

**San Luis & Delta-Mendota Water Authority and
San Joaquin River Exchange Contractors
Water Authority
Substitute Water Exchange**

**Public Draft Environmental Assessment and
Preliminary Environmental Assessment
EA-07-12**

Lead Federal Agency:

United States Bureau of Reclamation

Lead State Agency:

San Luis & Delta-Mendota Water Authority

March 15, 2007

Executive Summary

The San Luis & Delta-Mendota Water Authority (Water Authority), on behalf of five of its member agencies (participating South of Delta CVP contractors), has requested approval from the U.S. Bureau of Reclamation (Reclamation) to exchange up to 11,000 acre-feet per year (AFY) of CVP water from the San Joaquin River Exchange Contractors (Exchange Contractors) to the participating South of Delta Central Valley Project (CVP) Contractors. The exchange is made possible through the purchase of non-CVP water from the Merced Irrigation District (Merced ID) by the Water Authority on behalf of its participating South of Delta CVP Contractors. The water purchased from Merced ID would be used to fulfill the commitments of the San Joaquin River Exchange Contractors Water Authority (SJRECWA) to provide annual releases of their water supply to the San Joaquin River for fisheries flows as agreed to in the San Joaquin River Agreement (SJRA).

In exchange for the Water Authority purchasing non-CVP water from Merced ID to meet the Exchange Contractors responsibilities under the SJRA, the Exchange Contractors would make available an equal amount of CVP water to be delivered to the participating South of Delta CVP Contractors. The need for this transaction arises from the CVP south of Delta irrigation water allocation for 2007 currently set at 50 percent of their contract supply, as well as persistent shortages of CVP irrigation water supplies south of the Delta, largely as a result of implementation of the Central Valley Project Improvement Act (CVPIA). The average allocation of CVP irrigation water south of the Delta since CVPIA implementation is approximately 72 percent of contract supply.

This transaction would not result in any changes in existing CVP operations, nor would it affect releases to the San Joaquin River as required by the SJRA. The South of Delta CVP Contractors' total contract amounts under their respective water service contracts for CVP water will not be exceeded. Exchanged CVP water would be used for irrigation purposes only, on lands tilled within the last three years, and would be conveyed through existing facilities without construction or modification to those facilities. Parties to the exchange shall not be obligated to perform any of their obligations if any of the following determinations occur:

- A. The Exchange Contractors determine no later than April 1 of each year that they cannot make available to the Water Authority's participating members a like quantity of CVP water, and would instead directly provide water for release into the San Joaquin River to meet their River Agreement obligation.
- B. Reclamation allocates on or before April 1 of each year during the term of the exchange 100 percent CVP allocation to the Water Authority's irrigation water service contractors.
- C. The Merced ID General Manager determines on or before April 1 of each year that water for purchase is not available surplus to its needs.

Under the Proposed Action, the following CVP Contractors would receive CVP water provided by the exchange (participating South of Delta CVP Contractors):

- Santa Clara Valley Water District
- Zone 6 of San Benito County Water District
- Del Puerto Water District
- San Luis Water District
- Westlands Water District

This Environmental Assessment/Negative Declaration covers a period of 4 years (May 1, 2007 to May 31, 2010) and has been prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), and the California Environmental Quality Act of 1970 (CEQA).

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Abbreviations and Acronyms

CDFG	California Department of Fish and Game
Cal EPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
D-1641	State Board Decision 1641
Delta	Sacramento-San Joaquin Delta
DMC	Delta-Mendota Canal
DWR	California Department of Water Resources
EA	Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	evolutionarily significant units
EWA	Environmental Water Account
GBP	Grassland Bypass Project
GDA	Grassland Drainage Area
HORB	Head of Old River barrier
Interior	Department of the Interior
Intertie	Delta-Mendota Canal/California Aqueduct Intertie
JPOD	joint point of diversion
M&I	municipal and industrial
Merced ID	Merced Irrigation District
Neg Dec	Negative Declaration
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
O&M	operation and maintenance
OCAP	Operations Criteria and Plan
PEIS	Programmatic Environmental Impact Statement
Reclamation	U.S. Bureau of Reclamation
Secretary	Secretary of the Interior
Service	U.S. Fish and Wildlife Service
SJRA	San Joaquin River Agreement
SJRECWA	San Joaquin River Exchange Contractors Water Authority
SJVAB	San Joaquin Valley Air Basin
State Board	State Water Resources Control Board
SWP	State Water Project
VAMP	Vernalis Adaptive Management Program
Water Authority	San Luis & Delta-Mendota Water Authority

Section 1 Purpose and Need for Action

1.1 Background

Merced ID and the Exchange Contractors are members of the San Joaquin River Group Authority (SJRG) which are obligated by the San Joaquin River Agreement (SJRA), effective March 1, 1999, to provide water releases into the San Joaquin River each year through 2010 for fishery flows. The Exchange Contractors are obligated under the SJRA to release up to 11,000 acre feet of water each year. The source of this water is usually the Exchange Contractors' CVP water supply from the Delta-Mendota Canal (DMC). Merced ID, a non-CVP irrigation district, is willing to provide the up to 11,000 acre feet of water each year for the Exchange Contractors' obligation under the SJRA, provided that Merced ID is compensated. The Water Authority is willing to purchase from Merced ID the water required to meet the Exchange Contractors' obligations, provided that the Exchange Contractors make an equal quantity of CVP water available to the participating South of Delta CVP Contractors.

1.2 Purpose and Need

Reclamation proposes to approve an exchange between the Exchange Contractors and the participating South of Delta Contractors. More specifically, in exchange for the Water Authority purchasing non-CVP water from Merced ID to meet the Exchange Contractors' obligations under the SJRA, the Exchange Contractors would make available an equal amount of CVP water to be delivered to the participating South of Delta CVP Contractors. The need for this transaction arises from the CVP south of Delta irrigation water allocation for 2007 is anticipated to be no more than 50 percent of their contractual supply, as well as persistent shortages of CVP irrigation water supplies south of the Delta, largely as a result of implementation of the CVPIA. The average allocation of CVP irrigation water south of the Delta since CVPIA implementation is approximately 72 percent of contract supply. The exchange would secure an opportunity to acquire an amount of water at a known price for the participating South of Delta CVP Contractors to help make up for reduced water allocations.

1.3 Scope

The proposed action involves two discrete but interdependent actions. The first action is the purchase and release of non-CVP water from Merced ID. The effects of this interdependent action has already been examined for environmental impacts in the *Meeting Flow Objectives for the San Joaquin River Agreement 1999-2010 Environmental Impact Statement and Environmental Impact Report* (Reclamation and San Joaquin River Group Authority, 1999). This interdependent action is not further examined in this document for environmental impacts under CEQA or NEPA; however, it is still described in section 2.2 because it is an essential component of the proposed action/project.

The second interdependent action is the exchange of CVP water from the Exchange Contractors to the participating South of Delta CVP Contractors. This portion of the proposed action/project requires Reclamation approval and is analyzed under NEPA and CEQA.

1.4 Relevant Environmental Documents

1.4.1 Meeting Flow Objectives for the San Joaquin River Agreement 1999-2010 Environmental Impact Statement and Environmental Impact Report

The *Meeting Flow Objectives for the San Joaquin River Agreement 1999 – 2010 Environmental Impact Statement and Environmental Impact Report* examined a range of scenarios under which water could be acquired to meet the following objectives:

- a pulse flow for a 31-day period at Vernalis during April and May, and
- other flows identified by the CVPIA water acquisition plan, with concurrence by the Service, to facilitate migration and attraction of anadromous fish including fall attraction flows and other flows as needed by the adaptive management study, with concurrence by the Service, to support anadromous fish and environmental benefits in the project area.

1.4.2 Programmatic Environmental Impact Statement

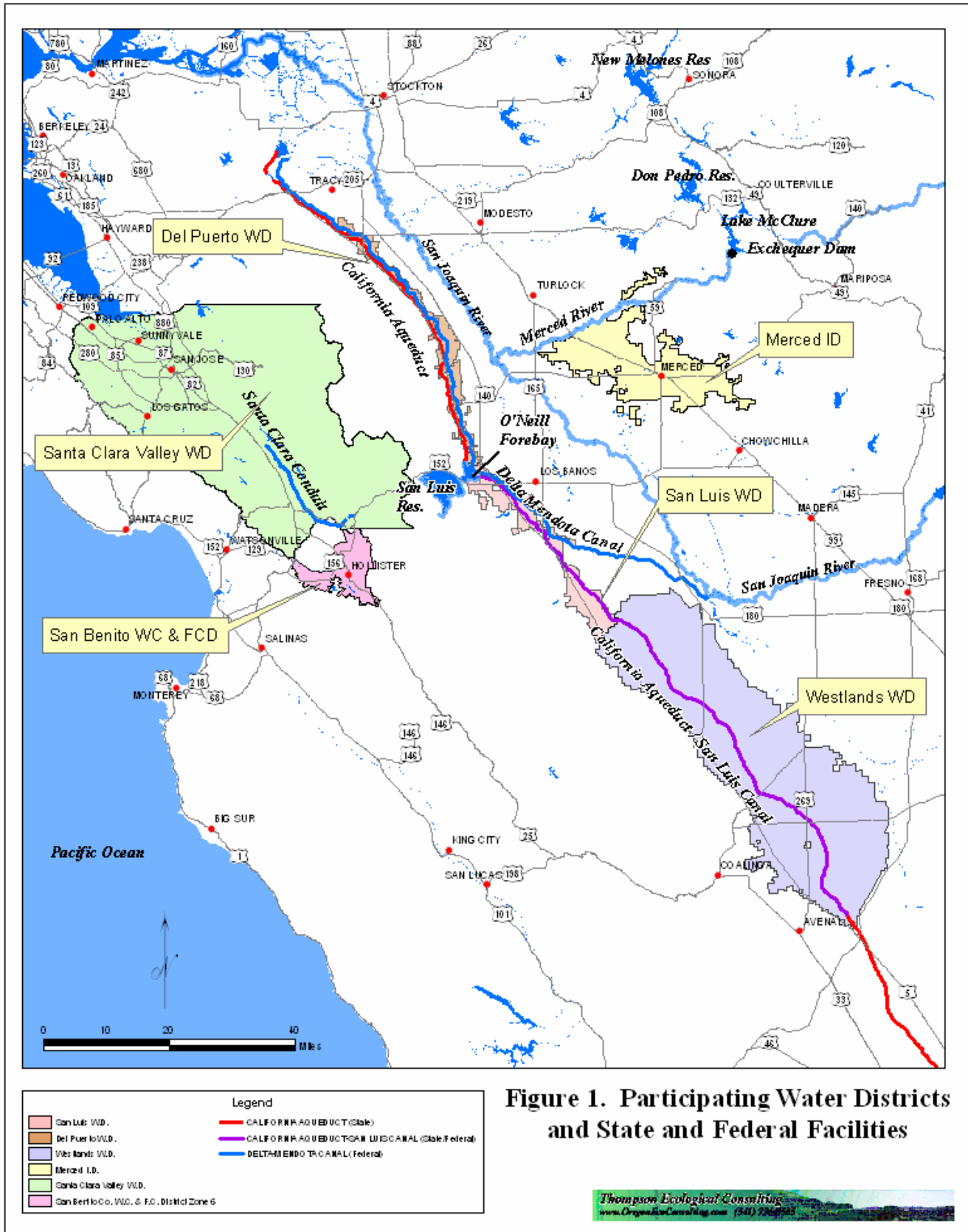
The CVPIA amended the previous authorizations of the CVP to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation. Through CVPIA, Department of Interior (Interior) is developing policies and programs to improve environmental conditions that were affected by operations, management, and physical facilities of the CVP. The CVPIA also includes tools to facilitate larger efforts in California to improve environmental conditions in the Central Valley and the San Francisco Bay-Delta system. The Programmatic Environmental Impact Statement (PEIS) addressed potential impacts and benefits of implementing provisions of the CVPIA. The PEIS was prepared by Reclamation and the Service.

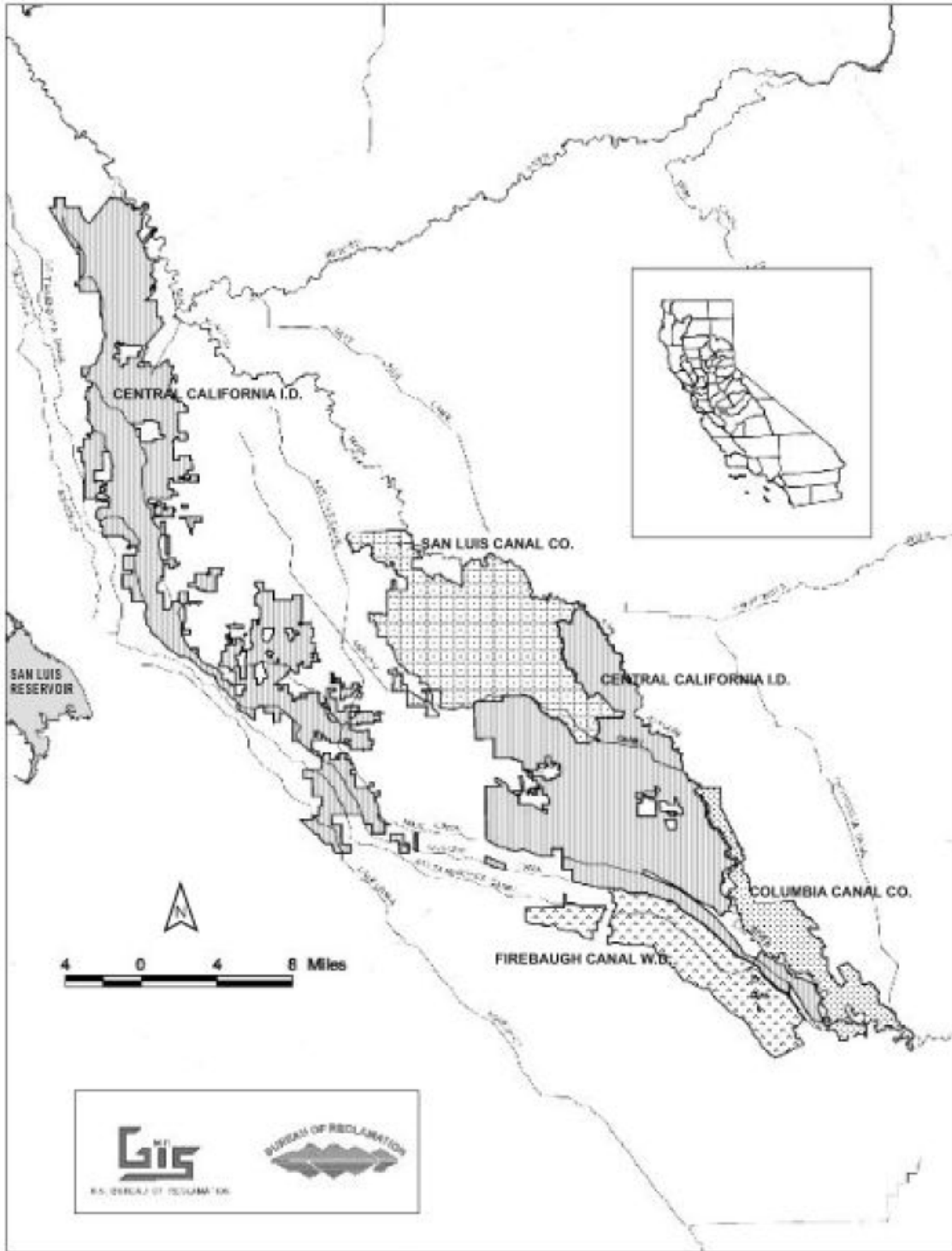
Environmental documentation under NEPA was prepared by Reclamation to evaluate the potential impacts and benefits of renewing the long-term water service contracts to deliver water from the Central Valley Project (CVP) for agricultural and municipal and industrial uses to the San Felipe Unit, which includes San Benito County Water District and Santa Clara Valley Water District. An EIS was prepared for the San Luis Unit, which includes the San Luis Water District and Westlands Water District and an Environmental Assessment (EA) was prepared for the Delta-Mendota Canal (DMC) Unit, which includes Del Puerto Water District. These documents described the specific environmental affects that would likely result from delivery of the full contract amounts of CVP water. These NEPA documents include the following:

- *2004 Central Valley Project Long-Term Water Service Contract Renewals for the San Felipe Division Draft Environmental Assessment* (Reclamation 2004)
- *2005 Delta-Mendota Canal Unit Environmental Assessment for Long-Term Contract Renewal* (Reclamation 2005)
- *2005 San Luis Public Draft Central Valley Project, West San Joaquin Division, San Luis Unit Long-Term Water Service Contract Renewal Environmental Impact Statement* (Reclamation 2005b)

1.5 Potential Issues

- Surface Water Resources
- Surface Water Quality
- Groundwater Resources and Groundwater Quality
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trust Assets
- Socioeconomic Resources
- Environmental Justice





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FIGURE 2. SAN JOAQUIN RIVER EXCHANGE CONTRACTORS WATER AUTHORITY SERVICE AREA

Section 2 Alternatives Including Proposed Action

2.1 Alternative A – No Action

For the purposes of satisfying the provisions of NEPA and CEQA, the No Action and No Project Alternatives are the same.

