

**PROGRAM IMPLEMENTATION**

**COMMITMENTS MADE UNDER THE**

**1991 FRIANT BIOLOGICAL OPINION**

**FOR**

**RENEWAL OF LONG-TERM WATER SERVICE CONTRACTS**

**PROGRESS REPORT**

**DECEMBER, 2000**

**BUREAU OF RECLAMATION**

#1878

## **COURT FINDINGS AND ACTIONS:**

1. May 30, 1995, Judge Lawrence K. Karlton found a procedural violation of ESA by BOR in executing the contracts.
2. February 27, 1995, Service issued a biological opinion (Service File Number 1-1-95-F-39) on the interim Water Contract Renewals (Interim Renewals Opinion - for districts other than Friant)
3. On January 16, 1997, the Federal District Court for the Eastern District of California found the 14 Friant contracts to be invalid. The court stayed its order voiding the contracts until a ruling could be made by an appeal.
4. January 20, 1998 Service and BOR re-initiated formal consultation to the Supplemental Interim Renewal of Central Valley Project Water Contracts to include the 14 Friant Water Contracts, as amended January 20, 1998.
5. February 27, 1998, Service issued an amendment to the 1995 Interim Renewals Opinion (Service File Number 1-1-98-I-595) to include interim contract renewals for the 14 Friant water districts bringing the total number of districts covered under the Opinion to 68.
6. The amendment adopts the reasonable and prudent measures of the Friant Opinion.

## **Background of 1991 Action:**

On May 22, 1991, the Bureau of Reclamation (Reclamation) requested a formal consultation on with the Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended, as part of renewal of 28 long-term water service contracts for the Friant Division.

Reclamation committed to the development and implementation of short and long-term programs to compensate and avoid adverse effects on listed species within the 28 Contractor's service area in the Friant Division as well as other areas within the San Joaquin Valley that may be affected by Reclamation activities, and to have a role in the recovery of listed species in the San Joaquin Valley. Also, Reclamation committed to initiating consultation on other aspects of the CVP so that the interrelated and interdependent impacts, and cumulative effects on species outside the San Joaquin Valley could be fully addressed. With that in mind, the Service issued its Biological Opinion on October 15, 1991 (Service File Number 1-1-91-F-

22), and Amendment to the Biological Opinion on May 14, 1992 (Service File Number -----). In their Opinion, the Service stated that the renewal of the 28 long-term water service contracts would not likely jeopardize the continued existence of fifteen threatened and endangered species found within the Friant Division service area. This program also committed the Service to participate by providing technical assistance and developing revised recovery plans for the San Joaquin Valley species needed for the timely resolution of listed species concerns. To accomplish the goals of providing technical assistance and writing revised recovery plans, Service established an Endangered Species Recovery Program (ESRP) with funding to be provided by Reclamation. The core team to cooperatively address implementation of the Friant Biological Opinion (Friant BO) consisted of a member from Reclamation, Service and ESRP. Other individuals were consulted by the team on an as-needed basis, including species experts, other technical experts and agency representatives.

### **Species to be Addressed:**

#### Reptiles

blunt-nosed leopard lizard, *Gambelia sila* (E)

#### Birds

bald eagle, *Haliaeetus leucocephalus* (E)

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

least Bell's vireo, *Vireo bellii pusillus* (E)

#### Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Tipton kangaroo rat, *Dipodomys nitratooides nitratooides* (E)

Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

giant kangaroo rat, *Dipodomys ingens* (E)

#### Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

#### Plants

Hoover's wooly-star, *Eriastrum hooveri* (T)

Bakersfield cactus, *Opuntia basilaris* var. *treleasei* (E)  
California jewelflower, *Caulanthus californicus* (E)  
Kern mallow, *Eremalche kernensis* (E)  
palmate-bracted bird's beak, *Cordylanthus palmatus* (E)  
San Joaquin Woolly-Threads (*Lembertia congdonii*)

### **Reclamation's Commitments:**

The primary focus is the development and implementation of a long-term program that will identify a comprehensive approach to recovery of listed species with a Federal nexus to Reclamation throughout the San Joaquin Valley. The program is being developed and implemented by Service, Reclamation, ESRP and other Federal, state, and local agencies whose activities have or are affecting listed species. State, Federal, and private actions that adversely affect listed species can be mitigated by contributing to the long-term comprehensive program.

Because development of a long-term program would take several years to fully implement, Reclamation implemented a short-term program to protect listed species within the Friant service area. This short-term program was intended to be in effect until components of the long-term conservation program could be developed and implemented. The short-term program had the following components:

1. Reclamation immediately issued notices to all Friant contractors regarding the imperative of protecting all remaining habitat of listed species in the Friant Service area.
2. Reclamation, with assistance from ESRP, initiated a comprehensive biological survey of Reclamation and private lands (with signed permission from landowners) in the Friant service area to ascertain the distribution of all remaining habitat of listed species, and upon full implementation will notify all contractors of the location of wild lands suitable for listed wildlife species.
3. Reclamation, in coordination with Service and ESRP, provided funds to develop and implement a critical needs plan to identify and secure those habitats requiring immediate protection throughout the Friant service area and also the remainder of the San Joaquin Valley that are vulnerable to agricultural conversion. This information was incorporated into the *Recovery*

*Plan for Upland Species of the San Joaquin Valley, California* which was developed by Service with significant contributions by ESRP and Reclamation. The Recovery Plan was finalized by the Service on September 9, 1998.

4. Reclamation implemented a plan to prevent take associated with operations and maintenance of Friant Division facilities, and pest control activities by farmers receiving Federal water.
5. Reclamation has consulted with the Service on (a) any requested inclusions or exclusions from the Friant service area, (b) any water contracts involving Friant facilities other than the 28 long-term contracts subject to review in this biological opinion, and (c) any deliveries of water using Friant facilities beyond that addressed in this biological opinion.
6. Reclamation is implementing a long-term plan to prevent/minimize take and contribute to the survival of listed species throughout the San Joaquin Valley.

## **IMPLEMENTATION OF COMMITMENTS**

### **Notification of Landowners of Their Responsibilities Under the Endangered Species Act:**

On November 15, 1991 a letter was sent to contractors regarding the imperative of protecting all remaining habitat of listed species in the Friant Service area.

### **Aerial Photography and Analysis:**

Service and Reclamation agreed to analyze aerial photographs to identify potential habitat within the Friant Division and within the San Joaquin Valley. Service was concerned that when the letter was sent to contractors on November 15, habitat might be destroyed prior to completion of the aerial photo analysis using new photos. Service therefore also wanted Reclamation to determine how much habitat was lost between the time the letter went out November 15 and acquisition of current aerial photographs. It was thought at the time that Landsat photos taken in January 1991 provided a good coverage of the area needed for comparison with the new photographs.

Because coverage was not complete for the January 1991 originally selected, Reclamation had to get complete coverage prior to the date originally selected by Reclamation and Service. The closest complete coverage of the project area was a set of photographs taken in April of 1990. To document up-to-date land use, Reclamation contracted to fly the San Joaquin Valley for the purpose of taking photographs at a scale of 1:24,000. These photographs became available October 12, 1992. Denver completed aerial photo analysis of the new photographs taken in October 1992 by March of 1993, and subsequently compared the April 1990 photographs with the October 1992 photographs. Photographs were analyzed to determine existing potential habitat for endangered species. Reclamation concentrated efforts in the Friant Division and in lands within the San Joaquin Valley that had been historically occupied by critically endangered species.

Aerial photo analysis showed that (perhaps partly due to the continuing drought) more land was being fallowed than was being converted from potential habitat to agricultural production. A total loss of approximately 500 acres within the Friant Division was determined to be the result of agricultural conversion. The number of acres of habitat converted was to be mitigated by Reclamation through coordinated efforts with Service.

### **Biological Surveys for Endangered and Threatened Species on Private Property:**

Following completion of the analysis of aerial photographs, Reclamation identified landowners of potential habitat both within the Friant Division and in the San Joaquin Valley. In 1993, letters requesting access to private properties for the purpose of conducting biological surveys on potential habitat were sent to land owners both within and outside the Friant Service area. This effort created considerable controversy and became a news item on network television and in national magazines. An article appeared on the front page of the Los Angeles Times. The subject was then picked up by networks and discussed on programs such as the McNeil-Lehrer Report. The program manager, Rosalie Faubion, was interviewed for an article that appeared in the Christian Science Monitor. The issue was discussed on television programs throughout the San Joaquin Valley, particularly those emphasizing agriculture. Local papers also printed a variety of articles, mostly against the idea of the surveys (see attached). Public workshops

were held in Madera, Visalia, and Bakersfield, California with team members from Reclamation, Service, and ESRP present to discuss the surveys and provide information on the species to be addressed by the effort.

Despite the level of controversy, access was granted to conduct biological surveys on approximately thirty-five thousand acres of land. Access was provided by the landowner signing and returning a form to Reclamation giving permission to enter onto their property to survey for threatened or endangered plants and/or animals. If the form was not signed and returned, no surveys were conducted on that property. Only about 75% (26,355 acres) of the approximately thirty-five thousand acres of land was actually habitat (the Friant Division Service Area is about one million acres). In many cases the habitat area indicated on the 7.5' USGS quadrangle maps used to identify land owners was contained within a much larger parcel. This was particularly true in the case of riparian strips, and the original database included the total area for the parcels, not just the area that was requested. In other instances the parcel requested was not within the indicated habitat area, but adjacent to it and apparently included in the database by mistake. Categories included "Riparian" (narrow strips of habitat bordering various rivers and streams), "Fallow" (fields that showed clear signs of plow furrows), and "Ag Fields" (parcels, or portions of parcels, that were under cultivation on the aerial photos and were apparently added to the database by mistake). Drive by surveys were conducted in mid-December, 1993 and subsequently arrangements were made with the owners to survey individual parcels.

### **Results of Wildlife Surveys:**

Most of the properties surveyed held no listed species of animals or plants, although several areas did have suitable habitat. Many of the parcels surveyed were found to be too densely vegetated to allow colonization by any listed species, either plants or animals. Although many canid dens were found, they were all either inactive or appeared to be coyote dens.

The listed species that were located are listed below, although to respect the rights of private property owners, their names are not included, nor is the specific location.

*Dipodomys nitratoides* (Tipton kangaroo rat) — found on 3 properties  
*Gambelia sila* (blunt-nosed leopard lizard) — found on 1 property  
*Branchinecta lynchi* (vernal pool fairy shrimp) — found on 2 properties  
*Pseudobahia peirsonii* (adobe golden sunburst) — found on 1 property  
*Opuntia basilaris* var. *Treleasei* (Bakersfield cactus) — found on 1 property  
*Cordylanthus palmatus* (palmate-bracted bird's beak) — found on 1 property

Over 10,000 acres of land around Los Banos, in Merced County appeared to have good potential upland habitat on the aerial photos, but a drive-by survey conducted in mid-December, 1993 showed all of the parcels to be flooded for duck ponds.

### **Biological Surveys on Reclamation Lands:**

Subsequent Reclamation efforts have focused on Reclamation lands in the Friant Division and in other water service areas. There have also been significant cost-shared efforts with other entities to survey other publicly owned lands.

Reclamation is compiling a report of the areas surveyed. Additional information on surveys are provided under *Notable Accomplishments* below.

### **Operations and Maintenance Plan to Prevent Take of Threatened and Endangered Species:**

Reclamation implemented a short-term plan to prevent take associated with operations and maintenance (o&m) of the Friant Division, and, in cooperation with the water authorities, is continuing to revise the o&m documents that constitute the O&M Plan. The documents consist of an *Operations and Maintenance Plan: Field Manual*, and an *Operations and Maintenance Plan: Endangered, Threatened and Sensitive Species*, intended for use in the field by Reclamation or contract staff as a guide to be used as a reference when conducting or planning operations and maintenance activities. Additionally, an *Operations and Maintenance Plan: Overview*, is intended to be used by managers and planners. The original O&M Plan documents were developed jointly by Reclamation, Service and State of California Department of Fish and Game (CDFG). The Reclamation team included an O&M supervisor who provided crucial information and also reviewed the document.



### **Integrated Pest Management Plan:**

Friant Water User's Authority (FWUA) is developing an Integrated Pest Management Plan (IPM Plan) that will be used with the O&M Plan (A Draft of the IPM Plan is presently under review). A booklet containing information about sensitive, threatened and endangered that could occur in the San Joaquin Valley, including photographs, has been created to be used in training for staff and as a reference.

### **Cooperative Efforts with Department of Pesticide Regulation:**

The South Central California Area Office (SCCAO) began working with the State of California Department of Pesticide Regulation (CDPR) in 1993 following implementation of the Friant B.O. By 1995, CDPR had developed a number of slide presentations for use in pesticide applicator training. SCCAO provided some slides to them which are being used as part of the slide presentations and are also in the set of informational cards produced by CDPR and intended for field use.

