposed Action would not trigger other water service actions and does not contribute to cumulative effects to physical resources when added to other water service actions. The canals, distribution, rivers, creeks, and conveyance facilities associated with the Proposed Action are managed primarily for agricultural supplies. The Proposed Action would not interfere with the deliveries, operations, or cause substantial adverse changes to the conveyance facilities.

The remainder of the SJRRP actions, including the continued release of future Interim and Restoration flows from Friant Dam, the recapture of flows at specific San Joaquin River diversion and/or pumping facilities, and future site-specific actions are all reasonably foreseeable and required under the Settlement and the Act. Future program actions related to the SJRRP have been addressed in the SJRRP PEIS/R discussed earlier in this EA. Areas of potential concern, such as water supply impacts, recapture mechanisms, and cumulative impacts have been discussed within the PEIS/R.

The proposed transfer, when added to other actions, do not contribute to significant increases or decreases in environmental conditions. The Proposed Action is to occur only for one year and only to reciruculate up to 20,000 AF of recaptured SJRRP Interim Flows. These transfer actions are not precedent-setting. The Proposed Action was found to have no impact on water resources, land use, biological resources, cultural resources, ITA, air quality, or global climate change and therefore there is no contribution to cumulative impacts on these resources areas.

Section 4 Consultation and Coordination

4.1 National Environmental Policy Act

This EA has been prepared pursuant to NEPA, which was signed into law in 1969 (42 USC Section 4321 et seq.). In addition, it was prepared in accordance with CEQ regulations for implementing NEPA, 40 CFR Parts 1500- 1508, and General Services Administration (GSA) Order ADM 1095.1F. NEPA provides a commitment that Federal agencies will consider the environmental effects of their proposed actions and adhere to regulations, policies, and programs to the fullest extent possible, in accordance with NEPA's policies of environmental protection. This EA assesses if the Proposed Action would cause any significant environmental effects. If it is determined that the Proposed Action would have no significant environmental effects, a FONSI will be signed.

4.2 Fish and Wildlife Coordination Act of 1934 (16 USC § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve federal water development projects; therefore, the FWCA does not apply.

4.3 Endangered Species Act of 1973 (16 USC § 1531 et seq.)

Section 7 of the Endangered Species Act (ESA) requires Federal agencies, in consultation with the Secretary of the Interior, 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.

The Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species. In addition, the short duration of the water availability, the requirement that no native lands be converted without consultation with the USFWS, and the stringent requirements for transfers under applicable laws would prevent any adverse impact to any federally listed species or any critical habitat.

4.4 National Historic Preservation Act (16 USC § 470 et seq.)

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

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the NRHP.

Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties. The activities associated with the Proposed Action would include no new ground disturbance, no change in land use, and the use of existing conveyance features to move and store water. Reclamation has determined that there would be no potential to affect historic properties by the Proposed Action pursuant to 36 CFR 800.3(a)(1).

4.5 Migratory Bird Treaty Act of 1918 (16 USC § 703 et seq.)

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the MBTA 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 MBTA, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to birds protected by the MBTA; therefore, the Proposed Action would have no effect on birds protected by the MBTA.

4.6 Executive Order 113007 and American Indian Religious Freedom Act of 1978 – Indian Trust Assets and Sacred Sites on Federal Lands

Executive Order 113007 and the American Indian Religious Freedom Act of 1978 are designed to protect ITA, accommodates access and ceremonial use of Native American sacred sites by Native American religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and protect and preserve the observance of traditional Native American religions. The Proposed Action would not violate these protections.

4.7 Executive Order 12898 – Environmental Justice in Minority and Low-Income Populations

Executive Order 12898 requires Federal agencies to identify and address disproportionately high and adverse human health and environmental effects of Federal programs, policies, and activities on minority and low-income populations. The Proposed Action has been assessed for potential environmental, social, and economic impacts on minority and low-income populations. Minority and low-income populations would not be disproportionately exposed to adverse effects relative to the benefits of the action.

4.8 Central Valley Project Improvement Act

Reclamation's evolving mission was written into law on October 30, 1992, in the form of Public Law 102-575, the Reclamation Projects Authorization and Adjustment Act of 1992. Included in the law was Title 34, the CVPIA. The CVPIA amended previous authorizations of the CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic water supply uses, and fish and wildlife enhancement as having equal priority with power generation. The Proposed Action is consistent with CVPIA.

4.9 Central Valley Project Long-Term Water Service Contracts

In accordance with CVPIA Section 3404c, Reclamation is renegotiating long-term water service contracts. As many as 113 CVP water service contracts locations within the Central Valley of California may be renewed during this process. The Proposed Action is consistent with CVP long-term water service contracts.

4.10 State Water Resources Control Board Temporary Water Transfer Approval

Pursuant to Section 1725 et seq. of the California State Water Code, a permittee or licensee who proposes a temporary transfer of water (less than 1 year) shall submit to the SWRCB a petition to change the terms of the permit or license, as required, to accomplish the proposed temporary change. Such a petition will be filed, with a petition pursuant to Section 1707, to add a purpose of use, to add points of re-diversion, and to add the San Joaquin River for the place of use for in-stream flows. SWRCB requires approval of a petition for the purposes of use due to a transfer or exchange of water, and will approve a petition under section 1725 – if the transfer would only involve the amount of water that would have been consumptively used or stored by the permittee or licensee in the absence of the proposed temporary change; would not injure any legal user of the water; and would not unreasonably affect fish, wildlife, or other in-stream beneficial uses. A Water Rights Order has been obtained, which will allow recapture and recirculation of the Friant water.