- The No Action Alternative under NEPA is the disapproval of the request for the federal action and a projection of conditions that could reasonably occur within the time period associated with the proposed exchange, water years 2007–2010, but without the Proposed Action being implemented. Under NEPA, it is the future “without project” alternative which is the benchmark for determining environmental effects of the proposed action alternatives.
- Similarly, the No Project Alternative under CEQA is the condition under which the project does not proceed. Where failure to proceed with the project would not result in the preservation of existing environmental conditions, then the practical results of “no exchange” are identified. Where “no exchange” involving a purchase of water from Merced ID would take place, other actions would necessarily be taken by the Exchange Contractors to fulfill their obligations under the SJRA. The many scenarios under which their commitments could otherwise be met are not discussed here.

Under CEQA, the basis for determining the significance of environmental impacts is existing physical conditions. The No Action/No Project Alternative is evaluated against the existing condition, but it is not the baseline for significance determinations unless it is equivalent to the existing condition, which is the case for this EA/IS for all of the affected resources.

Under the No Action/No Project Alternative, the obligations of the Exchange Contractors to release water in to the San Joaquin River for fishery flows under the SJRA would continue to be met, with the Exchange Contractors using their discretion to determine the methods utilized. The Water Authority would not purchase the up to 11,000 AF of water from Merced ID. The Exchange Contractors therefore would not make a like amount of CVP water available to the participating South of Delta CVP Contractors. The quantity of CVP water otherwise available to the participating South of Delta CVP contractors under their respective water service contracts would not be augmented.

2.2 Alternative B - Proposed Action/Project Alternative

2.2.1 Location

The Proposed Action/Project would occur within the defined districts of the participating South of Delta CVP Contractors, Merced Irrigation District, the Merced and San Joaquin Rivers, and state and federal facilities used to convey the CVP and non-CVP water. The San Joaquin Valley of central California, Santa Clara County, and the northern part of San Benito County define the larger geographical landscape in which the study area is located. Figure 1 shows the CVP service area boundaries of the participating South of Delta CVP Contractors, Merced ID, and

State and Federal Facilities that would be used in the proposed action. Figure 2 shows the CVP service area boundaries of the Exchange Contractors.

2.2.2 Project Description

The Proposed Action/Project Alternative has two discrete components: 1) the purchase of non-CVP water from Merced ID by the Water Authority to meet the Exchange Contractors' obligations under the SJRA and 2) the Exchange Contractors making available an equal amount of CVP water to be delivered to the participating South of Delta CVP Contractors, for a period of 4 years (May 1, 2007 to May 31, 2010). The four-year period corresponds to the termination of the SJRA EIS/EIR analysis in 2010. The amount of water delivered to the 5 participating SOD contractors would fluctuate depending on the amount of water needed for release into the San Joaquin River to meet the Exchange Contractors' obligations under the SJRA, but would be no more than 11,000 AFY as described in the SJRA EIS/EIR.

1) The Water Authority would purchase up to 11,000 AFY of water from Merced ID to replace the water release obligations of the Exchange Contractors under the SJRA. This water would be released from Lake Mc Clure's New Exchequer Dam and its regulating reservoir, Lake McSwain, which feeds into the Merced River. The confluence of the Merced and San Joaquin Rivers is in western Merced County (Figure 1).

2) In exchange for the Water Authority's purchase, the Exchange Contractors would make available to the participating South of Delta CVP Contractors, an equal amount of their CVP water supply. CVP water would be delivered to the districts utilizing the existing CVP distribution system. Turnouts on the San Luis Canal and DMC may be used to deliver CVP water to San Luis Water District. Westlands Water District would take its CVP water from the San Luis Canal. Del Puerto Water District would take its CVP water from the DMC. CVP water for Santa Clara Valley Water District would be taken from the DMC and then pumped into O'Neill Forebay. At O'Neill Forebay the CVP water would be pumped into the San Luis Reservoir and then delivered to Santa Clara Valley Water District via the Pacheco Tunnel and Santa Clara Conduits. Zone 6 of San Benito County Water District would also take its CVP water from the San Luis Reservoir. From there it would be conveyed through the Pacheco Tunnel and Conduit. The water would continue to be conveyed in the Hollister Conduit to San Justo Dam and Reservoir to serve the agricultural users in Zone 6. The percentages of the total amount of Exchange Water allocated to each district are displayed below in Table 1.

TABLE 1. ALLOCATION OF EXCHANGE WATER AMONG PARTICIPATING SOUTH OF DELTA CVP CONTRACTORS

Participants	CVP Contract Quantity (AFY)	Allocation Ratio	Maximum Allocation (Acre-feet)
Del Puerto Water District	140,210	9.165%	1,008
San Benito County Water District*	35,550	2.324%	256
San Luis Water District	125,080	8.110%	892
Santa Clara Valley Water District*	33,100	2.266%	249
Westlands Water District	1,150,000	78.135%	8,595
Totals	1,483,940	100.000%	11,000

*Ag portion

The South of Delta CVP Contractors' total contract amounts under their respective water service contracts for CVP water will not be exceeded. Exchanged CVP water would be used for

irrigation purposes only, on lands irrigated within the last three years, and would be conveyed through existing facilities without construction or modification to those facilities. Parties to the exchange shall not be obligated to perform any of their obligations if any of the following determinations occur:

- A. The Exchange Contractors determine no later than April 1 of each year that it cannot make available to the Water Authority's participating members a like quantity of CVP water, and would instead directly provide water for release into the San Joaquin River to meet their River Agreement obligation.
- B. Reclamation allocates on or before April 1 of each year during the term of the exchange 100 percent CVP allocation to the Water Authority's irrigation water service contractors.
- C. The Merced ID General Manager determines on or before April 1 of each year that water for purchase is not available surplus to its needs.

Section 3 Affected Environment & Environmental Consequences

3.1 Factors Eliminated from Further Environmental Analysis

This section identifies the areas of concern that may be affected by the Proposed Action. An initial scoping of potential impacts that could occur as a result of implementing the Proposed Action/Project was conducted. As a result of this evaluation it was determined that several environmental issues would not be affected by the implementation of the Proposed Action/Project. Therefore, the issues listed below have been eliminated from further evaluation in this document.

- Climate and Air Quality
- Soils, Geography, and Mineral Resources
- Topography
- Noise
- Transportation/Traffic
- Housing
- Recreational Resources
- Hazardous Wastes and Materials
- Public Services (fire, police protection, medical services)
- Public Utilities (wastewater, stormwater, solid waste)

Merced Irrigation District

Additionally, the EIS/EIR titled, *Meeting Flow Objectives for the San Joaquin River Agreement 1999-2010*, analyzed the effects of Merced ID providing between 25,000 AFY and 55,000 AFY of water to meet flow objectives in the San Joaquin River. Under the proposed action, the total amount of water per year released by Merced ID for years 2007 to 2010, including the up to 11,000 AFY for the Exchange Contractors' SJRA obligations, would not be more than 55,000 AFY. Because the effects of this amount of water being released by Merced ID to meet SJRA obligations have already been analyzed, it will not be analyzed further in this EA.

San Joaquin River Exchange Contractors

The Exchange Contractors include four separate entities located in the San Joaquin Valley: The Central California Irrigation District, San Luis Canal Company, Firebaugh Canal Water District, and Columbia Canal Company (Figure 2). The service area of 240,000 acres covers parts of Fresno, Madera, Merced, and Stanislaus Counties.

The above mentioned EIS/EIR also analyzed the effects of the Exchange Contractors releasing up to 11,000 AFY to meet SJRA obligations. As described in the project description, the Exchange Contractors would not release up to 11,000 AFY into the San Joaquin River for SJRA obligations, but would instead provide the same quantity that would have been released to the participating South of Delta Contractors. Because the SJRA obligations would be met and because the Exchange Contractors would not have a change in water supply quantity, the effects of the proposed action on the Exchange Contractors will not be analyzed further in this EA.

3.2 Surface Water Resources

3.2.1 Affected Environment

The study area includes required CVP facilities and the CVP service areas of the following South of Delta CVP contractors:

- San Luis Water District
- Westlands Water District
- Del Puerto Water District
- Santa Clara Valley Water District
- Zone 6 of San Benito Water District

San Luis Water District

The San Luis Water District is located on the western side of the San Joaquin Valley near Los Banos and within both Merced and Fresno Counties (Figure 1). The district's current size is approximately 66,458 acres (Reclamation 2005b). The San Luis Water District's current distribution system consists of 52 miles of pipelines, 10 miles of lined canals, and 7.5 miles of unlined canals. About 20,000 acres within the district, referred to as the Direct Service Area, receive water from 39 turnouts on the Delta- Mendota Canal and 23 turnouts on the San Luis Canal. The Direct Service Area is located almost entirely in Merced County. In addition to the Direct Service Area, three improvement districts are also served through distribution systems branching off the San Luis Canal. Improvement District 1 is located primarily within Fresno County; Improvement District 2 is located entirely within Fresno County; Improvement District 3 is located entirely within Merced County (Reclamation 2005b).

San Luis Water District's current CVP contract is for 125,080 acre-feet from the Delta-Mendota and San Luis Canals (Reclamation 2005b). CVP water is the San Luis Water District's only long-term water supply. The district does not own any groundwater wells and has no other long-term contracts for surface or groundwater supplies. All of the groundwater wells in the area are privately owned and operated. About 20 private agricultural wells provide water to 6,000 acres in the Direct Service Area. There are no agricultural wells within the three improvement districts. The vast majority of the San Luis Water District's water users do not have meaningful access to groundwater that can be used for irrigation, and therefore, supplementation of the CVP supply is nominal (Reclamation 2005b).

Westland Water District

Westlands Water District covers almost 950 square miles of prime farmland between the California Coast Range and the trough of the San Joaquin Valley in western Fresno and Kings Counties. It includes approximately 567,800 irrigable acres (Figure 1). It averages 15 miles in width and stretches 70 miles in length from the City of Mendota on the north to Kettleman City on the south. Interstate 5 is located near the district's western boundary.

The original Westlands Water District is now referred to as Priority Area I, and the former Westplains Water Storage District is now referred to as Priority Area II, each under separate water service contracts with Reclamation. Priority Area III (the additional 18,000 acres annexed into the district) does not currently have a firm water service contract and receives water through

internal and external water transfers. Most of Priority Area I is located east of the San Luis Canal and has gravity water service. Small recirculating pumps are used to pressurize supply laterals serving land adjacent to the San Luis Canal that is too high to be served through gravity laterals. Much of Priority Area II is west and upslope of the San Luis Canal and is served by pumping from the San Luis Canal and gravity supply from the Coalinga Canal. Approximately one-third of the land between the San Luis Canal and the Coalinga Canal is served by pumping from the San Luis Canal (Reclamation 2005b).

Westlands Water District's permanent distribution system consists of 1,034 miles of closed, buried pipeline that conveys CVP water from the San Luis and Coalinga Canals and 7.4 miles of unlined canal that conveys CVP water from the Mendota Pool. The closed, buried pipeline virtually eliminates seepage and evaporation losses in the distribution system. The area served by the system encompasses approximately 88 percent of the irrigable land in the district, including all land lying east of the San Luis Canal. All water is metered at the point of delivery through more than 3,300 metered field turnouts. Most of the remaining district lands are served by farmer-constructed temporary diversions that are maintained by individual farmers. These diversions include a number of permanent and temporary turnouts and metered piped laterals from the San Luis and Coalinga Canals. The district also operates and maintains the 12-mile-long, concrete-lined Coalinga Canal, the Pleasant Valley Pumping Plant, and the laterals that supply CVP water to Coalinga and Huron (Reclamation 2005b).

Westlands Water District's current contract is for 1,150,000 acre-feet of CVP supply from the San Luis Canal (Reclamation 2005b). Westlands also receives an additional source of CVP water via assignments for approximately 36,490 AF. In addition to these CVP supplies, approximately 200,000 AF of water is pumped from the underground aquifers during wet years. Westlands Water District supplies groundwater to some district farmers and owns some groundwater wells, with the remaining wells privately owned by water users in the district. Other water supply sources in the district include flood flows from the Kings River, which are available periodically and diverted from the Mendota Pool (Reclamation 2005b).

Del Puerto Water District

Del Puerto Water District is located on both sides of the Delta-Mendota Canal and consists of a narrow strip of land averaging less than two miles in width and stretching 50 miles in length (Figure 1). Del Puerto Water District includes approximately 47,400 acres, of which 45,773 are irrigable acres, located along the west side of Stanislaus, San Joaquin, and Merced Counties. Stanislaus County serves as the principal county for the district (Reclamation 2005b). The district receives its CVP supply directly through turnouts on the Delta-Mendota Canal. This district does not have any distribution facilities and does not own any pumps, pipelines, or canals to transport the CVP supply. All turnouts, pumps, pipelines, and canals in the district are privately owned, maintained, and operated. The district owns and maintains only the water meters (Reclamation 2005b).

Del Puerto Water District's current contract is for 140,210 acre-feet of CVP supply from the DMC (Reclamation 2005b). Del Puerto Water District has no groundwater wells and does not receive water supplies from any source other than the CVP (Reclamation 2005b).

Santa Clara Valley Water District

Santa Clara Valley Water District (SCVWD) is a CVP contractor within the San Felipe Division of the CVP. The boundaries of SCVWD are contiguous with Santa Clara County (Figure 1)

(Reclamation 2004). Imported water is delivered to the northern portion of the county by the California Department of Water Resources (DWR) State Water Project (SWP) and to the southern portion of the county by the Central Valley Project (CVP). CVP Water is delivered to the southern portion of the county from the Delta through the DMC to O'Neill Forebay. At O'Neill Forebay it is pumped into the San Luis Reservoir and then delivered to SCVWD via the Pacheco Tunnel and Santa Clara Conduits. SCVWD also receives SWP water from DWR. SWP water is delivered to the northern portion of the county from the Delta through the South Bay Pumping Plant into the South Bay Aqueduct and to SCVWD (Reclamation 2004).

SCVWD's CVP Contract is for 152,500 AF of which, 33,100 AF is designated for agricultural needs (Ara Azhderian, Personal Communication). In addition to their CVP supply, SCVWD uses local water supplies, recycled water, and State Water Project (SWP) water. Several communities within the Santa Clara Valley also use water from the City and County of San Francisco Hetch Hetchy system (Reclamation 2004).

Zone 6 of San Benito Water District

Zone 6 is the portion of the San Benito County Water District that is served directly with CVP water (Reclamation 2004). The boundaries of Zone 6 of the San Benito County Water District are shown in Figure 1. San Benito County Water District operates local facilities that use water rights, including diversions from the San Benito River at Hernandez Dam, from the San Benito River into Paicines Reservoir, and from Dos Picahos Creek. Hernandez Reservoir has an 18,700 acre-foot storage capacity. San Benito has an existing contract with Reclamation for 35,550 acre-feet of CVP water.

San Benito County Water District's contract for CVP water is 43,800 AF and includes 35,550 AF for Agricultural needs (Reclamation 2004). San Benito County Water District owns and operates local facilities that use water rights, including diversions from the San Benito River at Hernandez Dam, from the San Benito River into Paicines Reservoir, re-diversions of water stored in and released from Hernandez Reservoir into Paicines Reservoir and from Dos Picahos Creek (Reclamation 2004).

Water from the 18,700 foot Hernandez Reservoir is percolated into the groundwater in the San Benito River channel. Water from Hernandez Reservoir can also be released to the 3,500 acre-foot Paicines Reservoir (Reclamation 2004). CVP water supplies and groundwater pumping together provide a total of 100,000 AF for Zone 6 (Reclamation 2004).

3.2.2 Environmental Consequences

No Action Alternative

The No Action/No Project Alternative would not result in any changes or modifications to existing facilities and also would not require the construction of any new facilities. No changes would be made to either the CVP supply or water that is currently supplied by any other sources. Reduced allocations during dry years may result in districts needing to fallow crops if there is not a supplemental supply of water available.

Proposed Action/Project Alternative

The Proposed Action/Project Alternative also would not require any changes or modifications to existing facilities or the construction of new facilities. Existing CVP supplies would not be altered. However, for each of the participating South of Delta CVP Contractors, the proposed

action would provide supplemental water to meet district demands and would alleviate some of the effects of dry years and reduced allocations.

3.3 Surface Water Quality

3.3.1 Affected Environment

The Affected Environment includes all surface waters in the participating districts and the CVP facilities involved in the delivery of CVP water to South of Delta contractors. The CVP facilities include the C.W. “Bill” Jones Pumping Plant, the DMC and San Luis Canals; the Pacheco Pumping Plant and Tunnel; Santa Clara Conduit and Pumping Plant; Hollister Conduit and Pumping Plant; O’Neil Pumping Plant and Dos Amigos Pumping Plant. (Reclamation 2004, 2005, and 2005b).

Contributions to the Subsurface Drainage (San Luis, and Westlands)

Of the participating CVP contractors, only Westlands and the southern portion of San Luis Water Districts have water quality issues related to drainage. Westlands Water District currently has no outlet to the San Joaquin River and does not discharge drainage water outside of its district boundaries. Westlands uses a combination of re-use technology, water conservation, and land retirement methods to compensate for drainage impaired soils within the district (Reclamation 2005b).