Rosalie Faubion was asked to review some of the cards and other ESA information which is now available. Training by CDPR includes not only providing the pocket size cards but endangered species presentations by a biologist (CDPR or CDFG biologist usually). There is also a website for CDPR which has extensive threatened and endangered species information available to download and print for individual use by grower. For those without computers, the same information is now available through the county agricultural commissioner's offices. The SCCAO is still actively working with CDPR and will be cooperating in the printing of additional cards and also in the development of new ESA information during FY 2000 and beyond.

### **Critical Needs Plan:**

The May 14, 1992 amendment to the Biological Opinion states: "The Service shall develop and Reclamation shall implement (initiate acquisition of listed species habitat) a critical needs plan within 11 months of issuance of this biological opinion to identify and secure those habitats requiring immediate protection throughout the Friant service area. In addition, the Service shall develop and Reclamation shall implement (initiate acquisition of listed species habitat) a critical needs plan within

19 months of issuance of this biological opinion to identify and secure habitats needing immediate protection throughout the remainder of the San Joaquin Valley that are vulnerable to agricultural conversion. These high priority lands shall be protected in descending order of the priority by degree of threat (as defined by the Service) for listed wildlife species as follows: Fresno kangaroo rat, Tipton kangaroo rat, and giant kangaroo rat.

Draft critical needs plans were developed for both the Friant service area and the remainder of the San Joaquin Valley by Service and ESRP. At the time of the writing of the Friant B.O. the phrase “*initiate acquisition of listed species habitat*” would be easily accomplished by purchasing land adjacent to the Alkali Sink Ecological Preserve, which is designated critical habitat for the Fresno kangaroo rat. The intent was to enlarge the preserve and increase the existing population of Fresno kangaroo rats. However, as part of the biological surveys for threatened and endangered species, it was discovered that Fresno kangaroo rats on the Alkali Sink Ecological Preserve had effectively disappeared. Only one Fresno kangaroo rat was trapped on the Preserve despite successive years of intensive trapping. With the knowledge that there were no Fresno kangaroo rats on the Alkali Sink Ecological Preserve, the need for Reclamation to protect habitat adjacent to the preserve disappeared. Reclamation and Service instead decided that if subsequent surveys on other lands showed the presence of Fresno kangaroo rats, Reclamation and Service could attempt to protect that habitat. As yet, no populations of the Fresno kangaroo rat have been found. It is possible that it has become extinct. Information from both critical needs plans was incorporated into the *Recovery Plan for Upland Species of the San Joaquin Valley, California* in September 9, 1998 following several years of gathering existing and new data by ESRP.

### **Development of a Recovery Plan:**

The Biological Opinion further states: “As part of this program the Service, working with Reclamation, will proceed with development and implementation of an integrated regional recovery plan for the eleven San Joaquin species in imminent danger of extinction”.

### **Non-discretionary Consultations under Section 7:**

Reclamation has consulted with the Service on (a) any requested inclusions or exclusions from the Friant service area, (b) any water contracts involving Friant facilities other than the 28 long-term contracts subject to review in this biological opinion, and (c) any deliveries of water using Friant facilities beyond that addressed in this biological opinion. To avoid the need to repeatedly consult on each action Reclamation and Service are working to develop guidelines and/or seek approval for the same action over a multi-year time period.

### **Long-term Conservation Plan:**

Reclamation is implementing a long-term plan to prevent/minimize take and contribute to the survival of listed species throughout the San Joaquin Valley. Reclamation and the Service are providing an ecosystem-based approach to the recovery of listed species in the San Joaquin Valley. The program is one which allows other agencies to contribute efforts or funds to mitigate adverse effects of projects or programs on listed species in the San Joaquin Valley. Reclamation is implementing, as a component of a broader program, items identified in the recovery plan that are Reclamation's responsibility.

Geographic Information Systems (GIS) maps showing such features as: land use, potential habitat, and present species locations is being created by Reclamation. Some information is incomplete and it is anticipated that it may take several more years to complete the GIS maps. This information is being shared with responsible entities who have joined Reclamation and the Service's cooperative effort toward preserving endangered species in the San Joaquin Valley.

These and other aspects of the program should allow more wise future land management decisions to be made for mitigation purposes.

### **Potential Value of Reclamation Lands to Threatened and Endangered Species**

### **STATUS:**

BOR completed many of the commitments and has significantly contributed to the protection and recovery of a number of T&E species (see attached *Friant Biological Opinion Implementation Schedule* for tasks, completion dates and status information). Cost sharing and cooperation with other agencies has been significant. In a letter to Reclamation dated February 27, 1998 Service stated that the ongoing efforts by BOR continues to be satisfactory.

It should be noted that the terms and conditions to avoid jeopardy were somewhat different for the Friant B.O. than for the Biological Opinion for Interim Renewal of Water Service Contracts (1995) (Interim BO). Delta and Cross Valley Canal water users had most of the San Joaquin Valley species that were referred to in the Friant B.O. Reclamation therefore committed to not only implementing the Interim B.O. for the interim water districts, but also included some of the short and long-term measures that were in the Friant B.O., where applicable. This provided for consistency and addressed issues that were not limited to the Friant Division. A specific example is the evaluation of Reclamation lands to develop a wildlife corridor. Animals such as the San Joaquin kit fox need to travel from one area of habitat to another to assure that populations will not become isolated and subject to genetic problems. This issue is specifically mentioned in the Friant B.O. Reclamation is evaluating its rights-of-way not only in Friant Division but also in the San Luis and Delta areas within the San Joaquin Valley to determine if the lands can be used as a wildlife corridor without causing problems with operations and maintenance of the facilities and if there is a value or need in a particular area to use the right-of-way as a corridor. Prior to implementation of any measures we coordinate with Service, CDFG, and the water authorities to be sure all are in agreement and that no unforeseen problems will occur.

## **NOTABLE ACCOMPLISHMENTS:**

### **Recovery Plan for Upland Species of the San Joaquin Valley, California**

- The Recovery Plan Draft was written by ESRP with funding from Reclamation . The draft document was provided to FWS and with editing became their document for official release. Many of the species with which Reclamation has to deal had little or incomplete information available about them. ESRP, through surveys and specific research and monitoring studies,

were able to provide valuable information in the Recovery Plan that will be crucial to ongoing efforts by everyone living or doing business in the San Joaquin Valley. Service has indicated that the multi-species recovery plan is being used as a model by others who are writing recovery plans (Pers. Communication, Cay Goude, USFWS).

### **Biological Surveys Leading to Land Protection**

- Keck's checkerbloom (*Sidalcea keckii*): A commitment to survey Reclamation owned and withdrawn lands led to the discovery in 1998 of a rare plant, Keck's checkerbloom. Only known from 2 locations in the world and thought to be extinct for 65 years it was rediscovered near Porterville on private land. Reclamation was not involved in the discovery near Porterville but because land withheld to Reclamation was in the vicinity of the second population, it was decided to conduct biological surveys of the land following a multi-year drought. The second population was rediscovered during the year of el nino rainfall. The Sierra Foothill Conservancy, using CVP Conservation Program funding has secured additional lands and is seeking additional funds to create a preserve of reasonable size to assure protection for the plant. Land was protected by a combination of acquisition and conservation easement.
- Palmate-bracted bird's beak (*Cordylanthus palmatus*) The second largest population of palmate-bracted birds' beak (endangered plant) in the San Joaquin Valley was discovered during biological surveys on private land with the landowner's written permission. Efforts to protect the site are now being explored by land conservation organizations and the landowner.

### **Wildlife Corridors**

- San Joaquin Kit Fox (*Vulpes macrotis mutica*): Reclamation canals may act as a linear barrier in the passage of wildlife, but the rights-of-way can also be used as a pathway through urban and agricultural lands. Reclamation has committed to assess the feasibility of enhancing the passage of wildlife where possible and where it will not interfere with facility operations. ESRP has acquired valuable biological data on the use of rights-of-way and agricultural

lands by San Joaquin kit foxes and their interaction with red foxes. Reclamation and the water authorities are installing escape dens to facilitate passage of kit foxes by providing a safe refuge from predators. We are partnering with Caltrans, DWR, CDFG, and Service. Projects are being evaluated on the Friant-Kern Canal, on Reclamation's right-of-way in the city of Bakersfield, and in the Santa Nella area.

### **Address Potential Effects to T&E Species From O&M Activities and Pesticide Use**

- Avoidance measures were developed and are being implemented on Reclamation lands to avoid harm to T&E species. The education of applicators and advisors about the dangers of pesticide use on T&E species was not being adequately provided. Reclamation partnered with CDPR to provide education to applicators and advisors, including the creation of an educational packet on threatened and endangered species. Education and/or training has to be acquired prior to re-certification of applicators and advisors. That training now includes information specifically on the avoidance of threatened and endangered species.

### **Partnering/Cost Sharing to Lower Costs and Maximize Effort**

- Madera Equalizing Reservoir: Partnering with Caltrans on a vernal pool project resulted in learning new methods to enhance vernal pools with an added benefit that we were able to fence and protect the Madera Equalizing Reservoir to better manage the riparian vegetation and wildlife. It is a documented foraging area for bald eagles and has a population of two species of endangered orcutt grass . Caltrans provided funding for the project, including a land survey of the property. The fencing project was paid for from still another funding source, and Fresno State partnered to provide a survey of riparian vegetation at no cost to Reclamation. A small Reclamation grant to Fresno State to purchase supplies and materials led to still more habitat improvement to the equalizing reservoir. CDFG has tracked radio collared bald eagles to the Madera Equalizing reservoir from larger area reservoirs during noisy weekends (no cost to Reclamation). California State University, Fresno (CSUF) is interested in using the area as an outdoor

habitat study area. Less than \$10,000 of Reclamation SCCAO O&M funds have been spent on a project whose total costs are several hundred thousand dollars, counting the land survey. The water district has stated that no adverse impacts to O&M operations has occurred. The knowledge gained benefits wildlife management agencies, the wildlife itself, and has saved funding by avoiding duplication of effort by individual agencies.

### **Critical Needs Species**

- Reclamation anticipated the most critically endangered species in the valley would be the Fresno kangaroo rat, *Dipodomys nitratooides nitratooides* whose habitat was largely destroyed through agricultural development. Surveys so far have not shown any populations to still be in existence. Surveys are continuing and Reclamation will assist in their recovery if any are found.
- The most critically endangered species other than the Fresno kangaroo rat is the riparian brush rabbit, *Sylvilagus bachmani riparius*. Its habitat was along the major rivers including the San Joaquin. It was most recently known from only one population at Caswell Memorial State Park. We are partnering with the State Park, the Folsom BOR office, and the CVPCP to address the protection of the brush rabbit at Caswell. We are also conducting additional surveys to try to locate additional populations and are partnering with the Corps of Engineers to survey Corps fee title lands and flood easements along the Stanislaus River and at other locations.
- Biological surveys have led to the discovery of a second population of the riparian brush rabbit. A large multi-agency effort to initiate captive breeding for the brush rabbit is underway. The Service and State of California Fish and Game are leads, since it is both a Federal and State listed species. Reclamation will be an active participant in the process.

Future efforts of SCCAO includes funding the printing of sets of cards to provide information to water users and the authorities operating our facilities. This office is also providing a copy of this office's endangered species manual and DPR and BOR will subsequently cooperate on the development of new cards.

**Biological Opinion  
on U.S. Bureau of Reclamation  
Long Term Contract Renew of  
Friant Division and Cross Valley Unit Contracts**

Contract Items to be Handled Under Separate ESA Determinations

To reach a no jeopardy conclusion for this opinion the following actions, included in the long-term renewal contracts, are not covered by this opinion. These actions, as listed below, and any other action not described in the Project Description of this biological opinion, will require separate determinations regarding their potential effects on threatened and endangered species and critical habitat pursuant to section 7 and/or section 10 of the ESA.

- Operation and Maintenance on Federal and District lands used to convey CVP water and implementation of the agreements to transfer the operations, maintenance, and replacement and certain financial and administrative activities related to various Reclamation facilities and associated works (self funding agreement).
- Operation and Maintenance Plans

**2000 Biological Opinion on the Implementation of the CVPIA and Continued Operation and Maintenance of the CVP**

This biological opinion addressed both operations and maintenance of the CVP and implementation of the CVPIA of 1992. The description of the Proposed Action was developed collaboratively by Reclamation and the Service and included, in part, a description of the proposed actions found in the Final PEIS for the CVPIA.