Section 5 List of Preparers and Reviewers

Michelle Banonis, Natural Resources Specialist, San Joaquin River Restoration Program

Section 6 References

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

California Natural Diversity Database (CNDDB) 2009. California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch. Sacramento, CA.

Department of Water Resources. 2003. California's Groundwater, Bulletin 118. http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm, accessed September 22, 2009.

Environmental Protection Agency (EPA). 2009: Website – Climate Change, Basic Information. http://www.epa.gov/climatechange/basicinfo.html accessed September 23, 2009.

Famiglietti, J.D. et al. 2011. Satellites Measure Recent Rates of Groundwater Depletion in California's Central Valley. Geophysical Research Letters, Vol. L03403.

Friant Water Users Authority; *The Friant Division Facts Booklet.* http://friantwater.org/friant_facts/Friant_Booklet_Information.pdf

Reclamation (U.S. Bureau of Reclamation) 2010. United States Bureau of Reclamation. Website: http://www.usbr.gov/projects/Project.jsp?proj_Name=Friant%20Division%20Project accessed: January, 2010.

Reclamation (U.S. Bureau of Reclamation) July 2012. San Joaquin River Restoration Program Final Program Environmental Impact Statement/Environmental Impact Report

Reclamation (U.S. Bureau of Reclamation) September 28, 2012. Record of Decision for San Joaquin River Restoration Program Final Program Environmental Impact Statement/Environmental Impact Report

Reclamation (U.S. Bureau of Reclamation) February 2013. Recirculation of Recaptured Water Year 2013-2017 San Joaquin River Restoration Program Flows Draft Environmental Assessment

Reclamation (U.S. Bureau of Reclamation) October 2009. Transfer of Central Valley Project Water to Kern County Water Agency in Exchange for State Water Project Water Delivered to San Luis Water District and Westlands Water District, Final Environmental Assessment EA 09-128

Reclamation (U.S. Bureau of Reclamation) May 2010. East to West Transfers Between Friant Division and South-of-Delta Central Valley Project Contractors, 2010-2011 Draft Environmental Assessment EA-10-26

Reclamation (U.S. Bureau of Reclamation) June 4, 2010. Letter to Friant Division Board of Directors titled *Request for Written Scenarios for the Recirculation of Friant Recaptured Water Stored in San Luis Reservoir – San Joaquin River Restoration Program – Central Valley Project – Friant Division.*

Reclamation (U.S. Bureau of Reclamation) June 17, 2010. Letter to Friant Division Board of Directors titled *Results of Scenario Review for the Recirculation of Friant Recaptured Water Stored in San Luis Reservoir (Recirculation) – San Joaquin River Restoration Program – Central Valley Project – Friant Division*

U.S Fish and Wildlife Service (USFWS) 1998. Final CVPIA Administrative Proposal on Water Transfers.

U.S. Fish and Wildlife Service (USFWS) 2013. http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm. Accessed March 20, 2013. Document Number 130320095909. Site last updated September 18, 2011.

U.S. Geological Survey. 2009. Groundwater Availability of the Central Valley Aquifer, California. Professional Paper. 766, 255p. http://pubs.usgs.gov/pp/1766/

Attachment 1 – USFWS Species Listing

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130320095909

Database Last Updated: September 18, 2011

No quad species lists requested.

County Lists

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)
Critical habitat, Conservancy fairy shrimp (X)
S

Branchinecta longiantenna
longhorn fairy shrimp (E)
S

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)
S

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)
S

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)
S

Fish

Gila bicolor snyderi
Owens tui chub (E)
S

Hypomesus transpacificus
delta smelt (T)
S

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

S

Oncorhynchus (=Salmo) clarki seleniris
Paiute cutthroat trout (T)
S

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
S

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)
S

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)
S

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)
S

Thamnophis gigas
giant garter snake (T)
S

Birds

Gymnogyps californianus
California condor (E)
S

Mammals

Dipodomys ingens
giant kangaroo rat (E)
S

Dipodomys nitratoides exilis
Critical habitat, Fresno kangaroo rat (X)
Fresno kangaroo rat (E)
S

Dipodomys nitratoides nitratoides
Tipton kangaroo rat (E)
S

Ovis canadensis californiana
Sierra Nevada (=California) bighorn sheep (E)
S

Vulpes macrotis mutica
San Joaquin kit fox (E)
S

Plants

Calyptridium pulchellum
Mariposa pussy-paws (T)
S

Camissonia benitensis
San Benito evening-primrose (T)
S

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)
S

Caulanthus californicus
California jewelflower (E)
S

Cordylanthus palmatus
palmate-bracted bird's-beak (E)
S

Monolopia congdonii (=Lembertia congdonii)
San Joaquin woolly-threads (E)
S

Orcuttia inaequalis
Critical habitat, San Joaquin Valley Orcutt grass (X)
San Joaquin Valley Orcutt grass (T)
S

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)
hairy Orcutt grass (E)
S

Pseudobahia bahiifolia
Hartweg's golden sunburst (E)
S

Pseudobahia peirsonii
San Joaquin adobe sunburst (T)

S

Sidalcea keckii
Critical habitat, Keck's checker-mallow (X)
Keck's checker-mallow (=checkerbloom) (E)
S

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)
S

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)
S

Rana muscosa
mountain yellow-legged frog (C)
S

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)
S

Mammals

Martes pennanti
fisher (C)
S

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological

Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 18, 2013.