San Luis Water District, via the Charleston Drainage District, along with other neighboring districts and private land owners, participates in the Grassland Bypass Project (GBP). At present, sub-surface drainage that leaves the district is disposed of by reuse on the 4,000-acre San Joaquin River Water Quality Improvement Project and/or discharged through the GBP into the San Luis Drain, Mud Slough North and ultimately, the San Joaquin River. In terms of drainage volume, in 2004, San Luis Water District discharged, 1,590 AF.

Drainage discharges to surface waters from the Grasslands drainage area are made under an agreement that will terminate at the end of 2009. The Westside Regional Drainage Plan, which subsumes the GBP and which expands upon the successes of the GBP, would eliminate discharges by expanding source control, recirculation, and reuse and by implementing water treatment and disposal (San Luis & Delta-Mendota Water Authority 2006). Until expanded source control, treatment and disposal are fully operational, subsurface drainage discharges may continue under an extension of the GBP, subject to regulation by the Regional Board. Subsurface drainage discharges will continue to decrease to “zero discharge” under any such extension.

Santa Clara Valley Water District

Water quality issues associated with CVP water in Santa Clara Valley Water District are related to the algal growths in San Luis Reservoir in drier years and overall water quality characteristics for use of the water as a potable water supply. As described above, algal growths occur in San Luis Reservoir in drier years when water levels become shallow. The algal growths clog irrigation sprinklers and require agricultural users to construct filtration systems or replace CVP water with groundwater which can lead to overdraft conditions. The algal growths cause taste and odor problems for potable water and increase the level and cost of water treatment (Reclamation 2004).

San Benito County Water District

The Central Coast Regional Water Quality Control Board has identified water quality problems in several streams within Zone 6 of San Benito County Water District. Pajaro River is characterized by high concentrations of pesticides, nutrients, and bacteria. The pesticides and nutrients are primarily from agricultural and open space land uses. The bacteria potentially are from septic systems and recreational activities. San Benito River and Hernandez Reservoir have high concentrations of metals (primarily mercury) due to historic mining operations in the upper reaches of the watershed. Tres Pinos Creek also has been listed with potential water quality issues (Reclamation 2004).

In addition, the surface waters have high salinity concentrations due to the high salinity in the groundwater. Agricultural users have historically used groundwater within the confined aquifer. Recapture and reuse of the surface water supplies have increased the salts as the water is evaporated and transpired. Urban users also have historically used groundwater, and have increased the salt concentration through use of water softeners and other urban discharges. The wastewater is discharged to evaporation/percolation ponds which further increase salts in the groundwater (Reclamation 2004).

As described above regarding Santa Clara Valley Water District, other water quality problems have occurred due to use of the CVP water. In drier years, the water level in San Luis Reservoir decreases to a point which is favorable for algal growth. For the agricultural users in Zone 6 of San Benito County Water District, the algal growth leads to clogs in irrigation equipment and requires users to construct filtration systems or replace CVP water with groundwater. The increased use of groundwater leads to increased degradation of the groundwater and eventually the surface water (Reclamation 2004).

3.3.2 Environmental Consequences

No Action Alternative

Under the No Action/No Project Alternative, Westlands Water District would continue to utilize methods already in place for the treatment of drainage. As is the current circumstance, subsurface flows would not leave the district's boundaries and would not enter the San Joaquin River or any other aboveground water body. The San Luis Water District, via the Charleston Drainage District, would continue to utilize the Grassland Bypass Project for management of sub-surface drainage, while continuing along with others in the region to develop additional in-valley reuse areas and drainage solutions.

Proposed Action/Project Alternative

Drainage management under the Proposed Action/Project Alternative would be identical to the No Action/No Project Alternative. Also, when compared to the No Action/No Project Alternative, the Proposed Action/Project Alternative will potentially provide an increased water supply of approximately .01 AF/Acre to supplement the restricted CVP supply. This additional supply will be within the range of annual supply fluctuations under the No Action/No Project Alternative and therefore will not cause changes regarding the lands irrigated or amounts of water from the No Action/No Project alternative.

3.4 Groundwater Resources and Groundwater Quality

3.4.1 Affected Environment

The Affected Environment consists of the CVP Service Areas of the participating South of Delta CVP Contractors.

San Joaquin Valley Basin (Includes Del Puerto, San Luis, and Westlands Water Districts)

The southern two-thirds of the Central Valley regional aquifer system, which covers over 13,500 square miles extending from just south of the Delta to just south of Bakersfield, is referred to as the San Joaquin Valley Basin (DWR, 1975). An impermeable clay referred to as the Corcoran Clay Member underlies much of the western portion of this area; however, this geologic feature does not extend to the lands of Del Puerto Water District. It divides the groundwater system into two major aquifers: a confined aquifer below the clay and a semi-confined aquifer above the clay. Aquifer recharge to the semi-confined upper aquifer historically occurred from stream seepage, deep percolation of rainfall, and subsurface inflow along basin boundaries. With the introduction of irrigated agriculture into the region, recharge was augmented with deep percolation of applied agricultural water and seepage from the CVP distribution systems. Recharge of the lower confined aquifer results from the subsurface inflow from the valley floor and foothill areas to the east of the eastern boundary of the Corcoran Clay Member (Reclamation 2005b).

Groundwater quality conditions vary throughout the San Joaquin River Region. Salinity (expressed as total dissolved solids), boron, nitrates, arsenic, selenium, and mercury are parameters of concern for agricultural and municipal uses throughout the region. Of particular concern on the west side are total dissolved solids and selenium (Reclamation 2005b). Groundwater zones commonly used along a portion of the western margin of the San Joaquin Valley have high concentrations of total dissolved solids, ranging from 500 milligrams per liter (mg/L) to greater than 2,000 mg/L (Bertoldi et al., 1991). The concentrations in excess of 2,000 mg/L commonly occur above the Corcoran Clay layer. These high levels have impaired groundwater for irrigation and municipal uses in the western portion of the San Joaquin Valley (Reclamation 2005b).

High selenium concentrations in soils of the west side of the San Joaquin River region are of great concern because of their potential to leach from the soil by subsurface irrigation return flow into the groundwater and into receiving surface waters. Selenium concentrations in shallow groundwater along the west side have been highest in the central and southern area south of Los Banos and Mendota with median concentrations of 10,000 to 11,000 micrograms per liter (Bertoldi et al., 1991).

Pumping, largely for crop irrigation has substantially affected groundwater in the San Joaquin Valley. Pumping has caused depressions to form as a result of subsidence and has altered regional groundwater flow patterns, recharge, and discharge. Annual groundwater pumping in the San Joaquin River region exceeds recent estimates of perennial yield by approximately 200,000 acre-feet. All of the sub-basins within the San Joaquin River region have experienced some overdraft (DWR 1994).

Santa Clara Valley Water District

Groundwater basins in Santa Clara Valley Water District include the Santa Clara Basin which is located under most of the Santa Clara Valley. The Coyote Basin is located to the northwest of the Santa Clara Basin near southern San Jose area. The Llagas Basin is located in the southern portion of Santa Clara County near Gilroy. Hundreds of wells have been constructed for municipal, industrial, and agricultural users in all of these basins (Reclamation 2004).

For many years, most of the water supply in the Santa Clara Valley was provided from groundwater. This led to extreme overdraft conditions, reduction in artesian conditions, and land subsidence, especially in downtown San Jose. The Santa Clara Valley was the first area recognized in the United States for land subsidence due to high groundwater withdrawal rates (Reclamation 2004).

After contracting with the SWP and CVP for imported water, groundwater levels increased as SWP and CVP waters were used for groundwater recharge and to replace a portion of the groundwater supply in a conjunctive use program. At this time, about 50 percent of the water supply in the district is from groundwater supplies. The remaining 50 percent of the supply is provided by local surface waters and SWP and CVP imported waters (Reclamation 2004).

Unconsolidated bay and alluvial deposits are the principal water bearing units in the sub-basins and are characterized by unconsolidated or poorly consolidated deposits of clay, silt, sand and gravel with a maximum thickness of 1,500 feet. The Santa Clara Basin is primarily recharged through shallow gravels and sand along the edge of the basin and flows towards the bay (Reclamation 2004).

The Coyote Basin is recharged through the Coyote Creek stream channel and flows towards the northwest. At Coyote Narrows, groundwater flows from the aquifer to the surface, enters Coyote Creek, and flows towards the bay (Reclamation 2004).

The Llagas Basin has confined and unconfined aquifers. The basin is partially confined between Morgan Hill and Gilroy and confined south of Gilroy. The basin is recharged along the upper reaches of Llagas and Uvas creeks (Reclamation 2004).

Santa Clara Valley Water District manages the groundwater basins to meet water use demands and to prevent land subsidence. The management approach includes release of surface water into the stream channels and over 30 groundwater recharge facilities. Precipitation provides 40 to 50 percent of the recharged groundwater, or 10 to 20 percent of the total water demand in the Santa Clara Valley Water District. The remaining recharged groundwater is provided from upstream reservoirs and CVP and SWP water. The capacity of these recharge systems is 157,200 acre-feet per year on an average annual basis (Reclamation 2004).

The most critical constituents of concern in groundwater are salinity, nitrate, boron, hardness, and trace elements. Salinity levels are high due to the nature of the groundwater basin where groundwater is continually pumped and then percolates back into the useable aquifer. Unless groundwater levels become extremely high during wet periods, there is no way for groundwater to spill from the basin. As described above, agricultural users have historically used groundwater within the confined aquifer. Continued use of the same water supply has increased the salts as the water is evaporated and transpired and not flushed. Urban users also have historically used groundwater, and have increased the salt concentration through use of water softeners and other urban discharges. The wastewater is discharged to evaporation/percolation ponds which further increase salts in the groundwater (Cindy Kao; personal communication). As CVP water has been introduced into the basin, the level of groundwater has not only been restored to safe yield levels, but also has risen to levels that have allowed seepage (or "spills") into the adjacent surface water bodies (Reclamation 2004).

Zone 6 of San Benito County Water District

Groundwater basins in Zone 6 of San Benito County Water District include the North County Basin (Bolsa, Hollister Valley, Hollister, and San Juan Valley sub-basins) and the San Benito River/Tres Pinos Creek Basin. The North County Basin is divided by the north-south Calaveras Fault with the Hollister Valley Sub-basin located to the east of the Calaveras Fault. The western side of the North County Basin is divided by the northwest-southeast Sargent Anticline. The northern boundary of the North County Basin is the Pajaro River. Recent studies indicated that the sub-basins are hydrologically connected through the fault zones. The San Benito River/Tres Pinos Creek Basin is located southeast of the Hollister Valley Sub-basin and is separated by a zone of extensive faulting. However, there are indications that groundwater from the San Benito River/Tres Pinos Creek Basin recharges the Hollister Valley Sub-basin (Reclamation 2004).

Alluvium is the principal water bearing unit in the sub-basins and is characterized by unconsolidated or poorly consolidated deposits of clay, silt, sand and gravel, or loosely unconsolidated sandstone. The groundwater is naturally recharged along stream channels, direct infiltration of rains, subsurface flows from adjacent hills, and recharge from applied irrigation and treatment plant effluent. As agricultural lands are converted to municipal uses, groundwater recharge could be reduced by 20 to 40 percent (Reclamation 2004).

Prior to the delivery of CVP water, the North County Basin was in a state of overdraft. All agricultural and municipal users relied totally upon groundwater supplies. San Benito County Water District constructed Hernandez and Paicines reservoirs to store water for subsequent release into the stream channels for groundwater recharge. However, these facilities were not adequate to meet the irrigation and municipal users in Zone 6 of San Benito County Water District (Reclamation 2004).

The San Felipe Division project in Zone 6 of San Benito County was designed to supplement the existing groundwater supply. The delivery of CVP water started in 1987. However, due to the 1987-1992 drought, CVP water was not fully available until 1993. Groundwater levels had recovered and stabilized by 1994. Continued stabilization of groundwater conditions would be dependent upon continued use of water conservation programs, minimal frequency of droughts, management of land use changes, and reliability of CVP water. During years when CVP water is not fully available, users would increase groundwater withdrawals (Reclamation 2004).

Use of evaporation/percolation ponds for urban areas and application of fertilizers in agricultural areas over many years has led to nitrate concentrations in the groundwater that exceed drinking water standards of 45 mg/l of nitrate as nitrate in some areas near Hollister and Tres Pinos. The primary source of the nitrates appears to be associated with the wastewater evaporation/percolation ponds. However, not all wells down gradient of the evaporation/percolation ponds have elevated nitrate concentrations (Reclamation 2004).

Organic and trace metal contamination of groundwater is not wide spread. Down-gradient of a munitions plant near Hollister, there is a plume of trichloroethylene. This plume is currently being treated under a groundwater remediation program (Reclamation 2004).

3.4.2 Environmental Consequences

No Action Alternative

Farmers in the study area would continue to use groundwater to make up for water delivery timing delays, reduced allocations and/or to meet peak demands. Without the proposed action,

farmers could potentially pump more groundwater than with the proposed action. However, the difference in quantity would be minimal over the four-year period.

Proposed Action/Project Alternative

As can be seen in Table 1, the additional water supplied to each district as a result of the exchange would be very small when considering the overall needs and existing water usages by the participating CVP Contractors. This amount of water would however, result in minor temporary beneficial impacts by lessening reliance on groundwater in this water year, thereby promoting the recharge of aquifers in the participating districts.

3.5 Land Use and Growth Inducing Impacts

3.5.1 Affected Environment

The CVP service areas of the participating South of Delta CVP contractors are located either entirely or within portions of Santa Clara, San Benito, San Joaquin, Stanislaus, Fresno, Merced, and Kings Counties. These contractors all serve vast acreages of agricultural lands that contribute to a thriving agricultural industry. Both annual and perennial crops are grown and commercial animal agriculture continues to be a growing activity. General trends in land uses in the represented counties are from agricultural to urban, from native to agricultural, and from natural to urban uses.

Changes in land use are expected to continue with increased population in the state. The redistribution of people from coastal to inland areas is likely due to the lower cost for housing in inland areas. This migration may lead to further reduction of agricultural lands and natural habitats. The changes in land use that are occurring are noticeable at the periphery of urban areas where both housing and municipal development are occurring. None of the participating CVP Contractors have land use authority.

The potential exists for supplemental water supplies such as those that would be provided for by the exchange to increase the overall reliability of the participating district's overall agricultural water supplies. Although the exchange water would be for agricultural use only, the increased reliability of agricultural water could potentially allow the districts to allocate other sources of agriculture water for the purposes of municipal and industrial (M&I) usage. Reallocations of other sources of water not provided for, but made possible by the exchange could therefore potentially result in agricultural to urban land-use changes.

San Joaquin County

The northern portion of Del Puerto Water District lies in the southwestern corner of San Joaquin County. Although San Joaquin County's general plan readily acknowledges the central role of agriculture, its chief assumption is the inevitable and significant increase in population and development over the next two decades. The county's plan is to balance farmland protection with jobs and housing.

Agricultural production in 1996 had a gross value of over \$1.3 billion. Its five leading commodities were milk, grapes, almonds, cherries and alfalfa. The Lodi-Woodbridge area grows nearly 40 percent of California's zinfandel grapes (Website: Great Valley Center, San Joaquin County: <http://www.greatvalley.org/resources/counties/sanjoaquin.aspx>; accessed 1/08/07).

Stanislaus County

Stanislaus County has adopted a number of community plans for most of the unincorporated towns in the county. Community plans outline land uses and future growth patterns of the towns in the county and are used in conjunction with county general planning documents. For unincorporated areas not included in a community plan, land use designations generally include residential, commercial, industrial, agricultural, urban transition, and industrial transition. Over 95 percent of the area in the unincorporated county is zoned for agricultural use. The incorporated cities in the county have adopted city general plans. Specific land use information is available from community and city general plans. General countywide land use information is not readily available in the Stanislaus County General Plan. However, the plan does state that urban development has spread over 48,000 acres, much of which was originally prime farmland in agricultural production. According to the 1997 Agricultural Census for Stanislaus County, there were 732,736 acres in farms; this represents a decrease from 759,649 acres in 1992 and a further decrease from 819,845 acres in 1987 (Reclamation 2005).

Merced County

Merced ID, the southern portion of Del Puerto, and the northern portion of San Luis Water District are located in Merced County. Merced County encompasses approximately 2,020 square miles and includes the six incorporated cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, and Merced and 18 unincorporated communities. Merced is the largest incorporated city in the county.

Merced County uses the "Urban Centered Concept" as a basic land use principle. This concept directs urban development in identified centers. Increased growth often results in a loss of the most productive agricultural soils. Under this concept, however, urban development will only occur within cities, unincorporated communities, and other urban centers. In Merced County, besides the urban area, rural areas of the county that are typically used for cropping or pasturing activities, are subject to their own land use designations. When the general plan was developed in 1990, it was estimated that 80 percent of the population lived in the urban centers, the remaining 20 percent lived in rural areas, and 95 percent of the land in the county was considered rural. According to the 1997 Agricultural Census for Merced County, there were 881,696 acres in farms, a decrease from 1,049,302 acres ten years earlier (Reclamation 2005).

Fresno County

The southern portion of San Luis Water District and the northern 4/5 of Westlands Water District are located within Fresno County. Fresno County encompasses nearly 6,000 square miles and includes the 15 incorporated cities of Coalinga, Clovis, Firebaugh, Fowler, Fresno, Huron, Kerman, Kingsburg, Mendota, Orange Cove, Parlier, Reedley, San Joaquin, Sanger, and Selma. Over 60 percent of the population resides in the county's two largest cities, Fresno and Clovis. In 1997, approximately 50 percent of the county's total acreage was used for agriculture.