Commitments to uphold the ESA by both agencies, combined with implementation of these programs and meeting the assumptions of the effects analysis have contributed to a conclusion of no jeopardy in this biological opinion. This no-jeopardy conclusion at the programmatic scale is not intended to, and does not, preclude the Service from making a future jeopardy determination based on the effects analysis for a site specific action. However, the (1) collection of data and monitoring, (2) communication, cooperation, and outreach, (3) conservation, restoration, compensation, and commitments to work together to recover listed species, and (4) site specific consultation all diminish the likelihood of future jeopardy opinions tiered under this programmatic biological opinion.

**COMMITMENTS FOR NEW AND CONTINUING ACTIONS**

Reclamation and the Service have committed to numerous actions and processes in previous CVP water-related consultations that are associated with the renewal of CVP water contracts for the Friant Division and Cross Valley Unit. In addition, the Applicants (Friant Division and Cross Valley Unit) have committed to activities associated with long-term renewal of their CVP water contracts and are thus identified below. Those conservation actions that have been fully implemented are considered a part of the Environmental Baseline condition in Chapter 3 and will be used to complete this biological opinion. Conservation actions that are ongoing or continuing,



and any new commitments as a result of this consultation process, are included in this Project Description. It is assumed that the commitments described in this Project Description will be fully implemented.

In the Friant opinion of 1991, each subsequent Interim water contract renewal opinion (1995, 1998, and 2000) and the Programmatic CVPIA opinion of 2000, Reclamation provided numerous conservation measures in their Project Description and agreed to certain Reasonable and Prudent Measures (RPM) as summarized on Table 1.8. These measures resulted in the development and implementation of long-term and short-term conservation programs to minimize the adverse effects of continued water delivery to Interim contract renewal water districts.

Reclamation implemented the short-term program to protect listed species within the Friant and Interim contractor service areas because it was determined development of the long-term program would take several years to complete. This short-term program was intended to be in effect until components of the long-term conservation program could be developed and implemented.

Reclamation cooperated with the Service, , in developing and implementing the long-term program to address the needs of listed species in the San Joaquin Valley. Reclamation and the Service identified a comprehensive approach to the recovery of all listed species throughout the San Joaquin Valley, including other Federal, State and local agencies willing to participate in its development.

Within the measures identified in the short-term and long-term programs, Reclamation committed to a process that will identify a comprehensive approach to recover listed species, with a Federal nexus to Reclamation, throughout the San Joaquin Valley. State, Federal, and private actions that adversely affect listed species can be mitigated by contributing to the long-term comprehensive program.

In the November 2000 programmatic opinion on *Implementation of the CVPIA and Continued Operation and Maintenance of the CVP*, November 21, 2000 (Service File No. 1-1-98-F-0124),

**TABLE 1.8 Summary of Reclamation, Service, and Applicant New and Continuing Commitments Associated with Renewal of Friant Division and Cross Valley Unit CVP Water Contracts (1991 through 2001).** (Commitments include mitigation/conservation measures, Reasonable and Prudent Measures, and Terms and Conditions from prior related consultations)

|   |   | Opinions |                                                                                                                                                                                                               |
|---|---|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | 1 | x        | 1. Develop a Critical Needs Plan identifying lands requiring immediate protection.                                                                                                                            |
| 0 | 9 | x        | 2. Assist the Service to develop and implement a Comprehensive Recovery Plan for all listed endangered species in the San Joaquin Valley                                                                      |
| 0 | 9 |          | 3. Develop a cooperative agreement to include all entities whose activities affect listed species in the San Joaquin Valley.                                                                                  |
| 0 | 8 | x        | 4. Issue notice of ESA requirements to CVP water contractors                                                                                                                                                  |
| 0 | 5 | x        | 5. Identify and map endangered species habitat in CVP contractor service areas and provide to contractors                                                                                                     |
|   |   | x        | 6. Monitor land use change and ongoing activities within Districts receiving CVP water.                                                                                                                       |
|   |   | x        | 7. Landowners obtain Service/Reclamation approval prior to taking actions on endangered species habitat with no Federal involvement.                                                                          |
|   |   | x        | 8. Ensure section 7 consultation on future actions impacting endangered species where there is Federal involvement.                                                                                           |
|   |   | x        | 9. Develop a plan to compensate losses of endangered species habitat since 1991 for Friant and 1995 for Cross Valley.                                                                                         |
|   |   | x        | 10. Develop and Implement Conservation Plans                                                                                                                                                                  |
|   |   | x        | 11. Review and amend Water Conservation Plans to ensure consistency with ESA                                                                                                                                  |
|   |   | x        | 12. Develop a long-term program to address overall effects of the CVP and implementation of the CVPIA.                                                                                                        |
|   |   | x        | 13. Complete and implement an Operations and Maintenance for activities associated with CVP water delivery and use.                                                                                           |
|   |   | x        | 14. Work with the California Department of Pesticide Regulation.                                                                                                                                              |
|   |   | x        | 15. Identify sources of selenium in wetland water supplies and assess selenium effects on aquatic species from agricultural drainage discharged into the San Joaquin River and Delta.                         |
|   |   | x        | 16. Identify, analyze and compensate for past effects of contract service area boundaries changes, including inclusions and exclusions, since 1991 for Friant and 1995 for Interim contractors.               |
|   |   | x        | 17. Identify and analyze impacts of changes in purpose of use since 1991 for Friant and 1995 for Interim contractors                                                                                          |
|   |   | x        | 18. Identify and analyze impacts of all water assignments executed since 1991 for Friant and 1995 for Interim contractors, and coordination on future assignments to ensure ESA compliance.                   |
|   |   | x        | 19. Reclamation will apply applicable criteria to all water transfers.                                                                                                                                        |
|   |   | x        | 20. Develop and implement a Contingency Plan/Adaptive Management Program for implementing compensation commitments associated with losses of listed species habitat as a result of the delivery of CVP water. |
|   |   |          | 21. Other conservation measures (New)                                                                                                                                                                         |
|   |   | x        | 22. Curtail deliveries associated with discovery of conversion of native lands without consideration of ESA                                                                                                   |

|          |  |   |  |   |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
|----------|--|---|--|---|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 2        |  | 1 |  | 1 |  | <p><b>TABLE 1.8 Summary of Reclamation, Service, and Applicant New and Continuing Commitments Associated with Renewal of Friant Division and Cross Valley Unit CVP Water Contracts (1991 through 2001).</b> (Commitments include mitigation/conservation measures, Reasonable and Prudent Measures, and Terms and Conditions from prior related consultations)</p> |  |
| 0        |  | 9 |  | 9 |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0        |  | 9 |  | 9 |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0        |  | 8 |  | 5 |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
| 0        |  | 8 |  | 1 |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
| Opinions |  |   |  |   |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
|          |  |   |  | x |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
|          |  |   |  |   |  |                                                                                                                                                                                                                                                                                                                                                                    |  |
|          |  |   |  | x |  |                                                                                                                                                                                                                                                                                                                                                                    |  |

23. Reclamation will amend all long-term contracts to include penalty provisions prohibiting any unauthorized take, conversion of wildland habitat, etc., and provides that Reclamation shall terminate delivery of water to the Contractor until such time as the issue is resolved.

24. Reclamation shall consult with the Service on any deliveries of water using Friant facilities beyond that addressed in this biological opinion.

**7. Landowners obtain Service/Reclamation approval prior to taking actions on endangered species habitat with no Federal involvement.**

- a. *The Service and Reclamation will notify the Contractors of the procedures to be followed if their actions will have impacts on endangered species habitat lands in cases where there is no Project water involved. [1991 Friant Opinion - 2(d)]*
- b. *Reclamation, working with the Service, will develop and distribute to the Districts and landowners guidance on construction and maintenance activities that are most beneficial to listed, proposed, and candidate species. Complete within 1 year of contract renewal. Reclamation will commit to completing site-specific operations and management plans and distributing them to District's within 1 year of this opinion. [1995 and 2000 Interim Opinions - 2(b)]*

Status: Reclamation did provide notice to Friant and Interim contractors regarding their responsibilities associated with the ESA (identified in 4 above) and has written 3 CVP-wide documents that constitute an O&M Plan:

- Operation and Management Plan: an Overview;
- Operations and Management Plan: Field Manual;
- Operations and Maintenance Plan: Sensitive, Threatened, and Endangered Species.

This "plan" will cover associated Operations and Maintenance activities on landowners, district, and Reclamation lands. Each Area Office is developing site specific operations and management plans and these plans will be made available to water contractors and managing partners.

Continuing Commitments: Implementation of this measure is progressing, but is behind the schedule as provided within the Interim contract renewal opinion, (b) above. Reclamation will commit to completing site-specific operations and management plans **within 1 year of this opinion**. In addition, manuals will be distributed to Districts and managing partners **within 1 year of this opinion**. Additionally, Reclamation continues to work with water districts for the completion and implementation of agreements to transfer the operations, maintenance, and replacement and certain financial and administrative activities related

to various Reclamation facilities and associated works (self funding agreement).

**13. Complete and implement an Operation and Maintenance Plan(s) for activities associated with CVP water the delivery and use.**

- a. *Reclamation, working with the Service, will develop and distribute to the Districts and landowners guidance on construction and maintenance activities that are most beneficial to listed, proposed, and candidate species. Complete within 1 year of contract renewal. [1991 Friant Opinion Reasonable and Prudent Measure/Term and Condition - (4), and 1995 and 2000 Interim Opinions - 2(b)]*

Status: Implementation of this measure is progressing, but is behind from the dated timeline of the 2000 Interim opinion. Reclamation, working with the FWS, completed operation and maintenance (O&M) manuals providing guidance on how daily activities can best be conducted with minimal impacts on sensitive species. The entire Operations and Maintenance Plan consists of four documents; this document, the *Operations and Maintenance Plan: Overview*, is intended for use in Management and Planning. The other documents *Operations and Management Plan: Field Manual*, *Operations and Management Plan: Site Specific Information and Procedures*; and *Operations and Maintenance Plan: Sensitive, Threatened, and Endangered Species* are designed to be taken into the field and used on a daily basis by operations and maintenance staff and resource staff. Each Area Office is developing site specific operations and management plans and these plans will be made available to water contractors and managing partners.

To compliment these documents, training is received by staff and contracted operations and maintenance staff concerning the identification, distribution, and habitats of endangered, threatened, and sensitive species. This training was originally provided by Reclamation but is now being provided by the Department of Pesticide Regulations. The Bureau of Reclamation will also assist water districts and private land owners receiving Bureau of Reclamation water in adhering to appropriate avoidance and mitigation measures by making copies of the documents available to them.

Continuing Commitment: Implementation of this measure is progressing, but is behind the date identified in the Interim opinion. As a result, Reclamation will commit to completing site-specific operations and management plans **within 1 year of this opinion**. For CVP Friant Division and Cross Valley Unit contractors, these consultation processes will involve Operation and Maintenance activities on Federal, District, and landowner facilities. Manuals will be distributed to Districts **within 1 year of this opinion**. Progress will be evaluated by the adaptive management team. Additionally, Reclamation continues to work with water districts for the completion and implementation of agreements to transfer the operations, maintenance, and replacement and certain financial and administrative activities related to various Reclamation facilities and associated works (self funding agreement).

Operation and Maintenance activities have been addressed using a phased approach. Phase I consists of procedures which are to be followed on United States lands administered by Reclamation and were effective within three months of the date of the Friant biological opinion. Phase II addresses the identification of sensitive sites and the creation of site-specific measures to avoid adverse impact to those species. Phase III

addresses the establishment of Integrated Pest Management procedures and the implementation of erosion control plans on Reclamation lands (Integrated Pest Management procedures stress managing a pest's environment and using a minimum of pesticides). The schedule for beginning implementation of phase I was three months following the date of the Friant opinion. Full implementation of phases II and III was to begin by the end of 2001; Updates in procedures will be adopted as needed with a report of new implementation actions provided to the Fish and Wildlife Service annually.

Implementation of phases I-III of Operations and Maintenance activities will require tiered section 7 coordination. Incidental take associated with Operations and Maintenance activities on Reclamation and District lands is not covered by this opinion.

#### **14. Work with the California Department of Pesticide Regulation (CDPR)**

- a. *To ensure land use activities associated with CVP water will be addressed pursuant to ESA, Reclamation and the Service will work with the California Department of Pesticide Regulation (CDPR) to develop updated guidelines, Reclamation will provide a status report and will provide information to CDPR generated from mapping efforts described in Conservation Measure 1(c) of the Project Description. [2000 Interim Opinion - Term and Condition - I(A)]*
- b. *Reclamation with assistance from the Service will work with the California Department of Pesticide Regulation to develop guidelines and information addressing the effects of the application of pesticides to listed, proposed, and candidate species. [1995 and 2000 Interim Opinions - 2(a)]*

Status: Reclamation has provided information that The South Central California Area Office (SCCAO) and ESRP began working with the State of California Department of Pesticide Regulation (CDPR) in 1993 following implementation of the Friant opinion. By 1995, CDPR had developed a number of slide presentations for use in pesticide applicator training. SCCAO provided some slides to them that are being used as part of the slide presentations and are also in the set of informational cards produced by CDPR and intended for field use. Training by CDPR is provided at seminars for re certification for applicators and licensed pest control advisors. The website for CDPR which has extensive threatened and endangered species information that was developed in cooperation with Reclamation. The SCCAO is still actively working with CDPR and will be cooperating in the printing of additional cards and also in the development of new ESA information during FY 2001 and beyond.

Reclamation sent a 1-page memo to the Service on April 5, 2000 providing an update on their coordination with the California Department of Pesticide Regulation (CDPR). The memo noted that Reclamation has provided photographs of and information about listed species to CDPR. In addition, the Fifth Annual Status Report on Annual Renewal Contracts received June 5, 2000 provided specific information regarding coordination between Reclamation's SCCAO and CDPR.

Continuing Commitment: Reclamation, working with the Service, will continue to provide information to CDPR generated from Item 5 above as information is generated and that new information will be provided to CDPR for posting on their web site for

listed species information.

In recognition of the uncertainties inherent in actions included in this Project Description, Reclamation has included provisions for monitoring and applying an adaptive management process. This process ensures that (1) measurable indicators of progress towards achieving all goals will be monitored, and (2) the process and conservation measures can be periodically modified as appropriate to consistently use the best information and most practical means for achieving conservation goals.

#### Types of Monitoring:

Three type of information will be gathered for monitoring progress and for adaptive management. Information from *compliance monitoring* will provide information on whether actions specified in the Project Description, including conservation measures, are carried out as specified. *Effectiveness monitoring* is designed to determine whether the conservation measures are effective in meeting their goals. These two types of monitoring together will provide overall direction on how effectively the conservation measures are implemented. The third type of information, derived from *species status monitoring*, will be used to help identify critical needs, evaluate progress towards recovery, and in some instances as an indicator of effectiveness.

#### Adaptive Management:

Information gathered from monitoring will be used to evaluate the effectiveness of actions in meeting specified goals, and adjust specific activities and priorities to provide for successful implementation of all conservation measures. Reclamation will establish and maintain an Adaptive Management Committee (AMC) to perform a variety of functions crucial to the successful implementation of conservation measures included in this and previous applicable biological opinions. The goal of the AMC is to identify, implement or guide implementation, and track the conservation measures. These actions could include the AMC ensuring that scientific advice is provided for funding, research, design, development, construction and implementation of conservation measures and protection arising under this biological opinion, such as Habitat Conservation Plans, Best Management Practices and contingency plans.

Functions of the committee shall include, but are not limited to:

- Track all actions undertaken by Reclamation as part of implementation of the Opinion.
- Seek partners to fund joint efforts to recover species in the San Joaquin Valley.
- Write proposals for funding of research or habitat acquisition from willing sellers.
- Undertake studies of threatened and endangered wildlife, plants and their habitat in the Friant Division and Cross Valley Unit.
- Develop information necessary to evaluate and monitor the effects of implementing Reclamation's water delivery efforts, and develop management practices that will benefit biological resources.
- Design, oversee and have available to the public the scientific studies and data analysis of all monitoring activities required under the biological opinion.
- Oversee the development of monitoring protocols for habitat delineation, land

- conversion, hazardous material and pesticide use.
- Oversee the results of all monitoring studies and water accounting with the goal of developing information to refine management actions that will benefit listed species.
- Oversee the development of best management agriculture practices, and evaluate projects which enhance, conserve and promote the recovery of listed species on agricultural land.
- Long term project evaluation (25+ years).
- Ensure that scientific information becomes available for use in the design, development, construction and implementation of projects associated with the implementation of the proposed action, including Habitat Conservation Plans, migration corridors, land retirement, water quality (selenium) and others.
- Reclamation shall provide to the AMC, for their evaluation and use, quarterly accounting of water deliveries, transfers, assignments, and water banking, including future actions proposed to Reclamation.

The AMC will consist of one each member from Reclamation, the Service, Friant Division and Cross Valley Unit. The Department of Fish and Game will serve in an ad hoc capacity and technical experts and others will be sought out as appropriate. Reclamation will serve as the chair of the AMC.

The AMC will strive to obtain consensus among members, however, all actions that may affect any listed species or their habitat shall require the approval of the Service. Information acquired from studies, data analysis such as GIS, or from other sources will be used for the following:

- The AMC may determine that some site specific actions may be affecting listed species and may recommend modification to water deliveries, adjust schedules or specify alternate resolutions.
- The AMC may determine that additional information or modification of conservation actions may be needed to avoid adverse effect to a species or to enhance recovery.
- The AMC may seek funding from a variety of sources by submitting a proposal to the CVP Conservation Program or to the CVPIA (b)(1) "Other" program to protect species or habitat with a CVP nexus.

All decisions made by the AMC which could reasonably be expected to affect threatened or endangered species must have FWS concurrence before implementation. The intent is to obtain concurrence from the Service without the need for a lengthy or frequent consultations.

The AMC may have meetings which are open to the public, with notices and agendas provided to all interested parties who request such notices. The public would be encouraged to participate in this forum and shall be afforded the opportunity to comment on agenda items. The AMC shall report the results of monitoring studies and surveys, and seek grants and funds to enhance listed species.

The AMC will meet as often as needed but at least quarterly. Reports of monitoring studies, research, plan accomplishments and overall implementation of the conservation

measures will be prepared by the AMC and submitted to the FWS annually.

Any decisions made by the AMC which deviate from measures delineated in the biological opinion, and which may affect listed species, must be approved by the Service before implementation. Service will require 30 working days to review AMC decisions and any supporting data.

#### Role of AMC in Endangered Species Compliance

Ultimately, the AMC will be the group designed to track implementation of conservation measures and to ensure that elements within this Project Description are implemented as described. In the event that information from monitoring or any other source indicates that any of the project elements necessary for ESA compliance are not being met or will not be met, notification will be provided by the agency which developed the information, to the AMC agencies, as appropriate. Upon notification, the AMC will meet promptly to identify and assess measures which can be taken to remedy any noncompliance or anticipated noncompliance with the conditions, and will immediately implement those measures. If the Service determines that a situation of noncompliance exists and the affected agencies are unable to remedy noncompliance within a reasonable time period that the Service prescribes, not to exceed 90 days, formal consultation will be reinitiated and the Service will issue a new or amended biological opinion with alternative regulatory requirements.

## **21. Other Conservation Measures**

#### Conservation/Habitat Enhancement Measures

The Districts will notify Reclamation when they plan to develop projects for habitat enhancement on land which receives CVP water. Reclamation has informed the Districts that biologists on staff are available to assist with development of projects. Reclamation biologists can visit districts and attend meetings, if deemed appropriate, to help develop potential enhancement projects as part of Reclamation's commitments for this biological opinion.

Reclamation has committed to enhance habitat values on Federal land, where feasible. To accomplish this goal, Reclamation will work with the Authorities, individual Districts, and with the Service through the Adaptive Management Committee identified in Item 20. Reclamation is currently working on enhancement projects located on Reclamation canals and other Federal property. Participation from the Authorities and Districts is crucial to making this program a success.

Enhancement projects can be located on Federal, District, or private lands, and the cumulative benefits can be substantial over time. Opportunities to work with farmers and develop possible habitat enhancements to their land is very important to conserving listed species.

There is great potential for agricultural lands in the Central Valley to play a substantial role in the recovery of listed species, if wildlife habitat improvements compatible with current agricultural practices are encouraged. Indeed, full recovery of some listed species



is less likely to be possible if agricultural areas are not brought into improved compatibility with wildlife use. Specific wildlife habitat needs include areas for feeding, breeding, travel corridors and shelter, as well as providing benefits to general ecosystem function and stability.

A list of projects will be developed and reviewed by the Adaptive Management Committee. It is anticipated that projects on the list will be sorted according to various stages of development. Some projects will be only conceptual, some will be in beginning stages of implementation, others will be ongoing, and still others may be discarded as unfeasible for various reasons. Types of projects could include, but are not limited to:

- installation of guzzlers on rangeland to benefit bird populations,
- a commitment to delay hay cutting until bird nestlings have hatched, and
- provide escape dens for kit foxes to increase survival, especially in areas with non-native red foxes, coyotes, and feral dogs.

Because each improvement is cumulative, this will be a learning process where new potential projects will be made apparent as others are completed. The Best Management Practices will be updated to include new information as agreements are renewed with parties participating in the program. By working with Districts and individual landowners, it will be possible to learn things that would be difficult to acquire through studies alone.

#### Applicant-based Conservation Measures

All of the Friant Division and Cross Valley Canal Contractors operate conveyance facilities within their boundaries. Many also operate and manage water conservation and groundwater recharge facilities in order to implement their conjunctive use programs. These facilities are critical to efficient use of CVP water. Such facilities could be operated and maintained in a manner that benefits protected species. Managing the use of such facilities for multiple benefits to protected species sometimes may result in take of listed species even though such operation could provide an overall benefit to the species.

The Lower Tule River and Pixley Irrigation Districts are examples of Contractors with significant facilities in areas where substantial benefit could be provided to protected and other species. These Contractors own substantial lands used for groundwater recharge that could be managed in a manner that also benefitted protected and other species. The Contractors have been concerned about managing their lands in a manner providing species benefits because the intended recharge or other uses might be adversely affected by regulation of incidental take of listed species that might use the enhanced lands.

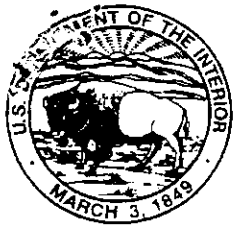
Similarly, many private landowners who receive CVP Federal water through implementation of the proposed contracts and deliveries have lands that they may wish to manage to benefit natural ecosystems and wildlife. Such conjunctively used lands may not have been managed for wildlife benefits to date because of concerns about liability for incidental take of listed species, either on enhanced lands or nearby areas used for non-wildlife purposes.

In order to encourage conservation actions and programs by the Contractors and private

landowners that receive federal water, operation and maintenance plans or other conservation or habitat enhancement projects could be developed, as appropriate. At the Service's discretion, in the future such plans/projects ("conservation projects") can receive incidental take authorization by abbreviated consultation tiered off this biological opinion. Activities likely to have an appreciable net benefit to the listed species will be considered. This will benefit Districts and private landowners wishing to improve natural habitats on their lands, by providing a clear procedure and guidance to obtaining authorization for incidental take that might result despite overall benefits to protected species.

The following describes some of the information needs which will facilitate this process:

- The Service, the Reclamation and the Districts will meet within ninety (90) days of this opinion to begin to develop potential conservation projects;
- Reclamation will provide a map of all Reclamation lands and District lands within the Friant and Cross Valley service areas;
- Districts will coordinate with Reclamation and the Service at least ninety (90) days prior to undertaking conservation projects;
- At that time, the person or District proposing the conservation project will provide a complete description of the current management of the land and the proposed project, the anticipated results, appropriate maps and drawings of the lands/facilities to be beneficially operated and those adjacent lands that may be affected;
- Once the project is implemented, the person or District will cooperate with Reclamation and the Service in monitoring the benefits to protected and other species resulting from the conservation project.



ST.R.  
**United States Department of the Interior**

ENV-7.00

DEC 19 1 00 PM '00 FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W2605  
Sacramento, California 95825

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December 13, 2000

IN REPLY REFER TO  
1-1-01-SP-474

**Memorandum**

**To:** Chief, Resources Management Division, South-Central California Area Office,  
Bureau of Reclamation, Fresno, California

**From:** Chief, Endangered Species Division, Sacramento Fish and Wildlife Office,  
Fish and Wildlife Service, Sacramento, California

**Subject:** Species Lists for Long-Term Contract Renewal of the Friant Division  
Delta Mendota Canal Unit and Cross-Valley Contractors

We are sending the enclosed lists in response to your December 1, 2000, request for information about endangered and threatened species (Attachment A). The list for the Delta Mendota Unit fulfills the requirement of the Fish and Wildlife Service (Service) to provide species lists under section 7(c) of the Endangered Species Act of 1973, as amended (Act). The list for cross-valley contractors is an update of our August 30, 2000, list (reference #1-1-00-SP-2633).

Several amphibian species of concern—foothills yellow-legged frogs, mountain yellow-legged frogs and Yosemite toads—are in the process of being added to our species lists for San Joaquin Valley quads. These species have experienced dramatic population declines in California over the last 10-15 years. A study by scientists of the U.S. Geological Survey and U.S. Department of Agriculture indicates that organophosphorus pesticides from agricultural areas, which are transported to the Sierra Nevada on prevailing summer winds, may be affecting populations of amphibians that breed in mountain ponds and streams. *Although they do not appear on the attached lists, the three species mentioned above should be considered in any project that involves pesticide application in the eastern San Joaquin Valley.* The California red-legged frog, which *does* appear on the attached lists, should also be considered in any pesticide-related project.