Farming and agriculture related businesses comprise a major component of the local economy. Factors that contribute to its success include excellent soil and climatic growing conditions and workforce and transportation availability. According to the 1997 Agricultural Census for Fresno County, there were 1,881,418 acres in farms; this represents a decrease from 1,975,373 acres in 1987 (Reclamation 2005b).

Kings County

The southern 1/5 of Westlands Water District is located in Kings County. Located in the southern half of the Central Valley, Kings County encompasses 1,392 square miles. The county

includes the four incorporated cities of Hanford, Lemoore, Corcoran, and Avenal. Approximately 67 percent of the county's population lives in the incorporated cities (Kings County Planning Department 1993). Kings County's economy has been dominated by agriculture and related industries since its formation in 1893. Kings County has consistently ranked among the top counties in the nation in the production of cotton, barley, and alfalfa seed. The county also produces 39 crops or products, including milk, cattle, and turkeys, that gross over \$1 million per year. According to the 2002 Census of Agriculture for Kings County (National Agricultural Statistics Services 2002c), there were 645,598 acres in farms, a 2 percent decrease from 661,363 acres in 1997. There were also 1,154 farms in Kings County, a 5 percent decrease from 1,215 farms in 1997 (Reclamation 2005b).

3.5.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, land uses within the participating South of Delta CVP Contractors would continue to follow the current trend of increasing urbanization. The participating South of Delta CVP contractors would continue to experience chronic water shortages and would therefore, as in most other years, use other sources of water from other willing sellers and utilize groundwater supplies in order to make up for the CVP shortfall.

Proposed Action/Project Alternative

The VAMP releases are for four years and subject to the conditions described under the Project Description (section 2.2.2). The short duration of the Proposed Action/Project, potential that no transfers would occur during one or more of the four years, and variability of the potential supply (ranging from 0-11,000 AF) in a given year are not suitable for the long-range planning that would be needed to promote land-use changes in either cropping patterns or conversions from agricultural to urban. The Proposed Action/Project Alternative would therefore be subject to the trends in land conversion and development as described under the No Action/No Project Alternative, but would not promote land use changes or induce growth.

3.6 Biological Resources

3.6.1 Affected Environment

The Affected Environment description encompasses the overall biological resources in the counties that could be affected by agricultural uses of CVP water.

Vegetation Cover Types

The 2005 Delta-Mendota Canal Unit Environmental Assessment for Long-Term Contract Renewal EA, the 2004 Central Valley Project Long-Term Water Service Contract Renewals for the San Felipe Division Draft EA, and the 2005 San Luis Public Draft Central Valley Project, West San Joaquin Division, San Luis Unit Long-Term Water Service Contract Renewal EIS contain extensive descriptions of the vegetation cover types that occur within the participating CVP districts, which are hereby incorporated by reference. The dominant habitat types include the following:

- *Non-native Grassland*
- *Riparian*
- *Wetlands, including Freshwater Emergent, Saline Emergent, and Vernal Pools*
- *Oak Woodland*
- *Hardwood/Conifer Forest*

- *Coastal Scrub/Chaparral*
- *Serpentine*
- *Barren*
- *Lacustrine*
- *Other Surface Water*
- *Agricultural*

Special Status Species

A number of species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Game CDFG and the U.S. Fish and Wildlife Service (Service) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as “candidates” for such listing. Still others have been designated as “species of special concern.” Collectively, these plants and animals are referred to as “special status species”.

Fifty-four plants and animals that potentially occur within the study area have been either formally listed as Endangered or Threatened or are candidates for such listing. These species, their habitats and potential for occurrence within the study area are shown in Table 2. Sources of information for this table included a list of federally listed species from the Service and included species under the jurisdiction of the National Marine Fisheries Service (http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm), which was accessed on December 20, 2006 and the California Natural Diversity Database Rarefind 3 (CDFG 2007). For both lists, queries included for the entire counties of Santa Clara, San Benito, Stanislaus, Merced, Fresno, and Kings. The county-wide lists were refined for Table 2 using the GIS overlays provided with CNDDDB Rarefind 3. Some species that were not located on the GIS overlays are included in Table 2 as possibly occurring due to either known or possible presence of suitable habitats. Other sources of information that were used to prepare Table 2 include the following:

- Species range maps from the *Endangered Species Recovery Program, Endangered Species Profiles*: (<http://esrp.csustan.edu/speciesprofiles/>; accessed Jan 10, 2007)
- Vegetation maps of the participating CVP Contractors
- *California’s Wildlife, Volume I, Amphibians and Reptiles* (Zeiner et. al, 1988)
- *California’s Wildlife, Volume II, Birds* (Zeiner et. al, 1988a)
- *California’s Wildlife, Volume III, Mammals* (Zeiner et. al, 1988b)
- *The Jepson Manual, Higher Plants of California* (Hickman, James C. 1993)
- *Recovery plan for upland species of the San Joaquin Valley, California* (USFWS; 1998)

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

PLANTS

Species	Status	Habitat	*Occurrence in the Study Area
San Joaquin adobe sunburst (<i>Pseudobahia peirsonii</i>)	FE, CE CNPS 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in heavy clay soils of the Porterville, Cibo, Mt. Olive and Centerville series.	Absent. The soils in which this species occurs are not present within the study area.
Hartweg's golden sunburst (<i>Pseudobahia bahiaefolia</i>)	FE, CE CNPS 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in pumice soils of the Rocklin series.	Absent. The soils in which this species occurs are absent from the study area.
Hairy orcutt grass (<i>Orcuttia pilosa</i>)	FE, CE CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Possible. Suitable habitat may be present within Merced ID.
San Joaquin orcutt grass (<i>Orcuttia inaequalis</i>)	FT, CE CNPS 1B	Vernal pools in California's Central Valley. Requires deep pools with prolonged periods of inundation.	Present. CNDDDB indicates that this species is extant within Merced ID.
Succulent owl's clover (<i>Castilleja campestris</i> ssp. <i>succulenta</i>)	FT, CE CNPS 1B	Vernal pools in California's Central Valley.	Possible. Suitable habitat may be present within Merced ID.
Large-flowered fiddleneck (<i>Amsickia grandiflora</i>)	FE, CE	In undisturbed parts of San Joaquin County and the Bay Area.	Possible. Suitable habitat may be present within SCVWD.
Palmate-bracted birds-beak (<i>Cordylanthus palmatus</i>)	FE, CE	Restricted to seasonally-flooded, saline-alkali soils in lowland plains and basins at elevations of less than 155 meters (500 feet). Within these areas, palmate-bracted birds-beak grows primarily along the edges of channels and drainages, with a few individuals scattered in seasonally-wet depressions, <i>alkali scalds</i> (barren areas with a surface crust of salts), and grassy areas.	Possible. Some suitable habitat may be present in the southwestern portion of the study area.
Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	CE	Boggs Lake hedge-hyssop is found in the northern portion of the Central Valley and in the foothills of the inner North Coast Range, Sierra Nevada, and Cascade Mountains from Fresno County north into Boggs Lake hedge-hyssop grows on clay substrates in vernal pools, small playa-type pools, marshy areas, on the margins of reservoirs and lakes, and in man-made habitats such as borrow pits and cattle ponds.	Possible. Some suitable habitat may be present in the northern part of the study area.
Colusa grass (<i>Neostapfia colusana</i>)	FT, CE	Colusa grass occurs in large or deep vernal pools with substrates of high mud content. It is sparingly restricted to the Sacramento and San Joaquin Valleys.	Unlikely. Some suitable habitat may be present within Merced County, but would be unlikely to occur within any of the participating districts.
San Joaquin woollythreads (<i>Monolopia congdonii</i>)	FE	This species is found only in the southern San Joaquin Valley and surrounding hills. It grows on neutral to subalkaline soils. On the San Joaquin Valley floor, it typically is found on sandy or sandy loam soils.	Present. CNDDDB records indicate extant populations occur within SCVWD, Zone 6 of SBCWD, and WWD.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

PLANTS (cont.).

Species	Status	Habitat	*Occurrence in the Study Area
California jewelflower (<i>Caulanthus californicus</i>)	FE, CE	Known populations of California jewelflower occur in nonnative grassland, upper sonoran subshrub scrub, and cismontane juniper woodland and scrub communities. Historical records suggest that it also occurred in the valley saltbush scrub community in the past. Populations have been reported from subalkaline, sandy loam soils at elevations of approximately 240 to 2,950 feet. The naturally-occurring populations known to exist today are distributed in three concentrations: (1) Santa Barbara Canyon, (2) the Carrizo Plain, and (3) the Kreyenhagen Hills in Fresno County.	Present. CNDDDB records indicate that this species is extant within SCVWD and Zone 6 of SBCWD.
Tree anemone (<i>Carpenteria californica</i>)	CE	Along streambanks, chaparral, and oak woodland in the central and southern Sierra Nevada Foothills; 450-1000 m.	Present. There are known occurrences within Santa Clara County.
Keck's checkerbloom (<i>Sidalcea keckii</i>)	FE	Grows in relatively open areas on grassy slopes of the Sierra foothills in Fresno and Tulare counties.	Absent. The study area is outside of the known range of this species.
San Benito evening primrose (<i>Camissonia benitensis</i>)	FT	Occurs largely on lands managed by the U.S. Bureau of Land Management. Its habitat consists of mostly alluvial terraces in areas of serpentine rock.	Possible. Some suitable habitat may be present in Zone 6 of San Benito County.
Mariposa pussypaws (<i>Calyptridium pulchellum</i>)	FT	Grows in small, barren areas on decomposed granitic sands in annual grasslands and woodlands in the southwestern foothills of the Sierra Nevada.	Absent. The study area is outside of the range of this species.
Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>)	FE	Serpentine outcrops with little soil development. It can be locally abundant but its range is limited, extending less than 20 miles from San Jose south to Anderson Lake, which lies northeast of Morgan Hill.	Present. This species is known to occur in Santa Clara County.
California seablite (<i>Suaeda californica</i>)	FE	Saline Emergent Wetlands of the San Francisco Bay Region.	Present. There are known populations in Santa Clara County.
Showy Indian clover (<i>Trifolium amoenum</i>)	FE	The current population consists of about 200 plants growing on two residential lots in Marin County.	Possible. Found in a variety of habitats including low, wet swales, grasslands, and grassy hillsides up to 310 m (1,020 ft) in elevation. No populations are known to occur within the study area; however, possibly suitable habitats are present in Santa Clara and San Benito Counties.
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	FE	Vernal pools in open grassy areas of woodland and valley grassland communities.	Present. Known to occur in Santa Clara County.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

PLANTS (cont.).

Species	Status	Habitat	*Occurrence in the Study Area
Robust spineflower (<i>Chorizanthe robusta</i> var. <i>robusta</i>)	FE	Grows in loose, sandy soil at the base of coastal dunes among coastal scrub and in areas surrounded by chaparral or woodlands. It is found at four sites,	Possible. There are no known extant populations in the study area; however, suitable habitats and populations may exist near the coast in Santa Clara County.

		which are located at: Sunset State Beach near Watsonville; on privately-owned land near the cities of Watsonville and Aptos; and on city of Santa Cruz park lands.	
Coyote ceanothus (<i>Ceanothus ferrisiae</i>)	FE	Known from only four locations on dry slopes in serpentine chaparral and valley and foothill grassland below 1,000 feet within the Mt. Hamilton Range in Santa Clara County.	Present. Endemic to and presumed extant within Santa Clara County.
Delta button celery (<i>Eryngium spinosepalum</i>)	CE	Vernal pools and marshes in the Central Valley.	Possible. Some suitable habitat may be present.
Tiburon Indian paintbrush (<i>Castilleja affinis ssp. neglecta</i>)	FE, CT	Grows in serpentine bunchgrass communities on north to west facing slopes. There are seven known populations: five in Marin County (including three on the Tiburon Peninsula), one in American Canyon in Napa County, and a small population in Santa Clara County.	Present. Native to and presumed extant within Santa Clara County.

Invertebrates

Vernal pool tadpole shrimp (<i>Lepiderus packardii</i>)	FE	The vernal pool tadpole shrimp is currently distributed across the Central Valley of California and in the San Francisco Bay area. Inhabits highly turbid vernal pools.	Possible. Vernal pool habitats within the study area may support populations of this species.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Primarily found in vernal pools, may use other seasonal wetlands.	Present. Although very little remains of the vast acreages of vernal pool habitat that once occurred in the region, some vernal pool habitats are still present. CNDDDB records indicate that this species is present in SCVWD, Zone 6 of SBCWD.
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Vernal pool habitats. The species is currently known from several disjunct populations: the Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.	Possible. Suitable habitats may be present within SLWD.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

Invertebrates (cont.).

Species	Status	Habitat	*Occurrence in the Study Area
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>)	FT	Requires the presence of a species of owl's clover (<i>Castilleja densiflorus</i> or <i>C. exserta</i>), which only grows in serpentine soils.	Present. Populations are present in San Mateo and Santa Clara counties.
Zayante band-winged grasshopper (<i>Trimerotropis infantilis</i>)	FE	The Zayante band-winged grasshopper is known only from Santa Cruz County, California. Found on sparsely vegetated sandy soils.	Absent. The study area is outside of the known range of this species.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	Possible. The host plant for this species is common throughout the region in waste areas and next to canals.

Fish

North American green sturgeon - southern DPS (<i>Acipenser medirostris</i>)	FT, CSC	Anadromous and highly marine-oriented; spawns mainly in Sacramento River. No evidence of occurrence in San Joaquin River system. Juveniles salvaged in South Delta pumping plants in summer.	Absent. No natural waterways within the species' range will be affected by the proposed project.
Tidewater goby (<i>Eucyclogobius newberryi</i>)	FE, CSC	Occurs in lagoons and estuaries in coastal areas of California.	Absent. Does not occur within the estuaries of South San Francisco Bay.
Delta smelt (<i>Hypomesus transpacificus</i>)	FT, CT	Endemic to the Delta. Found in San Joaquin River up to Mossdale in some years and in Sacramento River up to Rio Vista where salinity is 2-7 ppt.	Absent. No natural waterways within the species' range will be affected by the proposed project.
Steelhead - Central Valley esu (<i>Oncorhynchus mykiss irideus</i>)	FT	Spawns and rears in Sacramento River system and to at least as far south as the Stanislaus River within the San Joaquin River system.	Absent. No natural waterways within the species' range will be affected by the proposed project.
Chinook salmon - Central Valley spring-run esu (<i>Oncorhynchus tshawytscha</i>)	FT, CT	Spawns in Sacramento River system.	Absent. No natural waterways within the species' range will be affected by the proposed project.
Chinook salmon - Sacramento River winter-run esu (<i>Oncorhynchus tshawytscha</i>)	FE, CE	Spawns in Sacramento River system, but more restricted distribution than Central Valley spring-run.	Absent. No natural waterways within the species' range will be affected by the proposed project.
Chinook salmon - fall run/late-fall run esu (<i>Oncorhynchus tshawytscha</i>)	CSC	Spawns in Sacramento and San Joaquin River systems, excluding the San Joaquin River upstream of the Merced River. Capable of spawning in lower river reaches than other runs, due to run timing.	Absent. No natural waterways within the species' range will be affected by the proposed project. VAMP releases to provide flows for out-migrating fall-run Chinook salmon would occur in the Merced River regardless of the proposed project.
Steelhead – south/central California coast esu (<i>Oncorhynchus mykiss irideus</i>)	FT, CSC	Spawns and rears in suitable streams and rivers in Santa Clara and San Benito Counties	Present. Known to occur in Santa Clara and San Benito Counties.

Amphibians & Reptiles

California tiger salamander (<i>Ambystoma californiense</i>)	FT, CSC	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for refuge.	Possible. Suitable breeding habitats in the form of vernal pools and stockponds occur in the region. Rodent burrows are common along the fringes of agricultural areas.
Blunt-nosed leopard lizard (<i>Gambelia sila phrynosoma</i>)	FE, CE, CFP	Blunt-nosed leopard lizards inhabit open, sparsely vegetated areas of low relief on the San Joaquin Valley floor and in the surrounding foothills.	Present. Documented in CNDDB as extant in numerous locations throughout the study area.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

Amphibians & Reptiles (cont.).

California red-legged frog (<i>Rana aurora draytonii</i>)	FE, CSC	Red-legged frogs require aquatic habitat for breeding but also use a variety of other habitat types including riparian and upland areas. Adults often utilize dense, shrubby or emergent vegetation closely associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation such as willows.	Present. Documented as extant within SCVWD, Zone 6 of SBCWD, Merced ID, and DPWD.
Giant garter snake (<i>Thamnophis gigas</i>)	FT, CT	Throughout the Central Valley. Requires slow-moving water. Uses overhanging vegetation for cover.	Present. CNDDB records indicate this species to be present in many locations throughout the study area.

Birds

California Least Tern (<i>Sterna antillarum browni</i>)	FE, CE, CFP	Nests on sandy beaches and mudflats near the ocean. Breeding range is limited to San Francisco Bay and a few areas along the coast from San Luis Obispo County to San Diego County.	Possible. Suitable habitat may be present in the northern portion of Santa Clara County. Recorded as foraging at sewage ponds on Lemoore Naval Air Station.
Willow Flycatcher (<i>Empidonax traillii</i>)	CE	Breeds in willow thickets found in montane meadows of the Sierra Nevada.	Unlikely. This passes through the study area during migration, but breeds at higher elevations.

Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	FE, CE	Early to mid-successional riparian habitat is typically used for nesting by the Least Bell's Vireo.	Possible. Sightings have occasionally occurred in riparian habitats in Santa Clara County.
Yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FE, CE, CFP	Breeds and forages in dense riparian forests.	Absent. Riparian forests required by this species do not occur in the study area.
Bank Swallow (<i>Riparia riparia</i>)	CT	A neotropical migrant that nests in muddy riverbanks. Forages for flying insects.	Present. Known to occur along the San Joaquin River.
Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)	FT, CSC	The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. The population breeds mainly above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	Possible. Some suitable habitat may be present at the north end of Santa Clara County near San Francisco Bay.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	FT, CE, CFP	Nests primarily in latitudes north of California in to Canada and Alaska. Winters in California and forages in lakes, rivers, and grasslands.	Present. This species is known to forage during winter in deeper pools of the San Joaquin River. It may occasionally forage for ground squirrels in grasslands and pastures of the study area. Nesting habitat is absent.
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	FD, CE, CFP	Nests mainly on high cliffs, although some birds have taken up residence on ledges of skyscrapers in large cities. The nest is a scrape, usually in loose soil, sand or vegetation, with no added nesting material. Hunts birds including waterfowl over wetlands, lakes, and rivers.	Present. Fairly common in the vicinities of the Merced and San Joaquin Rivers and Coastal Santa Clara County.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA *

Birds (cont.).

Species	Status	Habitat	*Occurrence in the Study Area
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	Forages in open grasslands of the Central Valley. Requires large trees nearby for nesting.	Present. Occurs in numerous locations throughout the study area, primarily near water.

Mammals

Tipton Kangaroo Rat (<i>Dipodomys nitratoides nitratoides</i>)	FE, CE	Current occurrences are limited to scattered, isolated areas. In the southern San Joaquin Valley this includes the Kern National Wildlife Refuge, Delano, and other scattered areas within Kern County.	Possible. CNDDDB records indicate that populations (now possibly extirpated) have been detected in the southern portion of WWD. Detections were made at Tumbleweed Park on Lemoore Naval Air Station in the 1990's. Their present status is unknown. Extant populations may still be present in other parts of Westlands.
Nelson's Antelope Squirrel (<i>Ammospermophilus nelsonii</i>)	CE	Open, rolling, or hilly desert country and sandy washes; with shrubs in San Joaquin Valley, without shrubs in Kern County, California. Associated plants are orach, Mormon tea, ephedra, and juniper. Range is Kern, Kings, and w Fresno counties.	Present. CNDDDB records indicate that there are extant populations of this species in the northern portion of Westlands Water District.
Riparian Woodrat (<i>Neotoma fuscipes riparia</i>)	FE, CSC	Well-developed Riparian habitats along the San Joaquin River.	Present. Known populations exist along the San Joaquin River in Fresno and Merced Counties.
Riparian Brush Rabbit (<i>Sylvilagus bachmani riparius</i>)	FE, CE	Habitat for the riparian brush rabbit consists of riparian communities	Present. Known populations exist along the San Joaquin River in Fresno and Merced

		dominated by willow thickets (<i>Salix</i> spp.), California wild rose (<i>Rosa californica</i>), Pacific blackberry (<i>Rubus vitifolius</i>), wild grape (<i>Vitis californica</i>), Douglas' coyote bush (<i>Baccharis douglasii</i>) and various grasses. A captive breeding program is in place in certain locations along the San Joaquin River.	Counties.
Salt Marsh Harvest Mouse (<i>Reithrodontomys raviventris</i>)	FE, CE	Known only from San Francisco Bay. Requires thick vegetation for cover.	Present. There are known populations in the baylands of Santa Clara County.
Giant Kangaroo Rat (<i>Dipodomys ingens</i>)	FE, CE	Annual grassland on gentle slopes of generally less than 10°, with friable, sandy-loam soils. However, most remaining populations are on poorer, marginal habitats which include shrub communities on a variety of soil types and on slopes up to about 22°.	Possible. Some suitable habitats may be present in the southern portion of the study area.

TABLE 2. LIST OF FEDERAL AND STATE LISTED SPECIES THAT COULD OCCUR IN THE STUDY AREA*

Mammals (cont.).

Species	Status	Habitat	*Occurrence in the Study Area
Fresno Kangaroo Rat (<i>Dipodomys nitratoides exilis</i>)	FE, CE	Prefers arid, alkaline plains with sparse vegetation, where it consumes seeds of annuals and shrubs, including saltbush. There are no known populations within the circumscribed historical geographic range in Merced, Madera, and Fresno Counties. A single male Fresno kangaroo rat was captured twice in autumn 1992 on the Alkali Sink Ecological Reserve, west of Fresno.	Unlikely. The study area occupies part of this species historical range. However, the absence of detections since 1992 in spite of intense survey efforts suggests that it may now be extinct.

*adapted from CNDDDB, 2007 and USFWS list for San Joaquin, Santa Clara, San Benito, Merced, Fresno, and Kings counties.

DEFINITIONS OF OCCURRENCE INDICATORS

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

LISTING STATUS CODES

- | | | | |
|-----|------------------------------------|------|---|
| FE | Federally Endangered | CE | California Endangered |
| FT | Federally Threatened | CT | California Threatened |
| FPE | Federally Endangered (Proposed) | CR | California Rare |
| FC | Federal Candidate | CSC | California Species of Special Concern |
| FSC | Federal Species of Special Concern | CNPS | California Native Plant Society Listing |
| | | CFP | California Fully Protected |
| FD | Federally Delisted | | |

Santa Clara Valley Water District, which consists of the entire Santa Clara County and to some extent, Zone 6 of the San Benito County Water District still possess habitats that support substantial populations of native plants and wildlife. This is reflected in the “Occurrence in the Study Area” column in Table 2. For the remaining districts that comprise the study area, native plants and wildlife, for the most part exist at the margins of fields, in ruderal areas and riparian zones that are subjected to less human disturbance. Some terrestrial wildlife species that are highly cursorial such as the kit fox may pass through during home-range movements, but would

be unlikely to stay for the purposes of foraging or denning. Some vernal pool species are still extant within the study area because plowing does not penetrate deeply enough to disturb the subsurface hardpan, allowing water to continue to impound during the spring. By the end of spring, before plowing is possible, the cysts of invertebrates and seeds of vernal pool plants become dormant and persist in the soil until the following spring.

Critical Habitats

The Service has designated critical habitats for a number of federally listed species and habitats known to occur within the region of the study area. The habitats of the study area are for the most part, excluding parts of SCVWD and Zone 6 of SBCWD, in degraded condition due to their present use as agricultural lands. Nonetheless, some lands within the districts are considered important to species recovery efforts, due mainly to the linkages they provide to known populations and other higher quality habitats. Others are important to the home-range movements of cursorial species such as kit fox, while others contain rare habitats such as serpentine soils or vernal pools.

Critical habitats occur within the region of the study area for the bay checkerspot butterfly, California red-legged frog, California tiger salamander, Delta smelt, federally listed salmonids, large-flowered fiddleneck, Fresno kangaroo rat, western snowy plover, and vernal pools. Vernal pool critical habitat protection includes several listed species that are listed in Table 2 including vernal pool fairy shrimp, vernal pool tadpole shrimp, conservation fairy shrimp, fleshy owl's clover, San Joaquin Valley orcutt grass, and Greene's tuctoria.

3.6.2 Environmental Consequences

No Action

Requirements of the CVPIA biological opinion (Service 2000) would continue to be met under the No-Action Alternative, including continuation of ongoing species conservation programs. The No Action Alternative would not involve construction of new facilities or installation of structures that would alter current land uses and thereby affect listed species and critical habitats. Implementation of the No-Action Alternative would not impact the production of agricultural crops or current land uses that support habitats for listed species. No native lands would be converted to agricultural uses as a result of implementation of the No Action Alternative.

Proposed Action

The Proposed Action/Project Alternative is comparable to the No Action/No Project Alternative in that requirements of the CVPIA biological opinion (Service 2000) would continue to be met in the same manner as the No-Action/No Project Alternative, including continuation of ongoing species conservation programs. As with the No Action/No Project Alternative, the Proposed Action/Project Alternative would not result in the construction of new facilities or installation of structures that would alter current land uses and thereby affect listed species and critical habitats. Implementation of the Proposed Action/Project Alternative would not impact the production of agricultural crops or current land uses that support habitats for listed species. As with the No Action/No Project Alternative, no native lands or lands fallowed and untilled for three years or more would be converted to agricultural uses as a result of implementation of the Proposed Action/Project Alternative. No natural waterways that may harbor listed fishes will be affected by the Proposed Action/Project Alternative; there will be no change in diversions of water from the Delta under this alternative and there will be no changes in release of water down the Merced River or the San Joaquin River. These VAMP releases, which benefit out-migrating fall-run

Chinook salmon, have already been analyzed under the EIR/EIS for the San Joaquin River Agreement.

3.7 Cultural Resources

3.7.1 Affected Environment

“Cultural Resources” is a broad term that is intended to include prehistoric, historic, architectural and traditional cultural properties. The following description of the Affected Cultural Resources is focused upon cultural resources located in areas served by CVP water. The *2005 Delta-Mendota Canal Unit Environmental Assessment for Long-Term Contract Renewal EA*, the *2004 Central Valley Project Long-Term Water Service Contract Renewals for the San Felipe Division Draft EA*, and the *2005 San Luis Public Draft Central Valley Project, West San Joaquin Division, San Luis Unit Long-Term Water Service Contract Renewal EIS* contain extensive descriptions of the cultural resources of the areas served by CVP water that are included in this document and are hereby incorporated by reference.

3.7.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there are no impacts to cultural resources since conditions would remain the same as existing conditions.

Proposed Action/Project Alternative

The conveyance of CVP water would not harm any cultural resources. It would be conveyed in existing facilities and canals. As with the No Action/No Project Alternative, the Proposed Action/Project Alternative would not result in any construction or land altering/ground-disturbing activities beyond normal agricultural practices or in any substantial changes in reservoir operations that would expose buried resources, if present. Consequently, the proposed action has no potential to affect historic properties pursuant to the Regulations at 36 CFR Part 800.3(a)(1).

3.8 Indian Trust Assets

3.8.1 Affected Environment

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

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

Santa Clara Valley Water District and Zone 6 of the San Benito County Water District

There are Native American resources and sites within the Santa Clara Valley Water District and Zone 6 of the San Benito County Water District. However, these tribes are not federally recognized. Therefore, there are no Indian Trust Assets recognized by the Bureau of Indian Affairs in the San Felipe Division.

San Joaquin Valley (Del Puerto, San Luis, Westlands Water Districts)

Reclamation examined geographic information system coverage that depicts the distribution of Indian reservations, rancherias, and public domain allotments throughout its Mid-Pacific Region. No Indian lands of any type were found within Del Puerto, San Luis, and Westlands Water Districts.

3.8.2 Environmental Consequences

No Action

Due to the absence of Indian Trust Assets within the CVP service areas of the participating South of Delta CVP Contractors, such resources would be unaffected by implementation of the No Action Alternative.

Proposed Action

Due to the absence of Indian Trust Assets within the CVP service areas of the participating South of Delta CVP Contractors, such resources would be unaffected by implementation of the Proposed Action Alternative.

3.9 Socioeconomic Resources

3.9.1 Affected Environment

The following description of the socio-economic resources is focused upon cultural resources located in areas served by CVP water. The *2005 Delta-Mendota Canal Unit Environmental Assessment for Long-Term Contract Renewal EA*, the *2004 Central Valley Project Long-Term Water Service Contract Renewals for the San Felipe Division Draft EA*, and the *2005 San Luis Public Draft Central Valley Project, West San Joaquin Division, San Luis Unit Long-Term Water Service Contract Renewal EIS* contain extensive descriptions of the socio-economic resources of the areas served by CVP water that are included in this document and are hereby incorporated by reference.

3.9.2 Environmental Consequences

No Action

The No Action/No Project Alternative would not result in any new development or construction of facilities and therefore, there would be no changes to current socioeconomic resources.

Proposed Action

The Action/Project Alternative is similar to the No Action/No Project Alternative in that it would not result in any new development or construction of facilities.

3.10 Environmental Justice

3.10.1 Affected Environment

The February 11, 1994 Executive Order (EO) 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations.

The counties that encompass the districts of the participating South of Delta CVP Contractors all have considerable populations of minorities and persons of low income. These include Santa Clara, the northern portion of San Benito, Stanislaus, San Joaquin, Merced, Fresno, and Kings Counties.

3.10.2 Environmental Consequences

No Action

The No Action/Project Alternative would not involve the construction of new facilities, result in any known health hazards, cause the generation of any hazardous wastes, or result in any property takings. Moreover, this alternative would not directly or indirectly cause disproportionately high and direct or indirect adverse human health or environmental effects.

Proposed Action

In examining impacts to the study area as a whole, and when compared to the No Action/ Project Alternative, the Proposed Action/Project Alternative is not likely to disproportionately affect the human health or physical environment of minority or low-income populations.

3.11 Irreversible or Irrecoverable Commitments of Natural Resources

Irreversible commitments are those that either directly or indirectly cause the use of natural resources so that they cannot be restored or returned to their original condition. Irreversible decisions affect renewable resources such as soils, wetlands, and waterfowl habitats. They are considered irreversible because their implementation would affect a resource that has deteriorated such that renewal takes extensive time or financial resources or because they would destroy the resource. Irrecoverable commitments of natural resources mean the decision would result in loss of production or use of the resource. They represent opportunities forgone for a substantial period of time that the resource cannot be used.

The Proposed Action/Project Alternative would not change the total amounts of water (CVP and non-CVP) utilized by the participating South of Delta CVP Contractors. Therefore, the Proposed Action/Project Alternative presents no irreversible/irrecoverable commitments of resources.

3.12 Cumulative Impacts

Given the chronic shortages in allocations of CVP irrigation water to South of Delta CVP water service contractors, the Authority and its members have multiple programs to obtain supplemental supplies. These range from historic district to district transfers among CVP contractors in the area, reallocation agreements among Authority members, other transfers from the Exchange Contractors to CVP water service contractors, and other similar transfers (SLDMWA). Under the Proposed Action/Proposed Project, the total of all such transfers will

not exceed the total contract quantity under the participants' respective CVP water service contracts. Further, Reclamation retains the right to consent to any transfers utilizing CVP facilities, and such limit is a condition of any such consent.

The areas within the boundaries of participating South of Delta CVP Contractors are to varying degrees subject to increasing growth pressures as California's population and economy continue to expand. The water supplies provided under the Proposed Action/Proposed Project are limited to agricultural uses only. The participating districts are fully developed so, taking into consideration all available supplies, this increment will not promote development of new agricultural ground. Furthermore, the Proposed Action/Proposed Project will not indirectly fuel M&I growth or contribute incrementally to regional growth inducement because it lacks reliability to support such changes. It is available for a maximum period of only four years and highly variable, with potential deliveries ranging from 0-11,000 AF in a given year.

Taken together with all other similar temporary supplemental supplies and when combined with other activities within the range of potential impact and the physical study area, neither the No Action/No Project Alternative nor the Proposed Action/Project Alternative would add incrementally to existing environmental trends in the region of the Proposed Action/Project.

Section 4 Consultation and Coordination

This document was prepared pursuant to regulations implementing NEPA (42 USC §4321 *et seq.*) for an EA and CEQA (California Public Resources Code §21000 *et seq.*) for the preparation of a Negative Declaration. Reclamation is the federal lead agency and the San Luis & Delta-Mendota Water Authority is the state lead agency preparing this EA/Negative Declaration.

Applicable laws, orders, regulations, and other policies and plans that have been considered in this document include:

- National Historic Preservation Act
- National Environmental Policy Act
- California Environmental Quality Act
- Federal Endangered Species Act
- California Endangered Species Act
- Indian Sacred Sites on Federal Land
- Fish & Wildlife Coordination Act
- Migratory Bird Treaty Act
- Floodplain Management and Protection of Wetlands
- Clean Water Act

4.1 Fish and Wildlife Coordination Act (16 USC . 651 et seq.)

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The implementation of the CVPIA, of which this action is a part, has been jointly analyzed by Reclamation and the FWS and is being jointly implemented. The Proposed Action does not involve construction projects. Therefore the FWCA does not apply.

4.2 Endangered Species Act (16 USC . 1521 et seq.)

Section 7 of the Endangered Species Act 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.

Reclamation has determined the Proposed Action/Project would have no effect on threatened and endangered species and no further consultation is required under Section 7 of the Endangered Species Act. This determination is based on that the Proposed Action/Project Alternative would not result in the construction of new facilities or installation of structures that would alter current land uses and thereby, affect listed species and critical habitats. Implementation of the Proposed Action/Project Alternative would not impact the production of agricultural crops or current land uses that support habitats for listed species. As with the No Action/No Project Alternative, no native lands or lands fallowed and untilled for three years or more would be converted to agricultural uses as a result of implementation of the Proposed Action/Project Alternative. No natural waterways that may harbor listed fishes will be affected by the Proposed Action/Project

Alternative; there will be no change in diversions of water from the Delta under this alternative and there will be no changes in release of water down the Merced River or the San Joaquin River. These VAMP releases, which benefit out-migrating fall-run Chinook salmon, have already been analyzed under the EIR/EIS for the San Joaquin River Agreement.

The Proposed Action would support existing land uses and conditions. No native lands would be converted or cultivated with CVP water. Therefore, the Proposed Action would have no effect on federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.

4.3 National Historic Preservation Act (15 USC 470 et seq.)

Section 106 of the National Historic Preservation Act requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Due to the nature of the proposed project, there will be no effect on any historical, archaeological or cultural resources, and no further compliance actions are required.

4.4 Migratory Bird Treaty Act (16 USC Sec. 703 et seq.)

The Migratory Bird Treaty Act 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 Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) 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 have no effect on birds protected by the Migratory Bird Treaty Act.

4.5 Executive Order 11988 – Floodplain Management and Executive Order 11990 - Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The project would not affect either concern.

Section 5 List of Preparers and Reviewers

Pursuant to 40 CDR 1508.9 (b), the following persons participated in the preparation of this document:

Name	Title	Agency
Ara Azhderian	Water Policy Administrator	San Luis & Delta-Mendota Water Authority
Sheryl Carter	Repayment Specialist	U.S. Bureau of Reclamation
Shauna McDonald	Wildlife Biologist	U.S. Bureau of Reclamation
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Ted Selb	Deputy General Manager	Merced Irrigation District
Cindy Kao	Special Program Engineer	Santa Clara Valley Water District
Joe Thompson	Principal Biologist	Thompson Ecological Consulting

Section 6 References

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Appendix A

CEQA Environmental Checklist

APPENDIX A

Environmental Checklist Form

1.	Project title: San Luis Delta-Mendota Water Authority and San Joaquin River Exchange Contractors Water Authority Substitute Water Exchange	
2.	Lead agency name and address: CEQA Lead: San Luis Delta-Mendota Water Authority P.O. Box 2157 Los Baños, CA 93635 NEPA Lead: U.S. Bureau of Reclamation South Central California Area Office 1243 "N" St Fresno, CA 93727	
3	Contact person and phone number: Ara Azhderian (209) 826-9696	
4	Project location: Santa Clara Valley Water District, Zone 6 of San Benito County Water District, Del Puerto Water District, San Luis Water District, Westlands Water District, Central California Irrigation District, Firebaugh Irrigation District, Columbia Canal Company, and San Luis Canal Company. These water districts are located in the following counties: Santa Clara, San Benito, Stanislaus, San Joaquin, Merced, Fresno, and Kings.	
5	Project sponsor's name and address: San Luis Delta-Mendota Water Authority P.O. Box 2157 Los Baños, CA 93635	
6	General plan designation: Agriculture	7. Zoning: A-1

7

Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The Proposed Action/Project Alternative has two discrete components, the purchase and release of water from Merced ID into the San Joaquin River and the delivery of an equal amount of CVP water from the Exchange Contractors to the participating South of Delta CVP Contractors.

1) The Water Authority will purchase up to 11,000 AF of water from Merced ID to replace the water release obligations of the Exchange Contractors under the SJRA. This water would be released from Lake Mc Clure's New Exchequer Dam and its regulating reservoir, Lake McSwain, which feeds into the Merced River. The confluence of the Merced and San Joaquin Rivers is in western Merced County. This component of the Proposed Action/Project Alternative was examined for environmental impacts under previous NEPA/CEQA documentation: *Meeting Flow Objectives for the San Joaquin River Agreement 1999 - Environmental Impact Statement and Environmental Impact Report* (Reclamation and San Joaquin River Group Authority, 1999).

2) In exchange for the Water Authority's purchase, the Exchange Contractors will make available to the participating South of Delta CVP Contractors, an equal amount of their CVP water supply. CVP water will be delivered to the Districts utilizing the existing CVP distribution system. Turnouts on the San Luis Canal and DMC may be used to deliver Exchange Water to San Luis Water District. Westlands Water District will take its Exchange Water from the San Luis Canal. Del Puerto Water District will take its Exchange Water from the DMC. Exchange Water for Santa Clara Water District will be taken from the DMC and then pumped into O'Neill Forebay. At O'Neill Forebay the Exchange Water will be pumped into the San Luis Reservoir and then delivered to Santa Clara Valley Water District (SCVWD) via the Pacheco Tunnel and Santa Clara Conduits. Zone 6 of San Benito County Water District will also take its Exchange Water from the San Luis Reservoir. From there it will be conveyed through the Pacheco Tunnel and Conduit. The water will continue to be conveyed in the Hollister Conduit to San Justo Dam and Reservoir to serve the agricultural users in Zone 6. This is the component of the Proposed Action/Project examined in the attached EA and this Negative Declaration.

8.	<p>Surrounding land uses and setting: Briefly describe the project’s surroundings:</p> <p>Lands uses are primarily agricultural; however, some natural lands are present and include native habitats suitable for state and federally listed species. These habitats include non-native grassland, riparian, wetlands, including freshwater emergent, saline emergent, and vernal pools, oak woodland, hardwood/conifer forest, coastal scrub/chaparral, serpentine, barren, lacustrine, other surface water.</p>
9.	<p>Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)</p> <p>U.S. Department of the Interior, Bureau of Reclamation - NEPA Compliance.</p>

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

	Aesthetics		Agriculture Resources		Air Quality
	Biological Resources		Cultural Resources		Geology /Soils
	Hazards & Hazardous Materials		Hydrology / Water Quality		Land Use / Planning
	Mineral Resources		Noise		Population / Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities / Service Systems	Mandatory Findings of Significance			

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

X	<p>I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. - This determination applies to the second component of the proposed project as described above.</p>
---	--

	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
X	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. - This determination applies to the first component of the proposed project as described above.
Signature	Date
Signature	Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- I. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analyses,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				X
a) Conflict with or obstruct implementation of the applicable air quality plan?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
VII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				X
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?				X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow?				X
IX. LAND USE AND PLANNING - Would the project:				X
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XI. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
XIV. RECREATION --				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X
XVI. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE --				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

Appendix B

USFWS, NOAA Fisheries, and CNDDDB Lists of Special Status Species for the Project Area

Appendix B

USFWS, NOAA Fisheries, and CNDDDB Lists of Special Status Species for the Project Area
**TABLE 2. CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES
 COUNTY OF SANTA CLARA**

COMMON NAME	SCIENTIFIC NAME	FED STATUS	CAL STATUS	CDFG	CNPS LIST
INVERTEBRATES					
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	Threatened	None		
Zayante band-winged grasshopper	<i>Trimerotropis infantilis</i>	Endangered	None		
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	None		
AMPHIBIANS					
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	None	SC	
Coast Range newt	<i>Taricha torosa torosa</i>	None	None	SC	
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	None	SC	
foothill yellow-legged frog	<i>Rana boylei</i>	None	None	SC	
western spadefoot	<i>Spea (=Scaphiopus) hammondi</i>	None	None	SC	
REPTILES					
western pond turtle	<i>Emys (=Clemmys) marmorata</i>	None	None	SC	
northwestern pond turtle	<i>Emys (=Clemmys) marmorata marmorata</i>	None	None	SC	
southwestern pond turtle	<i>Emys (=Clemmys) marmorata pallida</i>	None	None	SC	
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population)</i>	None	None	SC	
blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	Endangered		
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population)</i>	None	None	SC	
San Joaquin whipsnake	<i>Masticophis flagellum ruddocki</i>	None	None	SC	
two-striped garter snake	<i>Thamnophis hammondi</i>	None	None	SC	
BIRDS					
prairie falcon	<i>Falco mexicanus</i>	None	None	SC	
California clapper rail	<i>Rallus longirostris obsoletus</i>	Endangered	Endangered		
mountain plover	<i>Charadrius montanus</i>	None	None	SC	
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Threatened	None	SC	
California least tern	<i>Sterna antillarum browni</i>	Endangered	Endangered		

burrowing owl	<i>Athene cunicularia</i>	None	None	SC
long-eared owl	<i>Asio otus</i>	None	None	SC
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Candidate	Endangered	
black swift	<i>Cypseloides niger</i>	None	None	SC
bank swallow	<i>Riparia riparia</i>	None	Threatened	
least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	Endangered	
yellow-breasted chat	<i>Icteria virens</i>	None	None	SC
saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	None	None	SC
California horned lark	<i>Eremophila alpestris actia</i>	None	None	SC
Alameda song sparrow	<i>Melospiza melodia pusillula</i>	None	None	SC
tricolored blackbird	<i>Agelaius tricolor</i>	None	None	SC

FISH

steelhead - south/central California coast esu	<i>Oncorhynchus mykiss irideus</i>	Threatened	None	
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MAMMALS

salt-marsh wandering shrew	<i>Sorex vagrans halicoetes</i>	None	None	SC
western mastiff bat	<i>Eumops perotis californicus</i>	None	None	SC
pallid bat	<i>Antrozous pallidus</i>	None	None	SC
Nelson's antelope squirrel	<i>Ammospermophilus nelsoni</i>	None	Threatened	
Santa Cruz kangaroo rat	<i>Dipodomys venustus venustus</i>	None	None	
big-eared kangaroo rat	<i>Dipodomys venustus elephantinus</i>	None	None	SC
giant kangaroo rat	<i>Dipodomys ingens</i>	Endangered	Endangered	
Tulare grasshopper mouse	<i>Onychomys torridus tularensis</i>	None	None	SC
Monterey dusky-footed woodrat	<i>Neotoma macrotis luciana</i>	None	None	SC
salt-marsh harvest mouse	<i>Reithrodontomys raviventris</i>	Endangered	Endangered	
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened	
American badger	<i>Taxidea taxus</i>	None	None	SC

PLANTS

Norris' beard-moss	<i>Didymodon norrisii</i>	None	None	1B.2
Hoover's button-celery	<i>Eryngium aristulatum var. hooveri</i>	None	None	1B.1
big tarplant	<i>Blepharizonia plumosa</i>	None	None	1B.1

Hall's tarplant	<i>Deinandra halliana</i>	None	None	1B.1
rayless layia	<i>Layia discoidea</i>	None	None	1B.1
pale-yellow layia	<i>Layia heterotricha</i>	None	None	1B.1
showy madia	<i>Madia radiata</i>	None	None	1B.1
Carmel Valley malacothrix	<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	None	None	1B.2
marsh microseris	<i>Microseris paludosa</i>	None	None	1B.2
slender pentachaeta	<i>Pentachaeta exilis</i> ssp. <i>aeolica</i>	None	None	1B.2
San Joaquin woollythreads	<i>Monolopia congdonii</i>	Endangered	None	1B.2
bent-flowered fiddleneck	<i>Amsinckia lunaris</i>	None	None	1B.2
hairless popcorn- flower	<i>Plagiobothrys glaber</i>	None	None	1A
hooked popcorn- flower	<i>Plagiobothrys uncinatus</i>	None	None	1B.2
Panoche pepper- grass	<i>Lepidium jaredii</i> ssp. <i>album</i>	None	None	1B.2
chaparral harebell	<i>Campanula exigua</i>	None	None	1B.2
San Joaquin spearscale	<i>Atriplex joaquiniana</i>	None	None	1B.2
Pajaro manzanita	<i>Arctostaphylos pajaroensis</i>	None	None	1B.1
Gabilan Mountains manzanita	<i>Arctostaphylos</i> <i>gabilanensis</i>	None	None	1B.2
Big Bear Valley woollypod	<i>Astragalus leucolobus</i>	None	None	1B.2
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	None	None	1B.2
saline clover	<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	None	None	1B.2
round-leaved filaree	<i>California macrophyllum</i>	None	None	1B.1
Mt. Diablo phacelia	<i>Phacelia phacelioides</i>	None	None	1B.2
Indian Valley bush mallow	<i>Malacothamnus</i> <i>aboriginum</i>	None	None	1B.2
San Benito evening- primrose	<i>Camissonia benitensis</i>	Threatened	None	1B.1
San Benito spineflower	<i>Chorizanthe biloba</i> var. <i>immemora</i>	None	None	1B.2
Pinnacles buckwheat	<i>Eriogonum nortonii</i>	None	None	1B.3

shining navarretia	<i>Navarretia nigelliformis</i> <i>ssp. radians</i>	None	None	1B.2
Hospital Canyon larkspur	<i>Delphinium californicum</i> <i>ssp. interius</i>	None	None	1B.2
recurved larkspur	<i>Delphinium recurvatum</i>	None	None	1B.2
talus fritillary	<i>Fritillaria falcata</i>	None	None	1B.2
fragrant fritillary	<i>Fritillaria liliacea</i>	None	None	1B.2
San Benito fritillary	<i>Fritillaria viridea</i>	None	None	1B.2

SAN BENITO COUNTY CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES

COMNAME	SCINAME	FEDSTATUS	CALSTATUS	CDFG	CNPSSLIST
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	None	SC	
Coast Range newt	<i>Taricha torosa torosa</i>	None	None	SC	
western spadefoot	<i>Spea (=Scaphiopus)</i> <i>hammondii</i>	None	None	SC	
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	None	SC	
foothill yellow-legged frog	<i>Rana boylei</i>	None	None	SC	
white-tailed kite	<i>Elanus leucurus</i>	None	None		
sharp-shinned hawk	<i>Accipiter striatus</i>	None	None	SC	
Cooper's hawk	<i>Accipiter cooperii</i>	None	None	SC	
American peregrine falcon	<i>Falco peregrinus anatum</i>	Delisted	Endangered		
prairie falcon	<i>Falco mexicanus</i>	None	None	SC	
mountain plover	<i>Charadrius montanus</i>	None	None	SC	
western yellow-billed cuckoo	<i>Coccyzus americanus</i> <i>occidentalis</i>	Candidate	Endangered		
burrowing owl	<i>Athene cunicularia</i>	None	None	SC	
long-eared owl	<i>Asio otus</i>	None	None	SC	
California horned lark	<i>Eremophila alpestris</i> <i>actia</i>	None	None	SC	
bank swallow	<i>Riparia riparia</i>	None	Threatened		
least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	Endangered		
yellow-breasted chat	<i>Icteria virens</i>	None	None	SC	
tricolored blackbird	<i>Agelaius tricolor</i>	None	None	SC	
long-eared myotis	<i>Myotis evotis</i>	None	None		
western small-footed myotis	<i>Myotis ciliolabrum</i>	None	None		
pallid bat	<i>Antrozous pallidus</i>	None	None	SC	
western mastiff bat	<i>Eumops perotis</i> <i>californicus</i>	None	None	SC	
Nelson's antelope squirrel	<i>Ammospermophilus</i> <i>nelsoni</i>	None	Threatened		

big-eared kangaroo rat	<i>Dipodomys venustus</i>	None	None	SC
giant kangaroo rat	<i>elephantinus</i>	None	None	SC
	<i>Dipodomys ingens</i>	Endangered	Endangered	
Tulare grasshopper mouse	<i>Onychomys torridus</i>	None	None	SC
	<i>tularensis</i>	None	None	SC
Monterey dusky-footed woodrat	<i>Neotoma macrotis luciana</i>	None	None	SC
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened	
American badger	<i>Taxidea taxus</i>	None	None	SC
western pond turtle	<i>Emys (=Clemmys) marmorata</i>	None	None	SC
northwestern pond turtle	<i>Emys (=Clemmys) marmorata marmorata</i>	None	None	SC
silvery legless lizard	<i>Anniella pulchra pulchra</i>	None	None	SC
blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	Endangered	
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population)</i>	None	None	SC
	<i>Masticophis flagellum ruddocki</i>	None	None	SC
San Joaquin whipsnake	<i>Thamnophis hammondii</i>	None	None	SC
two-striped garter snake		None	None	SC
North Central Coast Drainage Sacramento Sucker/Roach River vernal pool fairy shrimp	<i>North Central Coast Drainage Sacramento Sucker/Roach River Branchinecta lynchi</i>	None	None	
California linderiella	<i>Linderiella occidentalis</i>	Threatened	None	
San Joaquin dune beetle	<i>Coelus gracilis</i>	None	None	
Morrison's blister beetle	<i>Lytta morrisoni</i>	None	None	
Pinnacles optioservus riffle beetle	<i>Optioservus canus</i>	None	None	
	<i>Protodufourea wasbaueri</i>	None	None	
Pinnacles shieldback katydid	<i>Idiostatus kathleenae</i>	None	None	
	<i>Hubbardia idria</i>	None	None	
	<i>Calicina arida</i>	None	None	
Norris' beard-moss	<i>Didymodon norrisii</i>	None	None	1B.2
woven-spored lichen	<i>Texosporium sancti-jacobi</i>	None	None	
	<i>Eryngium aristulatum var. hooveri</i>	None	None	1B.1
Hoover's button-celery big tarplant	<i>Blepharizonia plumosa</i>	None	None	1B.1
Hall's tarplant	<i>Deinandra halliana</i>	None	None	1B.1
rayless layia	<i>Layia discoidea</i>	None	None	1B.1
pale-yellow layia	<i>Layia heterotricha</i>	None	None	1B.1
showy madia	<i>Madia radiata</i>	None	None	1B.1
	<i>Malacothrix saxatilis var. arachnoidea</i>	None	None	1B.2
Carmel Valley malacothrix marsh microseris	<i>Microseris paludosa</i>	None	None	1B.2
	<i>Pentachaeta exilis ssp. aeolica</i>	None	None	1B.2
slender pentachaeta		None	None	1B.2
San Joaquin woollythreads	<i>Monolopia congdonii</i>	Endangered	None	1B.2
bent-flowered fiddleneck	<i>Amsinckia lunaris</i>	None	None	1B.2

hairless popcorn-flower	<i>Plagiobothrys glaber</i>	None	None	1A
hooked popcorn-flower	<i>Plagiobothrys uncinatus</i>	None	None	1B.2
Panoche pepper-grass	<i>Lepidium jaredii</i> ssp. <i>album</i>	None	None	1B.2
chaparral harebell	<i>Campanula exigua</i>	None	None	1B.2
San Joaquin spearscale	<i>Atriplex joaquiniana</i>	None	None	1B.2
Pajaro manzanita	<i>Arctostaphylos</i> <i>pajaroensis</i>	None	None	1B.1
Gabilan Mountains manzanita	<i>Arctostaphylos</i> <i>gabilanensis</i>	None	None	1B.2
Big Bear Valley woollypod	<i>Astragalus leucolobus</i>	None	None	1B.2
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	None	None	1B.2
saline clover	<i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	None	None	1B.2
round-leaved filaree	<i>California macrophyllum</i>	None	None	1B.1
Mt. Diablo phacelia	<i>Phacelia phacelioides</i>	None	None	1B.2
Indian Valley bush mallow	<i>Malacothamnus</i> <i>aboriginum</i>	None	None	1B.2
San Benito evening-primrose	<i>Camissonia benitensis</i>	Threatened	None	1B.1
San Benito spineflower	<i>Chorizanthe biloba</i> var. <i>immemora</i>	None	None	1B.2
Pinnacles buckwheat	<i>Eriogonum nortonii</i>	None	None	1B.3
shining navarretia	<i>Navarretia nigelliformis</i> ssp. <i>radians</i>	None	None	1B.2
Hospital Canyon larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	None	None	1B.2
recurved larkspur	<i>Delphinium recurvatum</i>	None	None	1B.2
talus fritillary	<i>Fritillaria falcata</i>	None	None	1B.2
fragrant fritillary	<i>Fritillaria liliacea</i>	None	None	1B.2
San Benito fritillary	<i>Fritillaria viridea</i>	None	None	1B.2