In addition to the amphibians mentioned in the last paragraph, the animal species on the Attachment A quad list are ones we believe may occur within, *or be affected by projects within,* the U.S. Geological Survey 7.5 minute quads covered by the Delta Mendota Canal Unit.

The plants on the quad list are ones *that have actually been observed* in each quad. Plants may occur in a quad without having been observed there. Therefore we have included a species list

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that covers all of the counties in which your project occurs. We recommend that you survey for any relevant plants shown on this list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you must contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814. Some of the species listed in Attachment A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for them may be affected. For plants, we recommend using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Attachment C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, under 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office under 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal. Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, this will be noted on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

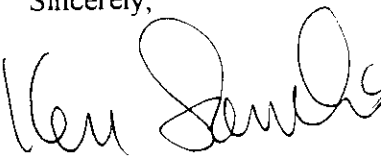
*Candidate species* are being reviewed for possible listing. Contact our office if your biological assessment reveals any candidate species that might be adversely affected. Although they currently have no protection under the Endangered Species Act, one or more of them could be proposed and listed before your project is completed. By considering them from the beginning, you could avoid problems later.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 414-6580.

We appreciate your concern for endangered species. Please contact Harry Mossman, Biological Technician, at (916) 414-6674, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 414-6710 or email them to [harry\\_mossman@fws.gov](mailto:harry_mossman@fws.gov).

Sincerely,

For   
Karen J. Miller

Attachments

## Attachment B

### FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7(a) and (c) OF THE ENDANGERED SPECIES ACT

#### SECTION 7(a) Consultation/Conference

Requires: (1) federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species; (2) Consultation with FWS when a federal action may affect a listed endangered or threatened species to insure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the federal agency after determining the action may affect a listed species; and (3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

#### SECTION 7(c) Biological Assessment-Major Construction Activity<sup>1</sup>

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action<sup>2</sup> on listed and proposed species. The process begins with a Federal agency requesting from FWS a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA: an on-site inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat is present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirements; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of indirect effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, and problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

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<sup>1</sup>A construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332(2)C).

<sup>2</sup>"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat together with the effects of other activities that are interrelated or interdependent with that action.

## Attachment C

# GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
  - c. survey dates and survey methodology(ies)
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
  - f. current and historic land uses of the habitat(s) and degree of site alteration

- g. presence of target species off-site on adjacent parcels, if known.
  - h. an assessment of the biological significance or ecological quality of the project site in a local and regional context
5. If target species is(are) found, report results that additionally include:
  - a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project
  - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
  - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.
  - d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.
6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.
7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.
8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.
9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.



ATTACHMENT A  
Endangered and Threatened Species that May Occur in  
or be Affected by Projects in the Selected Quads Listed Below  
Reference File No. 1-1-01-SP-474  
**Delta Mendota Canal Unit**  
December 12, 2000

QUAD : 359B JAMESAN

**Listed Species**

Mammals

- Critical habitat, Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)
- Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

- Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T) \*

**Proposed Species**

Birds

- mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
western burrowing owl, *Athene cunicularia hypugea* (SC)  
ferruginous hawk, *Buteo regalis* (SC)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
white-faced ibis, *Plegadis chihi* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

Plants

brittlescale, *Atriplex depressa* (SC)  
lesser saltscale, *Atriplex minuscula* (SC) \*  
Lost Hills saltbush, *Atriplex vallicola* (SC)  
recurved larkspur, *Delphinium recurvatum* (SC)

QUAD : 359C SAN JOAQUIN

**Listed Species**

Mammals

- giant kangaroo rat, *Dipodomys ingens* (E)
- Critical habitat, Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
- Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)

Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

Birds

- mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Munz's tidy-tips, *Layia munzii* (SC)

QUAD : 359D HELM

**Listed Species**

Mammals

Critical habitat, Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

Tipton kangaroo rat, *Dipodomys nitratooides nitratooides* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

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

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T) \*

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
white-faced ibis, *Plegadis chihi* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

Plants

brittlescale, *Atriplex depressa* (SC) \*  
lesser saltscale, *Atriplex minuscula* (SC) \*  
recurved larkspur, *Delphinium recurvatum* (SC)

QUAD : 360A TRANQUILLITY

**Listed Species**

Mammals

Critical habitat, Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)  
giant garter snake, *Thamnophis gigas* (T)

## Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

## Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

## Plants

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

Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)

**Proposed Species**

## Birds

mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

## Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

heartscale, *Atriplex cordulata* (SC)

brittlescale, *Atriplex depressa* (SC)

Munz's tidy-tips, *Layia munzii* (SC)

QUAD : 360D CANTUA CREEK

**Listed Species**

Mammals

giant kangaroo rat, *Dipodomys ingens* (E)

Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

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

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)



## Fish

delta smelt, *Hypomesus transpacificus* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

## Birds

mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

## Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

Southern grasshopper mouse, *Onychomys torridus ramona* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

**Amphibians**

western spadefoot toad, *Scaphiopus hammondii* (SC)

**Fish**

longfin smelt, *Spirinchus thaleichthys* (SC)

**Invertebrates**

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

**QUAD : 381C FIREBAUGH**

**Listed Species**

**Mammals**

giant kangaroo rat, *Dipodomys ingens* (E)

Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

**Birds**

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

**Reptiles**

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

giant garter snake, *Thamnophis gigas* (T)

**Amphibians**

California red-legged frog, *Rana aurora draytonii* (T)

**Fish**

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

**Invertebrates**

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

## Plants

- lesser saltscale, *Atriplex minuscula* (SC)
- Lost Hills saltbush, *Atriplex vallicola* (SC)
- Munz's tidy-tips, *Layia munzii* (SC)

QUAD : 382A OXALIS

**Listed Species**

## Mammals

- Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

## Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cucularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

QUAD : 382B DOS PALOS

**Listed Species**

## Mammals

- giant kangaroo rat, *Dipodomys ingens* (E)
- Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

## Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
western burrowing owl, *Athene cunicularia hypugea* (SC)  
ferruginous hawk, *Buteo regalis* (SC)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

Plants

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

QUAD : 382D BROADVIEW FARMS

**Listed Species**

Mammals

giant kangaroo rat, *Dipodomys ingens* (E)  
Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

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

giant garter snake, *Thamnophis gigas* (T)

## Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

## Fish

delta smelt, *Hypomesus transpacificus* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Proposed Species**

## Birds

mountain plover, *Charadrius montanus* (PT)

**Species of Concern**

## Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)



little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 molestan blister beetle, *Lytta molesta* (SC)

QUAD : 404A HOWARD RANCH

**Listed Species**

## Mammals

Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)  
 riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
 San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)  
 giant garter snake, *Thamnophis gigas* (T)

## Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

## Fish

delta smelt, *Hypomesus transpacificus* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

- foothill yellow-legged frog, *Rana boylei* (SC)
- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

QUAD : 404D SAN LUIS DAM

**Listed Species**

## Mammals

- Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardi* (E)

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

- California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

## Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)
- Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

### QUAD : 424A CROWS LANDING

#### Listed Species

##### Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

##### Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

##### Reptiles

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

giant garter snake, *Thamnophis gigas* (T)

##### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

##### Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

- California tiger salamander, *Ambystoma californiense* (C)

## Fish

- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

Plants

- alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*
- heartscale, *Atriplex cordulata* (SC) \*
- brittlescale, *Atriplex depressa* (SC) \*
- delta coyote-thistle, *Eryngium racemosum* (CA) \*
- little mousetail, *Myosurus minimus* ssp. *apus* (SC)

QUAD : 424B PATTERSON

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)

Reptiles

- blunt-nosed leopard lizard, *Gambelia* (=Crotaphytus) *silva* (E)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)



**Reptiles**

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

**Amphibians**

- western spadefoot toad, *Scaphiopus hammondi* (SC)

**Fish**

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

**Invertebrates**

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

**Plants**

- diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*

QUAD : 424C ORESTIMBA PEAK

**Listed Species****Mammals**

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

**Reptiles**

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

**Amphibians**

- California red-legged frog, *Rana aurora draytonii* (T)

**Fish**

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

QUAD : 424D NEWMAN

**Listed Species**

Mammals

Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

Reptiles

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

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

**Invertebrates**

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species****Birds**

mountain plover, *Charadrius montanus* (PT)

**Candidate Species****Amphibians**

California tiger salamander, *Ambystoma californiense* (C)

**Fish**

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern****Mammals**

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

**Birds**

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

Plants

- spiny-sepaled coyote-thistle, *Eryngium spinosepalum* (SC)

QUAD : 443C WESTLEY

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

- California tiger salamander, *Ambystoma californiense* (C)

## Fish

- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

delta coyote-thistle, *Eryngium racemosum* (CA) \*

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*

QUAD : 443D BRUSH LAKE

**Listed Species**

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)



Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

- Sacramento anthicid beetle, *Anthicus sacramento* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- moestan blister beetle, *Lytta moesta* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

QUAD : 444A VERNALIS

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

- Sacramento anthicid beetle, *Anthicus sacramento* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

Plants

- slough thistle, *Cirsium crassicaule* (SC)

delta coyote-thistle, *Eryngium racemosum* (CA) \*

QUAD : 444B TRACY

**Listed Species**

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Plants

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

## Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- Bell's sage sparrow, *Amphispiza belli belli* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

- foothill yellow-legged frog, *Rana boylei* (SC)
- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*

QUAD : 444D SOLYO

**Listed Species**

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

## Amphibians

western spadefoot toad, *Scaphiopus hammondii* (SC)

## Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

interior California larkspur, *Delphinium californicum* ssp. *interius* (SC)

Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

QUAD : 445A MIDWAY

**Listed Species**

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)



vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Plants

Critical habitat, large-flowered fiddleneck, *Amsinckia grandiflora* (E)

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

showy Indian clover, *Trifolium amoenum* (E) \*

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

Livermore tarplant, *Deinandra bacigalupii* (SC)

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC)

caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*

QUAD : 462C UNION ISLAND

**Listed Species**

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)  
 winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)  
 Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)  
 Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
 valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
 vernal pool tadpole shrimp, *Lepidurus packardii* (E)

#### Proposed Species

##### Birds

mountain plover, *Charadrius montanus* (PT)

#### Candidate Species

##### Amphibians

California tiger salamander, *Ambystoma californiense* (C)

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

#### Species of Concern

##### Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
 greater western mastiff-bat, *Eumops perotis californicus* (SC)  
 small-footed myotis bat, *Myotis ciliolabrum* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)

##### Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
 Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 Swainson's hawk, *Buteo Swainsoni* (CA)  
 ferruginous hawk, *Buteo regalis* (SC)  
 little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
white-faced ibis, *Plegadis chihi* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)  
river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

QUAD : 546B WILLIAMS

**Listed Species**

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
bald eagle, *Haliaeetus leucocephalus* (T)  
northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T)  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)  
 Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)  
 Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
 vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
 valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
 vernal pool tadpole shrimp, *Lepidurus packardii* (E)

#### Candidate Species

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

#### Species of Concern

##### Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
 small-footed myotis bat, *Myotis ciliolabrum* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)

##### Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 white-faced ibis, *Plegadis chihi* (SC)

##### Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

##### Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

QUAD : 546C CORTINA CREEK

**Listed Species**

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Candidate Species**

## Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

## Amphibians

western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

QUAD : 547A MANOR SLOUGH

**Listed Species**

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)
- northern spotted owl, *Strix occidentalis caurina* (T)

## Reptiles

- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Candidate Species**

## Fish

- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)



Birds

- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- white-faced ibis, *Plegadis chihi* (SC)

Reptiles

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

- brittlescale, *Atriplex depressa* (SC)
- valley spearscale, *Atriplex joaquiniana* (SC)

QUAD : 547D SALT CANYON

**Listed Species**

Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)
- northern spotted owl, *Strix occidentalis caurina* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

#### Candidate Species

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

#### Species of Concern

##### Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

##### Birds

western burrowing owl, *Athene cunicularia hypugea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

white-faced ibis, *Plegadis chihi* (SC)

##### Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

##### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

##### Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

recurved larkspur, *Delphinium recurvatum* (SC)  
adobe lily, *Fritillaria pluriflora* (SC)

QUAD : 563D SITES

**Listed Species**

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
bald eagle, *Haliaeetus leucocephalus* (T)  
northern spotted owl, *Strix occidentalis caurina* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T)  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)  
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)  
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)  
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Candidate Species**

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- white-faced ibis, *Plegadis chihi* (SC)

## Reptiles

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

## Amphibians

- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

## Plants

- diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*
- adobe lily, *Fritillaria pluriflora* (SC)

## KEY:

|                                           |                                                                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| (E) <i>Endangered</i>                     | Listed (in the Federal Register) as being in danger of extinction.                                                    |
| (T) <i>Threatened</i>                     | Listed as likely to become endangered within the foreseeable future.                                                  |
| (P) <i>Proposed</i>                       | Officially proposed (in the Federal Register) for listing as endangered or threatened.                                |
| (PX) <i>Proposed<br/>Critical Habitat</i> | Proposed as an area essential to the conservation of the species.                                                     |
| (C) <i>Candidate</i>                      | Candidate to become a <i>proposed</i> species.                                                                        |
| (SC) <i>Species of<br/>Concern</i>        | May be endangered or threatened. Not enough biological information has been gathered to support listing at this time. |
| (MB) <i>Migratory<br/>Bird</i>            | Migratory bird                                                                                                        |
| (D) <i>Delisted</i>                       | Delisted. Status to be monitored for 5 years.                                                                         |
| (CA) <i>State-Listed</i>                  | Listed as threatened or endangered by the State of California.                                                        |
| (*) <i>Extirpated</i>                     | Possibly extirpated from this quad.                                                                                   |
| (**) <i>Extinct</i>                       | Possibly extinct.                                                                                                     |
| <i>Critical Habitat</i>                   | Area essential to the conservation of a species.                                                                      |

Endangered and Threatened Species that May Occur in or be Affected by  
Projects in the Area of the Following California Counties  
Reference File No. 1-1-01-SP-474  
December 12, 2000

**ALAMEDA COUNTY**

***Listed Species***

Mammals

- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

Birds

- California brown pelican, *Pelecanus occidentalis californicus* (E)
- California clapper rail, *Rallus longirostris obsoletus* (E)
- California least tern, *Sterna antillarum (=albifrons) browni* (E)
- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- tidewater goby, *Eucyclogobius newberryi* (E)
- Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- delta smelt, *Hypomesus transpacificus* (T)
- Central California Coastal steelhead, *Oncorhynchus mykiss* (T)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)
- callippe silverspot butterfly, *Speyeria callippe callippe* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

#### Plants

large-flowered fiddleneck, *Amsinckia grandiflora* (E)  
 Presidio clarkia, *Clarkia franciscana* (E)  
 palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)  
 pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)  
 robust spineflower, *Chorizanthe robusta* (E) \*  
 Contra Costa goldfields, *Lasthenia conjugens* (E) \*  
 California sea blite, *Suaeda californica* (E) \*  
 showy Indian clover, *Trifolium amoenum* (E) \*  
 Santa Cruz tarplant, *Holocarpha macradenia* (T) \*

#### Proposed Species

##### Birds

mountain plover, *Charadrius montanus* (PT)

#### Candidate Species

##### Amphibians

California tiger salamander, *Ambystoma californiense* (C)

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

#### Species of Concern

##### Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
 greater western mastiff-bat, *Eumops perotis californicus* (SC)  
 small-footed myotis bat, *Myotis ciliolabrum* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)  
 Alameda Island mole, *Scapanus latimanus parvus* (SC)  
 salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)  
 Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) \*

##### Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 black rail, *Laterallus jamaicensis coturniculus* (CA)

bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)  
 Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 common loon, *Gavia immer* (SC)  
 saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 Allen's hummingbird, *Selasphorus sasin* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)



## Amphibians

- foothill yellow-legged frog, *Rana boylei* (SC)
- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- Opler's longhorn moth, *Adela oplerella* (SC)
- Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)
- Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
- curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- San Francisco lacewing, *Nothochrysa californica* (SC)

## Plants

- heartscale, *Atriplex cordulata* (SC)
- brittlescale, *Atriplex depressa* (SC)
- valley spearscale, *Atriplex joaquiniana* (SC)
- Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (SC)
- South Bay clarkia, *Clarkia concinna* ssp. *automixa* (SC)
- hispid bird's-beak, *Cordylanthus mollis* ssp. *hispidus* (SC)
- Livermore tarplant, *Deinandra bacigalupii* (SC)
- interior California larkspur, *Delphinium californicum* ssp. *interius* (SC)
- recurved larkspur, *Delphinium recurvatum* (SC)
- diamond-petaled poppy, *Eschscholzia rhombipetala* (SC)
- talus fritillary, *Fritillaria falcata* (SC)
- fragrant fritillary, *Fritillaria liliacea* (SC)
- Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)
- pappose spikeweed, *Hemizonia parryi* ssp. *congdonii* (SC)
- delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)
- Mason's lilaeopsis, *Lilaeopsis masonii* (SC)
- little mouseltail, *Myosurus minimus* ssp. *apus* (SC)
- most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (SC)
- alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*
- San Francisco Bay spineflower, *Chorizanthe cuspidata* var. *cuspidata* (SC) \*
- northcoast bird's-beak, *Cordylanthus maritimus* ssp. *palustris* (SC) \*

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) \*  
adobe sanicle, *Sanicula maritima* (SC) \*  
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*  
Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

## COLUSA COUNTY

### Listed Species

#### Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
bald eagle, *Haliaeetus leucocephalus* (T)  
Critical habitat, northern spotted owl, *Strix occidentalis caurina* (T)  
northern spotted owl, *Strix occidentalis caurina* (T)

#### Reptiles

giant garter snake, *Thamnophis gigas* (T)

#### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

#### Fish

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)  
delta smelt, *Hypomesus transpacificus* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T)  
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)  
Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)  
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
vernal pool tadpole shrimp, *Lepidurus packardi* (E)  
vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

#### Plants

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)  
Colusa grass, *Neostapfia colusana* (T) \*

### Proposed Species

#### Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Marysville Heermann's kangaroo rat, *Dipodomys californicus eximius* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

Pacific fisher, *Martes pennanti pacifica* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

greater sandhill crane, *Grus canadensis tabida* (CA)

bank swallow, *Riparia riparia* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)

northern goshawk, *Accipiter gentilis* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

black tern, *Chlidonias niger* (SC)

lark sparrow, *Chondestes grammacus* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

least bittern, western, *Ixobrychus exilis hesperis* (SC)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
Bewick's wren, *Thryomanes bewickii* (SC)

#### Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
brownish dubiraphian riffle beetle, *Dubiraphia brunnescens* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
Wilbur Springs minute moss beetle, *Ochthebius reticulatus* (SC)  
Wilbur Springs shore fly, *Paracoenia calida* (SC)

#### Plants

Indian Valley brodiaea, *Brodiaea coronaria ssp. rosea* (CA)  
Milo Baker's lupine, *Lupinus milo-bakeri* (CA)  
brittlescale, *Atriplex depressa* (SC)  
valley spearscale, *Atriplex joaquiniana* (SC)  
recurved larkspur, *Delphinium recurvatum* (SC)  
Brandegee's woolly-star, *Eriastrum brandegeae* (SC)  
Snow Mountain buckwheat, *Eriogonum nervulosum* (SC)  
adobe lily, *Fritillaria pluriflora* (SC)  
drymaria dwarf-flax, *Hesperolinon drymarionoides* (SC)  
red-flowered lotus, *Lotus rubriflorus* (SC)  
Hall's madia, *Madia hallii* (SC)

little mousetail, *Myosurus minimus ssp. apus* (SC)  
Red Mountain campion, *Silene campanulata ssp. campanulata* (SC)  
Ferris's milk-vetch, *Astragalus tener var. ferrisiae* (SC) \*  
diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*  
Bolander's horkelia, *Horkelia bolanderi* (SC) \*

## FRESNO COUNTY

### Listed Species

#### Mammals

giant kangaroo rat, *Dipodomys ingens* (E)  
Critical habitat, Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)  
Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)  
San Joaquin kit fox, *Vulpes macrotis mutica* (E)  
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

#### Birds

California condor, *Gymnogyps californianus* (E)  
Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
bald eagle, *Haliaeetus leucocephalus* (T)

#### Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)  
giant garter snake, *Thamnophis gigas* (T)

#### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

#### Fish

delta smelt, *Hypomesus transpacificus* (T)  
Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)  
Paiute cutthroat trout, *Oncorhynchus (=Salmo) clarki seleniris* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T)  
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

#### Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

#### Plants

California jewelflower, *Caulanthus californicus* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)  
 San Joaquin woolly-threads, *Lembertia congdonii* (E)  
 Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)  
 Mariposa pussy-paws, *Calyptridium pulchellum* (T)  
 San Benito evening-primrose, *Camissonia benitensis* (T)  
 fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)  
 Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)  
 San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)  
 San Joaquin adobe sunburst, *Pseudobahia peirsonii* (T)  
 Greene's tuctoria, *Tuctoria greenei* (E) \*

### **Proposed Species**

#### Birds

mountain plover, *Charadrius montanus* (PT)

### **Candidate Species**

#### Amphibians

California tiger salamander, *Ambystoma californiense* (C)

### **Species of Concern**

#### Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)  
 California wolverine, *Gulo gulo luteus* (CA)  
 Sierra Nevada red fox, *Vulpes vulpes necator* (CA)  
 pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallascens* (SC)  
 Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
 short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)  
 spotted bat, *Euderma maculatum* (SC)  
 greater western mastiff-bat, *Eumops perotis californicus* (SC)  
 American (=pine) marten, *Martes americana* (SC)  
 Pacific fisher, *Martes pennanti pacifica* (SC)  
 small-footed myotis bat, *Myotis ciliolabrum* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 Southern grasshopper mouse, *Onychomys torridus ramona* (SC)  
 Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Mt. Lyell shrew, *Sorex lyelli* (SC)

#### Birds

Swainson's hawk, *Buteo Swainsoni* (CA)  
 little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
 northern goshawk, *Accipiter gentilis* (SC)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cucularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 black swift, *Cypseloides niger* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 least bittern, western, *Ixobrychus exilis hesperis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 California spotted owl, *Strix occidentalis occidentalis* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

Yosemite toad, *Bufo canorus* (SC)

Mount Lyell salamander, *Hydromantes platycephalus* (SC)

foothill yellow-legged frog, *Rana boylei* (SC)

mountain yellow-legged frog, *Rana muscosa* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)

San Joaquin tiger beetle, *Cicindela tranquebarica ssp* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

Kings Canyon cryptochian caddisfly, *Cryptochia excella* (SC)

Wooly hydroporus diving beetle, *Hydroporus hirsutus* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Hopping's blister beetle, *Lytta hoppingi* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Morrison's blister beetle, *Lytta morrisoni* (SC)

Dry Creek cliff strider bug, *Oravelia pege* (SC)

Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)

Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

#### Plants

carpenteria, *Carpenteria californica* (CA)

obovate-leaved thornmint, *Acanthomintha obovata ssp. obovata* (SC)

forked fiddleneck, *Amsinckia vernicosa var. furcata* (SC)

Bodie Hills rock-cress, *Arabis bodiensis* (SC)

Raven's milk-vetch, *Astragalus monoensis var. ravenii* (SC)

heartscale, *Atriplex cordulata* (SC)

brittlescale, *Atriplex depressa* (SC)



Lost Hills saltbush, *Atriplex vallicola* (SC)  
 South Coast Range morning-glory, *Calystegia collina* ssp. *venusta* (SC)  
 Mono Hot Springs evening-primrose, *Camissonia sierrae* ssp. *alticola* (SC)  
 San Benito spineflower, *Chorizanthe biloba* var. *immemora* (SC)  
 Fresno County bird's-beak, *Cordylanthus tenuis* ssp. *barbatus* (SC)  
 recurved larkspur, *Delphinium recurvatum* (SC)  
 mouse buckwheat, *Eriogonum nudum* var. *murinum* (SC)  
 spiny-sepaled coyote-thistle, *Eryngium spinosepalum* (SC)  
 hollisteria, *Hollisteria lanata* (SC)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
 rayless layia, *Layia discoidea* (SC)  
 Panoche peppergrass, *Lepidium jaredii* var. *album* (SC)  
 long-petaled lewisia, *Lewisia longipetala* (SC)  
 orange lupine, *Lupinus citrinus* var. *citrinus* (SC)  
 valley sagittaria, *Sagittaria sanfordii* (SC)  
 parasol clover, *Trifolium bolanderi* (SC)  
 lesser saltscale, *Atriplex minuscula* (SC) \*  
 pale-yellow layia, *Layia heterotricha* (SC) \*

## MERCED COUNTY

### Listed Species

#### Mammals

giant kangaroo rat, *Dipodomys ingens* (E)  
 Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
 San Joaquin kit fox, *Vulpes macrotis mutica* (E)  
 riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
 riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

#### Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
 bald eagle, *Haliaeetus leucocephalus* (T)

#### Reptiles

blunt-nosed leopard lizard, *Gambelia* (= *Crotaphytus*) *sila* (E)  
 giant garter snake, *Thamnophis gigas* (T)

#### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

#### Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)  
Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
longhorn fairy shrimp, *Branchinecta longiantenna* (E)  
vernal pool tadpole shrimp, *Lepidurus packardii* (E)  
vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

hairy Orcutt grass, *Orcuttia pilosa* (E)  
Greene's tuctoria, *Tuctoria greenei* (E)  
fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)  
Colusa grass, *Neostapfia colusana* (T)  
San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)  
pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)  
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)  
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)  
spotted bat, *Euderma maculatum* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

#### Birds

Swainson's hawk, *Buteo Swainsoni* (CA)  
 little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)  
 Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cucularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 black tern, *Chlidonias niger* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 least bittern, western, *Ixobrychus exilis hesperis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)

San Joaquin dune beetle, *Coelus gracilis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

#### Plants

delta coyote-thistle, *Eryngium racemosum* (CA)

alkali milk-vetch, *Astragalus tener* var. *tener* (SC)

heartscale, *Atriplex cordulata* (SC)

brittlescale, *Atriplex depressa* (SC)

valley spearscale, *Atriplex joaquiniana* (SC)

vernal pool saltbush, *Atriplex persistens* (SC)

Lost Hills saltbush, *Atriplex vallicola* (SC)

Hoover's rosinweed, *Calycadenia hooveri* (SC)

beaked clarkia, *Clarkia rostrata* (SC)

hispid bird's-beak, *Cordylanthus mollis* ssp. *hispidus* (SC)

recurved larkspur, *Delphinium recurvatum* (SC)

hollisteria, *Hollisteria lanata* (SC)

Merced phacelia, *Phacelia ciliata* var. *opaca* (SC)

valley sagittaria, *Sagittaria sanfordii* (SC)

Arburua Ranch jewelflower, *Streptanthus insignis* ssp. *lyonii* (SC)

lesser saltscale, *Atriplex minuscula* (SC) \*

Merced monardella, *Monardella leucocephala* (SC) \*\*

**SAN JOAQUIN COUNTY****Listed Species**

## Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E)
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- Critical habitat, delta smelt, *Hypomesus transpacificus* (T)
- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- Conservancy fairy shrimp, *Branchinecta conservatio* (E)
- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

## Plants

- Critical habitat, large-flowered fiddleneck, *Amsinckia grandiflora* (E)
- large-flowered fiddleneck, *Amsinckia grandiflora* (E)
- fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)
- palmate-bracted bird's-beak, *Cordylanthus palmatus* (E) \*
- Greene's tuctoria, *Tuctoria greenei* (E) \*

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

greater sandhill crane, *Grus canadensis tabida* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

bank swallow, *Riparia riparia* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

black tern, *Chlidonias niger* (SC)

lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numerius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondii* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
 river lamprey, *Lampetra ayresi* (SC)  
 Kern brook lamprey, *Lampetra hubbsi* (SC)  
 Pacific lamprey, *Lampetra tridentata* (SC)  
 longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
 Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
 curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 moestan blister beetle, *Lytta moesta* (SC)  
 molestan blister beetle, *Lytta molesta* (SC)

## Plants

- Suisun Marsh aster, *Aster lentus* (SC)
- slough thistle, *Cirsium crassicaule* (SC)
- interior California larkspur, *Delphinium californicum* ssp. *interius* (SC)
- delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)
- Mason's lilaeopsis, *Lilaeopsis masonii* (SC)
- valley sagittaria, *Sagittaria sanfordii* (SC)
- delta coyote-thistle, *Eryngium racemosum* (CA) \*
- alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*
- heartscale, *Atriplex cordulata* (SC) \*
- valley spearscale, *Atriplex joaquiniana* (SC) \*
- caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*
- Livermore tarplant, *Deinandra bacigalupii* (SC)

## STANISLAUS COUNTY

**Listed Species**

## Mammals

- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- Conservancy fairy shrimp, *Branchinecta conservatio* (E)
- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)



valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

hairy Orcutt grass, *Orcuttia pilosa* (E)  
Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)  
fleshy owl's-clover, *Castilleja campestris* ssp. *succulenta* (T)  
Hoover's spurge, *Chamaesyce hooveri* (T)  
Colusa grass, *Neostapfia colusana* (T)  
Greene's tuctoria, *Tuctoria greenei* (E) \*  
San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) \*

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
tricolored blackbird, *Agelaius tricolor* (SC)  
grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 black tern, *Chlidonias niger* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 least bittern, western, *Ixobrychus exilis hesperis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
 river lamprey, *Lampetra ayresi* (SC)  
 Kern brook lamprey, *Lampetra hubbsi* (SC)  
 Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

moestan blister beetle, *Lytta moesta* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

vernal pool saltbush, *Atriplex persistens* (SC)

Hoover's rosinweed, *Calycadenia hooveri* (SC)

Mt. Hamilton harebell, *Campanula sharsmithiae* (SC)

Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (SC)

beaked clarkia, *Clarkia rostrata* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)

spiny-sepaed coyote-thistle, *Eryngium spinosepalum* (SC)

talus fritillary, *Fritillaria falcata* (SC)

red-flowered lotus, *Lotus rubriflorus* (SC)

little mousetail, *Myosurus minimus* ssp. *apus* (SC)

Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

delta coyote-thistle, *Eryngium racemosum* (CA) \*

alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*

heartscale, *Atriplex cordulata* (SC) \*

brittlescale, *Atriplex depressa* (SC) \*

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*

legenere, *Legenere limosa* (SC) \*

Merced monardella, *Monardella leucocephala* (SC) \*\*

## KEY:

|                                           |                                                                                        |
|-------------------------------------------|----------------------------------------------------------------------------------------|
| (E) <i>Endangered</i>                     | Listed (in the Federal Register) as being in danger of extinction.                     |
| (T) <i>Threatened</i>                     | Listed as likely to become endangered within the foreseeable future.                   |
| (P) <i>Proposed</i>                       | Officially proposed (in the Federal Register) for listing as endangered or threatened. |
| (PX) <i>Proposed<br/>Critical Habitat</i> | Proposed as an area essential to the conservation of the species.                      |
| (C) <i>Candidate</i>                      | Candidate to become a <i>proposed</i> species.                                         |
| (SC) <i>Species of<br/>Concern</i>        | Other species of concern to the Service.                                               |
| (D) <i>Delisted</i>                       | Delisted. Status to be monitored for 5 years.                                          |
| (CA) <i>State-Listed</i>                  | Listed as threatened or endangered by the State of California.                         |
| * <i>Extirpated</i>                       | Possibly extirpated from the area.                                                     |
| ** <i>Extinct</i>                         | Possibly extinct                                                                       |
| <i>Critical Habitat</i>                   | Area essential to the conservation of a species.                                       |

11

Endangered and Threatened Species that May Occur in or be Affected by  
Projects in the Area of the Following California Counties  
**Updated List for Cross-Valley Canal Contractors Long-Term Contract Renewal**  
Reference File No. 1-1-01-SP-496  
December 12, 2000

**FRESNO COUNTY**

**Listed Species**

Mammals

- giant kangaroo rat, *Dipodomys ingens* (E)
- Critical habitat, Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)
- Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)
- Tipton kangaroo rat, *Dipodomys nitratooides nitratooides* (E)
- Sierra Nevada (=California) bighorn sheep, *Ovis canadensis californiana* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*

Birds

- California condor, *Gymnogyps californianus* (E)
- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)
- Paiute cutthroat trout, *Oncorhynchus (=Salmo) clarki seleniris* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

- California jewelflower, *Caulanthus californicus* (E)
- palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)
- San Joaquin woolly-threads, *Lembertia congdonii* (E)
- Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)

Mariposa pussy-paws, *Calyptridium pulchellum* (T)  
San Benito evening-primrose, *Camissonia benitensis* (T)  
fleshy owl's-clover, *Castilleja campestris* ssp. *succulenta* (T)  
Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)  
San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)  
San Joaquin adobe sunburst, *Pseudobahia peirsonii* (T)  
Greene's tuctoria, *Tuctoria greenei* (E) \*

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)  
California wolverine, *Gulo gulo luteus* (CA)  
Sierra Nevada red fox, *Vulpes vulpes necator* (CA)  
pale Townsend's big-eared bat, *Corynorhinus* (=Plecotus) *townsendii pallescens* (SC)  
Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)  
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)  
spotted bat, *Euderma maculatum* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
American (=pine) marten, *Martes americana* (SC)  
Pacific fisher, *Martes pennanti pacifica* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
Southern grasshopper mouse, *Onychomys torridus ramona* (SC)  
Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)  
Mt. Lyell shrew, *Sorex lyelli* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
 northern goshawk, *Accipiter gentilis* (SC)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 black swift, *Cypseloides niger* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 least bittern, western, *Ixobrychus exilis hesperis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 California spotted owl, *Strix occidentalis occidentalis* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)



## Amphibians

- Yosemite toad, *Bufo canorus* (SC)
- Mount Lyell salamander, *Hydromantes platycephalus* (SC)
- foothill yellow-legged frog, *Rana boylei* (SC)
- mountain yellow-legged frog, *Rana muscosa* (SC)
- western spadefoot toad, *Scaphiopus hammondi* (SC)

## Fish

- green sturgeon, *Acipenser medirostris* (SC)
- river lamprey, *Lampetra ayresi* (SC)
- Kern brook lamprey, *Lampetra hubbsi* (SC)
- Pacific lamprey, *Lampetra tridentata* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)
- San Joaquin tiger beetle, *Cicindela tranquebarica* ssp (SC)
- San Joaquin dune beetle, *Coelus gracilis* (SC)
- Kings Canyon cryptochian caddisfly, *Cryptochia excella* (SC)
- Wooly hydroporus diving beetle, *Hydroporus hirsutus* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- Hopping's blister beetle, *Lytta hoppingi* (SC)
- moestan blister beetle, *Lytta moesta* (SC)
- molestan blister beetle, *Lytta molesta* (SC)
- Morrison's blister beetle, *Lytta morrisoni* (SC)
- Dry Creek cliff strider bug, *Oravelia pege* (SC)
- Bohart's blue butterfly, *Philotiella speciosa bohartorum* (SC)
- Sierra pygmy grasshopper, *Tetrix sierrana* (SC)

## Plants

- carpenteria, *Carpenteria californica* (CA)
- obovate-leaved thornmint, *Acanthomintha obovata* ssp. *obovata* (SC)
- forked fiddleneck, *Amsinckia vernicosa* var. *furcata* (SC)
- Bodie Hills rock-cress, *Arabis bodiensis* (SC)
- Raven's milk-vetch, *Astragalus monoensis* var. *ravenii* (SC)
- heartscale, *Atriplex cordulata* (SC)
- brittlescale, *Atriplex depressa* (SC)
- Lost Hills saltbush, *Atriplex vallicola* (SC)
- South Coast Range morning-glory, *Calystegia collina* ssp. *venusta* (SC)
- Mono Hot Springs evening-primrose, *Camissonia sierrae* ssp. *alticola* (SC)

San Benito spineflower, *Chorizanthe biloba* var. *immemora* (SC)  
 Fresno County bird's-beak, *Cordylanthus tenuis* ssp. *barbatus* (SC)  
 recurved larkspur, *Delphinium recurvatum* (SC)  
 mouse buckwheat, *Eriogonum nudum* var. *murinum* (SC)  
 spiny-sepaled coyote-thistle, *Eryngium spinosepalum* (SC)  
 hollisteria, *Hollisteria lanata* (SC)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
 rayless layia, *Layia discoidea* (SC)  
 Panoche peppergrass, *Lepidium jaredii* var. *album* (SC)  
 long-petaled lewisia, *Lewisia longipetala* (SC)  
 orange lupine, *Lupinus citrinus* var. *citrinus* (SC)  
 valley sagittaria, *Sagittaria sanfordii* (SC)  
 parasol clover, *Trifolium bolanderi* (SC)  
 lesser saltscare, *Atriplex minuscula* (SC) \*  
 pale-yellow layia, *Layia heterotricha* (SC) \*

## KINGS COUNTY

### Listed Species

#### Mammals

giant kangaroo rat, *Dipodomys ingens* (E)  
 Fresno kangaroo rat, *Dipodomys nitratoides exilis* (E)  
 Tipton kangaroo rat, *Dipodomys nitratoides nitratoides* (E)  
 San Joaquin kit fox, *Vulpes macrotis mutica* (E)

#### Birds

California condor, *Gymnogyps californianus* (E)  
 Aleutian Canada goose, *Branta canadensis leucopareia* (T)  
 bald eagle, *Haliaeetus leucocephalus* (T)

#### Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)  
 giant garter snake, *Thamnophis gigas* (T)

#### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

#### Fish

delta smelt, *Hypomesus transpacificus* (T)  
 Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