STANISLAUS COUNTY CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES

COMNAME	SCINAME	FEDSTATUS	CALSTATUS	CDFG	CNPSTLIST
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	None	SC	
western spadefoot	<i>Spea (=Scaphiopus)</i> <i>hammondii</i>	None	None	SC	
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	None	SC	
foothill yellow-legged frog	<i>Rana boylei</i>	None	None	SC	
great blue heron	<i>Ardea herodias</i>	None	None		
snowy egret	<i>Egretta thula</i>	None	None		
cackling (=Aleutian Canada) goose	<i>Branta hutchinsii</i> <i>leucopareia</i>	Delisted	None		
bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Endangered		
Swainson's hawk	<i>Buteo swainsoni</i>	None	Threatened		
golden eagle	<i>Aquila chrysaetos</i>	None	None	SC	
prairie falcon	<i>Falco mexicanus</i>	None	None	SC	
mountain plover	<i>Charadrius montanus</i>	None	None	SC	

western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Candidate	Endangered	
burrowing owl	<i>Athene cunicularia</i>	None	None	SC
California horned lark	<i>Eremophila alpestris actia</i>	None	None	SC
loggerhead shrike	<i>Lanius ludovicianus</i>	None	None	SC
yellow-breasted chat	<i>Icteria virens</i>	None	None	SC
	<i>Melospiza melodia</i>			
Suisun song sparrow	<i>maxillaris</i>	None	None	SC
tricolored blackbird	<i>Agelaius tricolor</i>	None	None	SC
San Joaquin roach	<i>Lavinia symmetricus ssp. 1</i>	None	None	SC
	<i>Pogonichthys</i>			
Sacramento splittail	<i>macrolepidotus</i>	None	None	SC
	<i>Eumops perotis</i>			
western mastiff bat	<i>californicus</i>	None	None	SC
	<i>Sylvilagus bachmani</i>			
riparian brush rabbit	<i>riparius</i>	Endangered	Endangered	
San Joaquin pocket mouse	<i>Perognathus inornatus inornatus</i>	None	None	
	<i>Dipodomys heermanni</i>			
Merced kangaroo rat	<i>dixonii</i>	None	None	
riparian (=San Joaquin Valley) woodrat	<i>Neotoma fuscipes riparia</i>	Endangered	None	SC
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened	
American badger	<i>Taxidea taxus</i>	None	None	SC
	<i>Emys (=Clemmys)</i>			
western pond turtle	<i>marmorata</i>	None	None	SC
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population)</i>	None	None	SC
	<i>Masticophis flagellum</i>			
San Joaquin whipsnake	<i>ruddockii</i>	None	None	SC
Northern Hardpan Vernal Pool	<i>Northern Hardpan Vernal Pool</i>	None	None	
Coastal and Valley Freshwater Marsh	<i>Coastal and Valley Freshwater Marsh</i>	None	None	
Great Valley Cottonwood Riparian Forest	<i>Great Valley Cottonwood Riparian Forest</i>	None	None	
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	Endangered	None	
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	None	
California linderiella	<i>Linderiella occidentalis</i>	None	None	
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered	None	
valley elderberry	<i>Desmocercus californicus</i>			
longhorn beetle	<i>dimorphus</i>	Threatened	None	
moestan blister beetle	<i>Lytta moesta</i>	None	None	
redheaded sphecid wasp	<i>Eucerceris ruficeps</i>	None	None	
	<i>Calicina breva</i>	None	None	
Diablo Range Pyrg	<i>Pyrgulopsis diablensis</i>	None	None	
Delta button-celery	<i>Eryngium racemosum</i>	None	Endangered	1B.1
Mt. Hamilton lomatium	<i>Lomatium observatorium</i>	None	None	1B.2
big tarplant	<i>Blepharizonia plumosa</i>	None	None	1B.1
Hoover's calycadenia	<i>Calycadenia hooveri</i>	None	None	1B.3
	<i>Cirsium fontinale var.</i>			
Mt. Hamilton thistle	<i>campylon</i>	None	None	1B.2
Mt. Hamilton coreopsis	<i>Coreopsis hamiltonii</i>	None	None	1B.2
showy madia	<i>Madia radiata</i>	None	None	1B.1

Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	Endangered	Endangered	1B.1	
Hoover's cryptantha	<i>Cryptantha hooveri</i>	None	None	1A	
Mariposa cryptantha	<i>Cryptantha mariposae</i>	None	None	1B.3	
hooked popcorn-flower	<i>Plagiobothrys uncinatus</i>	None	None	1B.2	
Lemmon's jewelflower	<i>Caulanthus coulteri</i> var. <i>lemmonii</i>	None	None	1B.2	
chaparral harebell	<i>Campanula exigua</i>	None	None	1B.2	
Sharsmith's harebell	<i>Campanula sharsmithiae</i>	None	None	1B.2	
dwarf downingia	<i>Downingia pusilla</i>	None	None		2.2
legenere	<i>Legenere limosa</i>	None	None	1B.1	
heartscale	<i>Atriplex cordulata</i>	None	None	1B.2	
lesser saltscale	<i>Atriplex minuscula</i>	None	None	1B.1	
vernal pool smallscale	<i>Atriplex persistens</i>	None	None	1B.2	
Hoover's spurge	<i>Chamaesyce hooveri</i>	Threatened	None	1B.2	
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	None	None	1B.2	
red-flowered lotus	<i>Lotus rubriflorus</i>	None	None	1B.1	
round-leaved filaree	<i>California macrophyllum</i>	None	None	1B.1	
Mt. Diablo phacelia	<i>Phacelia phacelioides</i>	None	None	1B.2	
Merced monardella	<i>Monardella leucocephala</i>	None	None	1A	
Napa western flax	<i>Hesperolinon</i> sp. nov. <i>serpentinum</i> ""	None	None	1B.1	
Hall's bush mallow	<i>Malacothamnus hallii</i>	None	None	1B.2	
beaked clarkia	<i>Clarkia rostrata</i>	None	None	1B.3	
diamond-petaled California poppy	<i>Eschscholzia rhombipetala</i>	None	None	1B.1	
Hospital Canyon larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	None	None	1B.2	
succulent owl's-clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Endangered	1B.2	
knotted rush	<i>Juncus nodosus</i>	None	None		2.3
Sharsmith's onion	<i>Allium sharsmithiae</i>	None	None	1B.3	
talus fritillary	<i>Fritillaria falcata</i>	None	None	1B.2	
Colusa grass	<i>Neostapfia colusana</i>	Threatened	Endangered	1B.1	
hairy orcutt grass	<i>Orcuttia pilosa</i>	Endangered	Endangered	1B.1	
San Joaquin Valley orcutt grass	<i>Orcuttia inaequalis</i>	Threatened	Endangered	1B.1	
Greene's tuctoria	<i>Tuctoria greenei</i>	Endangered	Rare	1B.1	

SAN JOAQUIN COUNTY CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES

COMNAME	SCINAME	FEDSTATUS	CALSTATUS	CDFG	CNPPLIST
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	None	SC	
western spadefoot	<i>Spea (=Scaphiopus) hammondii</i>	None	None	SC	
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	None	SC	
foothill yellow-legged frog	<i>Rana boylei</i>	None	None	SC	
great blue heron	<i>Ardea herodias</i>	None	None		
osprey	<i>Pandion haliaetus</i>	None	None	SC	
white-tailed kite	<i>Elanus leucurus</i>	None	None		
northern harrier	<i>Circus cyaneus</i>	None	None	SC	
Swainson's hawk	<i>Buteo swainsoni</i>	None	Threatened		

California black rail	<i>Laterallus jamaicensis coturniculus</i>	None	Threatened	
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Candidate	Endangered	
burrowing owl	<i>Athene cunicularia</i>	None	None	SC
California horned lark	<i>Eremophila alpestris actia</i>	None	None	SC
loggerhead shrike	<i>Lanius ludovicianus Dendroica petechia</i>	None	None	SC
yellow warbler	<i>brewsteri</i>	None	None	SC
yellow-breasted chat	<i>Icteria virens</i>	None	None	SC
tricolored blackbird	<i>Agelaius tricolor Xanthocephalus</i>	None	None	SC
yellow-headed blackbird	<i>xanthocephalus Pogonichthys</i>	None	None	
Sacramento splittail	<i>macrolepidotus</i>	None	None	SC
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	None	None	SC
pallid bat	<i>Antrozous pallidus Eumops perotis</i>	None	None	SC
western mastiff bat	<i>californicus Sylvilagus bachmani</i>	None	None	SC
riparian brush rabbit	<i>riparius</i>	Endangered	Endangered	
San Joaquin pocket mouse	<i>Perognathus inornatus inornatus</i>	None	None	
riparian (=San Joaquin Valley) woodrat	<i>Neotoma fuscipes riparia</i>	Endangered	None	SC
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened	
American badger	<i>Taxidea taxus Emys (=Clemmys)</i>	None	None	SC
western pond turtle	<i>marmorata Emys (=Clemmys)</i>	None	None	SC
northwestern pond turtle	<i>marmorata marmorata</i>	None	None	SC
silvery legless lizard	<i>Anniella pulchra pulchra</i>	None	None	SC
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population) Masticophis flagellum</i>	None	None	SC
San Joaquin whipsnake	<i>ruddocki</i>	None	None	SC
giant garter snake	<i>Thamnophis gigas</i>	Threatened	Threatened	
Northern Hardpan Vernal Pool	<i>Northern Hardpan Vernal Pool</i>	None	None	
Northern Claypan Vernal Pool	<i>Northern Claypan Vernal Pool</i>	None	None	
Coastal and Valley Freshwater Marsh	<i>Coastal and Valley Freshwater Marsh</i>	None	None	
Great Valley Cottonwood Riparian Forest	<i>Great Valley Cottonwood Riparian Forest</i>	None	None	
Great Valley Mixed Riparian Forest	<i>Great Valley Mixed Riparian Forest</i>	None	None	
Great Valley Valley Oak Riparian Forest	<i>Great Valley Valley Oak Riparian Forest</i>	None	None	
Elderberry Savanna	<i>Elderberry Savanna</i>	None	None	
Valley Oak Woodland	<i>Valley Oak Woodland</i>	None	None	
vernal pool fairy shrimp	<i>Branchinecta lynchi Branchinecta</i>	Threatened	None	
midvalley fairy shrimp	<i>mesovallensis</i>	None	None	
California linderiella	<i>Linderiella occidentalis</i>	None	None	
vernal pool tadpole	<i>Lepidurus packardi</i>	Endangered	None	

shrimp					
valley elderberry	<i>Desmocerus californicus</i>				
longhorn beetle	<i>dimorphus</i>	Threatened	None		
Sacramento anthicid beetle	<i>Anthicus sacramento</i>	None	None		
moestan blister beetle	<i>Lytta moesta</i>	None	None		
Ricksecker's water scavenger beetle	<i>Hydrochara rickseckeri</i>	None	None		
	<i>Andrena blennospermatis</i>	None	None		
	<i>Andrena subapasta</i>	None	None		
Delta button-celery	<i>Eryngium racemosum</i>	None	Endangered		1B.1
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	None	Rare		1B.1
Suisun Marsh aster	<i>Aster lentus</i>	None	None		1B.2
big tarplant	<i>Blepharizonia plumosa</i>	None	None		1B.1
slough thistle	<i>Cirsium crassicaule</i>	None	None		1B.1
showy madia	<i>Madia radiata</i>	None	None		1B.1
	<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	None	None		2.1
Wright's trichocoronis large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	Endangered	Endangered		1B.1
	<i>Caulanthus coulteri</i> var. <i>lemmonii</i>	None	None		1B.2
Lemmon's jewelflower caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	None	None		1B.1
dwarf downingia	<i>Downingia pusilla</i>	None	None		2.2
legenere	<i>Legenere limosa</i>	None	None		1B.1
San Joaquin spearscale	<i>Atriplex joaquiniana</i>	None	None		1B.2
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i> <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	None	None		1B.2
Delta tule pea	<i>California macrophyllum</i>	None	None		1B.1
round-leaved filaree	<i>Scutellaria galericulata</i>	None	None		2.2
marsh skullcap	<i>Scutellaria lateriflora</i>	None	None		2.2
blue skullcap	<i>Hibiscus lasiocarpus</i>	None	None		2.2
rose-mallow	<i>Eschscholzia rhombipetala</i>	None	None		1B.1
diamond-petaled California poppy	<i>Delphinium californicum</i>	None	None		1B.2
Hospital Canyon larkspur	ssp. <i>interius</i>	None	None		1B.2
recurved larkspur	<i>Delphinium recurvatum</i>	None	None		1B.2
	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Endangered		1B.2
succulent owl's-clover palmate-bracted bird's-beak	<i>Cordylanthus palmatus</i>	Endangered	Endangered		1B.1
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	None	Endangered		1B.2
Delta mudwort	<i>Limosella subulata</i>	None	None		2.1
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	None	None		1B.2
bristly sedge	<i>Carex comosa</i>	None	None		2.1
fox sedge	<i>Carex vulpinoidea</i>	None	None		2.2
Greene's tuctoria	<i>Tuctoria greenei</i>	Endangered	Rare		1B.1

FRESNO COUNTY CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES

COMNAME	SCINAME	FEDSTATUS	CALSTATUS	CDFG	CNPSTLIST
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	None	SC	

Kings River slender salamander	<i>Batrachoseps regius</i> <i>Hydromantes</i>	None	None	
Mount Lyell salamander	<i>platycephalus</i>	None	None	SC
Yosemite toad	<i>Bufo canorus</i>	Candidate	None	SC
western spadefoot	<i>Spea (=Scaphiopus)</i> <i>hammondii</i>	None	None	SC
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	None	SC
foothill yellow-legged frog	<i>Rana boylei</i>	None	None	SC
mountain yellow-legged frog	<i>Rana muscosa</i>	Endangered	None	SC
white-faced ibis	<i>Plegadis chihi</i>	None	None	SC
osprey	<i>Pandion haliaetus</i>	None	None	SC
bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Endangered	
northern harrier	<i>Circus cyaneus</i>	None	None	SC
Cooper's hawk	<i>Accipiter cooperii</i>	None	None	SC
northern goshawk	<i>Accipiter gentilis</i>	None	None	SC
Swainson's hawk	<i>Buteo swainsoni</i>	None	Threatened	
golden eagle	<i>Aquila chrysaetos</i>	None	None	SC
merlin	<i>Falco columbarius</i>	None	None	SC
prairie falcon	<i>Falco mexicanus</i>	None	None	SC
mountain plover	<i>Charadrius montanus</i>	None	None	SC
western yellow-billed cuckoo	<i>Coccyzus americanus</i> <i>occidentalis</i>	Candidate	Endangered	
burrowing owl	<i>Athene cunicularia</i>	None	None	SC
great gray owl	<i>Strix nebulosa</i>	None	Endangered	
short-eared owl	<i>Asio flammeus</i>	None	None	SC
willow flycatcher	<i>Empidonax traillii</i>	None	Endangered	
California horned lark	<i>Eremophila alpestris actia</i>	None	None	SC
bank swallow	<i>Riparia riparia</i>	None	Threatened	
Le Conte's thrasher	<i>Toxostoma lecontei</i>	None	None	SC
loggerhead shrike	<i>Lanius ludovicianus</i> <i>Dendroica petechia</i> <i>brewsteri</i>	None	None	SC
yellow warbler	<i>Agelaius tricolor</i>	None	None	SC
tricolored blackbird	<i>Xanthocephalus</i> <i>xanthocephalus</i>	None	None	SC
yellow-headed blackbird	<i>Oncorhynchus clarkii</i> <i>henshawi</i>	Threatened	None	
Lahontan cutthroat trout	<i>Oncorhynchus clarkii</i> <i>seleniris</i>	Threatened	None	
Paiute cutthroat trout	<i>Mylopharodon</i> <i>conocephalus</i>	None	None	SC
hardhead	<i>Myotis yumanensis</i>	None	None	
Yuma myotis	<i>Myotis evotis</i>	None	None	
long-eared myotis	<i>Myotis thysanodes</i>	None	None	
fringed myotis	<i>Myotis volans</i>	None	None	
long-legged myotis				
western small-footed myotis	<i>Myotis ciliolabrum</i>	None	None	
spotted bat	<i>Euderma maculatum</i>	None	None	SC
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	None	None	SC
pallid bat	<i>Antrozous pallidus</i>	None	None	SC

western mastiff bat	<i>Eumops perotis californicus</i>	None	None	SC
Nelson's antelope squirrel	<i>Ammospermophilus nelsoni</i>	None	Threatened	
San Joaquin pocket mouse	<i>Perognathus inornatus inornatus</i>	None	None	
giant kangaroo rat	<i>Dipodomys ingens</i>	Endangered	Endangered	
Fresno kangaroo rat	<i>Dipodomys nitratooides exilis</i>	Endangered	Endangered	
short-nosed kangaroo rat	<i>Dipodomys nitratooides brevinasus</i>	None	None	SC
Tulare grasshopper mouse	<i>Onychomys torridus tularensis</i>	None	None	SC
Sierra Nevada red fox	<i>Vulpes vulpes necator</i>	None	Threatened	
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened	
Sierra Marten	<i>Martes americana sierrae</i>	None	None	
Pacific fisher	<i>Martes pennanti (pacifica) DPS</i>	Candidate	None	SC
California wolverine	<i>Gulo gulo</i>	None	Threatened	
American badger	<i>Taxidea taxus</i>	None	None	SC
California bighorn sheep	<i>Ovis canadensis californiana</i>	Endangered	Endangered	
western pond turtle	<i>Emys (=Clemmys) marmorata</i>	None	None	SC
silvery legless lizard	<i>Anniella pulchra pulchra</i>	None	None	SC
blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	Endangered	
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale population)</i>	None	None	SC
San Joaquin whipsnake	<i>Masticophis flagellum ruddocki</i>	None	None	SC
giant garter snake	<i>Thamnophis gigas</i>	Threatened	Threatened	
two-striped garter snake	<i>Thamnophis hammondi</i>	None	None	SC
Central Valley Drainage Hardhead/Squawfish Stream	<i>Central Valley Drainage Hardhead/Squawfish Stream</i>	None	None	
Monvero Residual Dunes	<i>Monvero Residual Dunes</i>	None	None	
Valley Sink Scrub	<i>Valley Sink Scrub</i>	None	None	
Valley Needlegrass Grassland	<i>Valley Needlegrass Grassland</i>	None	None	
Northern Vernal Pool	<i>Northern Vernal Pool</i>	None	None	
Northern Hardpan Vernal Pool	<i>Northern Hardpan Vernal Pool</i>	None	None	
Northern Claypan Vernal Pool	<i>Northern Claypan Vernal Pool</i>	None	None	
Northern Basalt Flow Vernal Pool	<i>Northern Basalt Flow Vernal Pool</i>	None	None	
Coastal and Valley Freshwater Marsh	<i>Coastal and Valley Freshwater Marsh</i>	None	None	
Great Valley Mixed Riparian Forest	<i>Great Valley Mixed Riparian Forest</i>	None	None	
Sycamore Alluvial Woodland	<i>Sycamore Alluvial Woodland</i>	None	None	

Great Valley Mesquite Scrub	<i>Great Valley Mesquite Scrub</i>	None	None	
Big Tree Forest	<i>Big Tree Forest</i>	None	None	
vernal pool fairy shrimp	<i>Branchinecta lynchi</i> <i>Branchinecta</i>	Threatened	None	
midvalley fairy shrimp	<i>mesovallensis</i>	None	None	
California linderiella	<i>Linderiella occidentalis</i>	None	None	
vernal pool tadpole shrimp	<i>Lepidurus packardi</i> <i>Calasellus longus</i>	Endangered None	None None	
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Threatened	None	
San Joaquin dune beetle	<i>Coelus gracilis</i>	None	None	
Hopping's blister beetle	<i>Lytta hoppingi</i>	None	None	
moestan blister beetle	<i>Lytta moesta</i>	None	None	
molestan blister beetle	<i>Lytta molesta</i>	None	None	
Morrison's blister beetle	<i>Lytta morrisoni</i>	None	None	
wooly hydroporus diving beetle	<i>Hydroporus hirsutus</i>	None	None	
Ciervo aegilian scarab beetle	<i>Aegialia concinna</i>	None	None	
Antioch efferian robberfly	<i>Efferia antiochi</i>	None	None	
Hurd's metapogon robberfly	<i>Metapogon hurdi</i>	None	None	
Dry Creek cliff strider bug	<i>Oravelia pege</i>	None	None	
redheaded sphecid wasp	<i>Eucerceris ruficeps</i> <i>Talanites moodyae</i> <i>Calicina dimorphica</i> <i>Calicina macula</i> <i>Calicina mesaensis</i> <i>Calicina piedra</i>	None None None None None None	None None None None None None	
tight coin (=Yates' snail)	<i>Ammonitella yatesi</i>	None	None	
Bolander's bruchia	<i>Bruchia bolanderi</i>	None	None	2.2
Blandow's bog-moss	<i>Helodium blandowii</i>	None	None	2.3
three-ranked hump-moss	<i>Meesia triquetra</i>	None	None	4.2
broad-nerved hump-moss	<i>Meesia uliginosa</i>	None	None	2.2
elongate copper-moss	<i>Mielichhoferia elongata</i>	None	None	2.2
small mousetail-moss	<i>Myurella julacea</i>	None	None	2.3
tundra thread-moss	<i>Pohlia tundrae</i>	None	None	2.3
pale peat-moss	<i>Sphagnum strictum</i>	None	None	2.3
Shevock's copper-moss	<i>Schizymerium shevockii</i>	None	None	1B.2
spiny-sepaled button-celery	<i>Eryngium spinosepalum</i>	None	None	1B.2
Hall's daisy	<i>Erigeron aequifolius</i> <i>Erigeron inornatus var. keilii</i>	None None	None None	1B.3 1B.3
keil's daisy	<i>keilii</i>	None	None	1B.3
Hall's tarplant	<i>Deinandra halliana</i> <i>Heterotheca</i>	None	None	1B.1 1B.3
Monarch golden-aster	<i>monarchensis</i>	None	None	1B.3
short-leaved hulsea	<i>Hulsea brevifolia</i>	None	None	1B.2
rayless layia	<i>Layia discoidea</i>	None	None	1B.1
pale-yellow layia	<i>Layia heterotricha</i>	None	None	1B.1
Munz' tidy-tips	<i>Layia munzii</i>	None	None	1B.2
showy madia	<i>Madia radiata</i>	None	None	1B.1

Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	Endangered	Endangered	1B.1	
San Joaquin adobe sunburst	<i>Pseudobahia peirsonii</i>	Threatened	Endangered	1B.1	
San Joaquin woollythreads	<i>Monolopia congdonii</i>	Endangered	None	1B.2	
Muir's tarplant	<i>Carlquistia muirii</i>	None	None	1B.3	
Sharsmith's stickseed	<i>Hackelia sharsmithii</i>	None	None	1B.3	2.3
Bodie Hills rock cress	<i>Arabis bodiensis</i>	None	None	1B.3	
Lemmon's jewelflower	<i>Caulanthus coulteri</i> var. <i>lemmonii</i>	None	None	1B.2	
subalpine draba	<i>Draba praealta</i>	None	None	1B.3	2.3
Sierra draba	<i>Draba sierrae</i>	None	None	1B.3	
Sweetwater Mountains draba	<i>Draba incrassata</i>	None	None	1B.3	
Panoche pepper-grass	<i>Lepidium jaredii</i> ssp. <i>album</i>	None	None	1B.2	
Tehipite Valley jewel-flower	<i>Streptanthus fenestratus</i>	None	None	1B.3	
alpine jewel-flower	<i>Streptanthus gracilis</i>	None	None	1B.3	
caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	None	None	1B.1	
California jewel-flower	<i>Caulanthus californicus</i>	Endangered	Endangered	1B.1	
dwarf downingia	<i>Downingia pusilla</i>	None	None	1B.2	2.2
heartscale	<i>Atriplex cordulata</i>	None	None	1B.2	
San Joaquin spearscale	<i>Atriplex joaquiniana</i>	None	None	1B.2	
Lost Hills crownscale	<i>Atriplex vallicola</i>	None	None	1B.2	
brittlescale	<i>Atriplex depressa</i>	None	None	1B.2	
lesser saltscale	<i>Atriplex minuscula</i>	None	None	1B.1	
subtle orache	<i>Atriplex subtilis</i>	None	None	1B.2	
oval-leaved viburnum	<i>Viburnum ellipticum</i>	None	None	1B	2.3
Raven's milk-vetch	<i>Astragalus ravenii</i>	None	None	1B	
orange lupine	<i>Lupinus citrinus</i> var. <i>citrinus</i>	None	None	1B.2	
Bolander's clover	<i>Trifolium bolanderi</i>	None	None	1B.2	
round-leaved filaree	<i>California macrophyllum</i>	None	None	1B.1	
aromatic canyon gooseberry	<i>Ribes menziesii</i> var. <i>ixoderme</i>	None	None	1B.2	
tree-anemone	<i>Carpenteria californica</i>	None	Threatened	1B.2	
flat-leaved bladderwort	<i>Utricularia intermedia</i>	None	None	1B.2	2.2
Indian Valley bush mallow	<i>Malacothamnus aboriginum</i>	None	None	1B.2	
Keck's checkerbloom	<i>Sidalcea keckii</i>	Endangered	None	1B.1	
San Benito evening-primrose	<i>Camissonia benitensis</i>	Threatened	None	1B.1	
Mono Hot Springs evening-primrose	<i>Camissonia sierrae</i> ssp. <i>alticola</i>	None	None	1B.2	
subalpine fireweed	<i>Epilobium howellii</i>	None	None	1B.3	
San Benito spineflower	<i>Chorizanthe biloba</i> var. <i>immemora</i>	None	None	1B.2	
Eastwood's buckwheat	<i>Eriogonum eastwoodianum</i>	None	None	1B.3	
Kings River buckwheat	<i>Eriogonum nudum</i> var. <i>regirivum</i>	None	None	1B.2	
Monarch buckwheat	<i>Eriogonum ovalifolium</i> var. <i>monarchense</i>	None	None	1B.3	

Temblor buckwheat	<i>Eriogonum temblorense</i>	None	None	1B.2
Monarch gilia	<i>Gilia yorkii</i>	None	None	1B.2
Madera leptosiphon	<i>Leptosiphon serrulatus</i>	None	None	1B.2
shining navarretia	<i>Navarretia nigelliformis</i> <i>ssp. radians</i>	None	None	1B.2
Congdon's lewisia	<i>Lewisia congdonii</i>	None	Rare	1B.3
Yosemite lewisia	<i>Lewisia disepala</i>	None	None	1B.2
Mariposa pussypaws	<i>Calyptridium pulchellum</i>	Threatened	None	1B.1
recurved larkspur	<i>Delphinium recurvatum</i>	None	None	1B.2
field ivesia	<i>Ivesia campestris</i>	None	None	1B.2
marble rockmat	<i>Petrophyton caespitosum</i> <i>ssp. acuminatum</i>	None	None	1B.3
succulent owl's-clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Endangered	1B.2
hispid bird's-beak	<i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	None	None	1B.1
palmate-bracted bird's-beak	<i>Cordylanthus palmatus</i>	Endangered	Endangered	1B.1
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	None	Endangered	1B.2
slender-stalked monkeyflower	<i>Mimulus gracilipes</i>	None	None	1B.2
Kaweah monkeyflower	<i>Mimulus norrisii</i>	None	None	1B.3
grey-leaved violet	<i>Viola pinetorum</i> ssp. <i>grisea</i>	None	None	1B.3
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	None	None	1B.2
shore sedge	<i>Carex limosa</i>	None	None	2.2
San Benito fritillary	<i>Fritillaria viridea</i>	None	None	1B.2
Scribner's wheat grass	<i>Elymus scribneri</i>	None	None	2.3
American manna grass	<i>Glyceria grandis</i>	None	None	2.3
San Joaquin Valley orcutt grass	<i>Orcuttia inaequalis</i>	Threatened	Endangered	1B.1
Letterman's blue grass	<i>Poa lettermanii</i>	None	None	2.3
prairie wedge grass	<i>Sphenopholis obtusata</i>	None	None	2.2
Greene's tuctoria	<i>Tuctoria greenei</i>	Endangered	Rare	1B.1
Robbins' pondweed	<i>Potamogeton robbinsii</i>	None	None	2.3
western goblin	<i>Botrychium montanum</i>	None	None	2.1
mingan moonwort	<i>Botrychium minganense</i>	None	None	2.2
slender moonwort	<i>Botrychium lineare</i>	Candidate	None	1B.3

KINGS COUNTY CNDDDB AND USFWS COMBINED 2007 LIST OF SPECIAL STATUS SPECIES

SCINAME	COMNAME	FEDSTATUS	CALSTATUS	CDFG	CNP SLIST
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	None	SC	
<i>Spea (=Scaphiopus) hammondii</i>	western spadefoot	None	None	SC	
<i>Plegadis chihi</i>	white-faced ibis	None	None	SC	
<i>Dendrocygna bicolor</i>	fulvous whistling-duck	None	None	SC	
<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened		
<i>Falco mexicanus</i>	prairie falcon	None	None	SC	

<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threatened	None	SC
<i>Athene cunicularia</i>	burrowing owl	None	None	SC
<i>Agelaius tricolor</i>	tricolored blackbird	None	None	SC
<i>Ammospermophilus nelsoni</i>	Nelson's antelope squirrel	None	Threatened	
<i>Perognathus inornatus inornatus</i>	San Joaquin pocket mouse	None	None	
<i>Dipodomys ingens</i>	giant kangaroo rat	Endangered	Endangered	
<i>Dipodomys nitratoides exilis</i>	Fresno kangaroo rat	Endangered	Endangered	
<i>Dipodomys nitratoides nitratoides</i>	Tipton kangaroo rat	Endangered	Endangered	
<i>Dipodomys nitratoides brevinasus</i>	short-nosed kangaroo rat	None	None	SC
<i>Onychomys torridus tularensis</i>	Tulare grasshopper mouse	None	None	SC
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Endangered	Threatened	
<i>Taxidea taxus</i>	American badger	None	None	SC
<i>Emys (=Clemmys) marmorata</i>	western pond turtle	None	None	SC
<i>Gambelia sila</i>	blunt-nosed leopard lizard	Endangered	Endangered	
<i>Masticophis flagellum ruddocki</i>	San Joaquin whipsnake	None	None	SC
<i>Valley Sink Scrub</i>	Valley Sink Scrub	None	None	
<i>Valley Saltbush Scrub</i>	Valley Saltbush Scrub	None	None	
<i>Valley Sacaton Grassland</i>	Valley Sacaton Grassland	None	None	
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None	
<i>Lepidurus packardi</i>	vernal pool tadpole shrimp	Endangered	None	
<i>Cicindela tranquebarica n. ssp.</i>	San Joaquin Tiger Beetle	None	None	
<i>Coelus gracilis</i>	San Joaquin dune beetle	None	None	
<i>Trigonoscuta sp.</i>	Doyen's trigonoscuta dune weevil	None	None	
<i>Cirsium crassicaule</i>	slough thistle	None	None	1B.1
<i>Layia heterotricha</i>	pale-yellow layia	None	None	1B.1
<i>Madia radiata</i>	showy madia	None	None	1B.1
<i>Monolopia congdonii</i>	San Joaquin woollythreads	Endangered	None	1B.2
<i>Caulanthus coulteri var. lemmonii</i>	Lemmon's jewelflower	None	None	1B.2
<i>Caulanthus californicus</i>	California jewel-flower	Endangered	Endangered	1B.1

<i>Twisselmannia californica</i>	Kings gold Lost Hills	None	None	1B.1
<i>Atriplex vallicola</i>	crownscale	None	None	1B.2
<i>Atriplex depressa</i>	brittlescale	None	None	1B.2
<i>Atriplex subtilis</i>	subtle orache	None	None	1B.2
<i>Atriplex erecticaulis</i>	Earlimart orache	None	None	1B.2
<i>California macrophyllum</i>	round-leaved filaree	None	None	1B.1
<i>Delphinium recurvatum</i>	recurved larkspur	None	None	1B.2