## Plants

- San Joaquin woolly-threads, *Lembertia congdonii* (E)
- Hoover's eriastrum (= woolly-star), *Eriastrum hooveri* (T)
- California jewelflower, *Caulanthus californicus* (E) \*

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

- California tiger salamander, *Ambystoma californiense* (C)

**Species of Concern**

## Mammals

- San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)
- Sierra Nevada red fox, *Vulpes vulpes necator* (CA)
- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- short-nosed kangaroo rat, *Dipodomys nitratooides brevinasus* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-eared myotis bat, *Myotis evotis* (SC)
- fringed myotis bat, *Myotis thysanodes* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- Southern grasshopper mouse, *Onychomys torridus ramona* (SC)
- Tulare grasshopper mouse, *Onychomys torridus tularensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

- Swainson's hawk, *Buteo Swainsoni* (CA)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- bank swallow, *Riparia riparia* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)
- tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)  
 Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Costa's hummingbird, *Calypte costae* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 Vaux's swift, *Chaetura vauxi* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 least bittern, western, *Ixobrychus exilis hesperis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 long-billed curlew, *Numerius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 San Joaquin LeConte's thrasher, *Toxostoma lecontei macmillanorum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
 northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)

#### Invertebrates

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)  
 San Joaquin dune beetle, *Coelus gracilis* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 molestan blister beetle, *Lytta molesta* (SC)  
 Doyen's trigonascuta dune weevil, *Trigonoscuta doyeri* (SC)

## Plants

- forked fiddleneck, *Amsinckia vernicosa* var. *furcata* (SC)
- heartscale, *Atriplex cordulata* (SC)
- Lost Hills saltbush, *Atriplex vallicola* (SC)
- slough thistle, *Cirsium crassicaule* (SC)
- recurved larkspur, *Delphinium recurvatum* (SC)
- pale-yellow layia, *Layia heterotricha* (SC) \*

**MERCED COUNTY****Listed Species**

## Mammals

- giant kangaroo rat, *Dipodomys ingens* (E)
- Fresno kangaroo rat, *Dipodomys nitratooides exilis* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)
- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- Conservancy fairy shrimp, *Branchinecta conservatio* (E)
- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

## Plants

- hairy Orcutt grass, *Orcuttia pilosa* (E)

Greene's tuctoria, *Tuctoria greenei* (E)  
fleshy owl's-clover, *Castilleja campestris* ssp. *succulenta* (T)  
Colusa grass, *Neostapfia colusana* (T)  
San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T)

**Proposed Species**

Birds

mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

Mammals

San Joaquin (=Nelson's) antelope squirrel, *Ammospermophilus nelsoni* (CA)  
pale Townsend's big-eared bat, *Corynorhinus* (=Plecotus) *townsendii pallescens* (SC)  
Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)  
Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)  
short-nosed kangaroo rat, *Dipodomys nitratoides brevinasus* (SC)  
spotted bat, *Euderma maculatum* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
bank swallow, *Riparia riparia* (CA)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
tricolored blackbird, *Agelaius tricolor* (SC)  
grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)  
short-eared owl, *Asio flammeus* (SC)  
western burrowing owl, *Athene cunicularia hypugea* (SC)  
American bittern, *Botaurus lentiginosus* (SC)  
ferruginous hawk, *Buteo regalis* (SC)  
Costa's hummingbird, *Calypte costae* (SC)  
Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
Vaux's swift, *Chaetura vauxi* (SC)  
black tern, *Chlidonias niger* (SC)  
lark sparrow, *Chondestes grammacus* (SC)  
olive-sided flycatcher, *Contopus cooperi* (SC)  
hermit warbler, *Dendroica occidentalis* (SC)  
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
least bittern, western, *Ixobrychus exilis hesperis* (SC)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
Brewer's sparrow, *Spizella breweri* (SC)  
Bewick's wren, *Thryomanes bewickii* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
river lamprey, *Lampetra ayresi* (SC)  
Kern brook lamprey, *Lampetra hubbsi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

## Invertebrates

- Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)
- San Joaquin dune beetle, *Coelus gracilis* (SC)
- California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
- molestan blister beetle, *Lytta molesta* (SC)

## Plants

- delta coyote-thistle, *Eryngium racemosum* (CA)
- alkali milk-vetch, *Astragalus tener var. tener* (SC)
- heartscale, *Atriplex cordulata* (SC)
- brittlescale, *Atriplex depressa* (SC)
- valley spearscale, *Atriplex joaquiniana* (SC)
- vernal pool saltbush, *Atriplex persistens* (SC)
- Lost Hills saltbush, *Atriplex vallicola* (SC)
- Hoover's rosinweed, *Calycadenia hooveri* (SC)
- beaked clarkia, *Clarkia rostrata* (SC)
- hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
- recurved larkspur, *Delphinium recurvatum* (SC)
- hollisteria, *Hollisteria lanata* (SC)
- Merced phacelia, *Phacelia ciliata var. opaca* (SC)
- valley sagittaria, *Sagittaria sanfordii* (SC)
- Arburua Ranch jewelflower, *Streptanthus insignis ssp. lyonii* (SC)
- lesser saltscale, *Atriplex minuscula* (SC) \*
- Merced monardella, *Monardella leucocephala* (SC) \*\*

## SAN JOAQUIN COUNTY

**Listed Species**

## Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E)
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)



**Amphibians**

California red-legged frog, *Rana aurora draytonii* (T)

**Fish**

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

**Invertebrates**

Conservancy fairy shrimp, *Branchinecta conservatio* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

**Plants**

Critical habitat, large-flowered fiddleneck, *Amsinckia grandiflora* (E)

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

fleshy owl's-clover, *Castilleja campestris ssp. succulenta* (T)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E) \*

Greene's tuctoria, *Tuctoria greenei* (E) \*

**Proposed Species****Birds**

mountain plover, *Charadrius montanus* (PT)

**Candidate Species****Amphibians**

California tiger salamander, *Ambystoma californiense* (C)

**Fish**

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern****Mammals**

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)

#### Birds

Swainson's hawk, *Buteo Swainsoni* (CA)  
 little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
 greater sandhill crane, *Grus canadensis tabida* (CA)  
 black rail, *Laterallus jamaicensis coturniculus* (CA)  
 bank swallow, *Riparia riparia* (CA)  
 American peregrine falcon, *Falco peregrinus anatum* (D)  
 Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)  
 tricolored blackbird, *Agelaius tricolor* (SC)  
 grasshopper sparrow, *Ammodramus savannarum* (SC)  
 Bell's sage sparrow, *Amphispiza belli belli* (SC)  
 short-eared owl, *Asio flammeus* (SC)  
 western burrowing owl, *Athene cunicularia hypugea* (SC)  
 American bittern, *Botaurus lentiginosus* (SC)  
 ferruginous hawk, *Buteo regalis* (SC)  
 Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
 black tern, *Chlidonias niger* (SC)  
 lark sparrow, *Chondestes grammacus* (SC)  
 olive-sided flycatcher, *Contopus cooperi* (SC)  
 hermit warbler, *Dendroica occidentalis* (SC)  
 white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
 Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
 loggerhead shrike, *Lanius ludovicianus* (SC)  
 Lewis' woodpecker, *Melanerpes lewis* (SC)  
 long-billed curlew, *Numenius americanus* (SC)  
 white-faced ibis, *Plegadis chihi* (SC)  
 rufous hummingbird, *Selasphorus rufus* (SC)  
 red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
 Brewer's sparrow, *Spizella breweri* (SC)  
 Bewick's wren, *Thryomanes bewickii* (SC)  
 California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
 southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
 San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
 California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
 western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
 river lamprey, *Lampetra ayresi* (SC)  
 Kern brook lamprey, *Lampetra hubbsi* (SC)  
 Pacific lamprey, *Lampetra tridentata* (SC)  
 longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
 Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
 curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 moestan blister beetle, *Lytta moesta* (SC)  
 molestan blister beetle, *Lytta molesta* (SC)

#### Plants

Suisun Marsh aster, *Aster lentus* (SC)  
 slough thistle, *Cirsium crassicaule* (SC)  
 interior California larkspur, *Delphinium californicum ssp. interius* (SC)  
 delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)  
 Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
 valley sagittaria, *Sagittaria sanfordii* (SC)  
 delta coyote-thistle, *Eryngium racemosum* (CA) \*  
 alkali milk-vetch, *Astragalus tener var. tener* (SC) \*  
 heartscale, *Atriplex cordulata* (SC) \*  
 valley spearscale, *Atriplex joaquiniana* (SC) \*  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*  
 Livermore tarplant, *Deinandra bacigalupii* (SC)

**STANISLAUS COUNTY****Listed Species**

## Mammals

- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

## Birds

- Aleutian Canada goose, *Branta canadensis leucopareia* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

## Reptiles

- giant garter snake, *Thamnophis gigas* (T)

## Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

## Fish

- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

## Invertebrates

- Conservancy fairy shrimp, *Branchinecta conservatio* (E)
- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardi* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

## Plants

- hairy Orcutt grass, *Orcuttia pilosa* (E)
- Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)
- fleshy owl's-clover, *Castilleja campestris* ssp. *succulenta* (T)
- Hoover's spurge, *Chamaesyce hooveri* (T)
- Colusa grass, *Neostapfia colusana* (T)
- Greene's tuctoria, *Tuctoria greenei* (E) \*
- San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) \*

**Proposed Species**

## Birds

- mountain plover, *Charadrius montanus* (PT)

**Candidate Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (C)

## Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

Swainson's hawk, *Buteo Swainsoni* (CA)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

greater sandhill crane, *Grus canadensis tabida* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

Black-Crowned Night Heron, *Nycticorax nycticorax* (MB)

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugea* (SC)

American bittern, *Botaurus lentiginosus* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

lark sparrow, *Chondestes grammacus* (SC)

olive-sided flycatcher, *Contopus cooperi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Pacific-slope flycatcher, *Empidonax difficilis* (SC)  
least bittern, western, *Ixobrychus exilis hesperis* (SC)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
Brewer's sparrow, *Spizella breweri* (SC)  
Bewick's wren, *Thryomanes bewickii* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
western spadefoot toad, *Scaphiopus hammondi* (SC)

#### Fish

green sturgeon, *Acipenser medirostris* (SC)  
river lamprey, *Lampetra ayresi* (SC)  
Kern brook lamprey, *Lampetra hubbsi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
moestan blister beetle, *Lytta moesta* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

#### Plants

vernal pool saltbush, *Atriplex persistens* (SC)  
Hoover's rosinweed, *Calycadenia hooveri* (SC)  
Mt. Hamilton harebell, *Campanula sharsmithiae* (SC)  
Mt. Hamilton thistle, *Cirsium fontinale* var. *campylon* (SC)  
beaked clarkia, *Clarkia rostrata* (SC)

Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)  
 spiny-sepaled coyote-thistle, *Eryngium spinosepalum* (SC)  
 talus fritillary, *Fritillaria falcata* (SC)  
 red-flowered lotus, *Lotus rubriflorus* (SC)  
 little mousetail, *Myosurus minimus ssp. apus* (SC)  
 Mt. Diablo phacelia, *Phacelia phacelioides* (SC)  
 delta coyote-thistle, *Eryngium racemosum* (CA) \*  
 alkali milk-vetch, *Astragalus tener var. tener* (SC) \*  
 heartscale, *Atriplex cordulata* (SC) \*  
 brittlescale, *Atriplex depressa* (SC) \*  
 diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) \*  
 legenere, *Legenere limosa* (SC) \*  
 Merced monardella, *Monardella leucocephala* (SC) \*\*

## KEY:

|      |                                      |                                                                                        |
|------|--------------------------------------|----------------------------------------------------------------------------------------|
| (E)  | <i>Endangered</i>                    | Listed (in the Federal Register) as being in danger of extinction.                     |
| (T)  | <i>Threatened</i>                    | Listed as likely to become endangered within the foreseeable future.                   |
| (P)  | <i>Proposed</i>                      | Officially proposed (in the Federal Register) for listing as endangered or threatened. |
| (PX) | <i>Proposed<br/>Critical Habitat</i> | Proposed as an area essential to the conservation of the species.                      |
| (C)  | <i>Candidate</i>                     | Candidate to become a <i>proposed</i> species.                                         |
| (SC) | <i>Species of<br/>Concern</i>        | Other species of concern to the Service.                                               |
| (D)  | <i>Delisted</i>                      | Delisted. Status to be monitored for 5 years.                                          |
| (CA) | <i>State-Listed</i>                  | Listed as threatened or endangered by the State of California.                         |
| *    | <i>Extirpated</i>                    | Possibly extirpated from the area.                                                     |
| **   | <i>Extinct</i>                       | Possibly extinct                                                                       |
|      | <i>Critical Habitat</i>              | Area essential to the conservation of a species.                                       |