

## **7.4 TERRESTRIAL BIOLOGICAL RESOURCES**

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## 7.4 TERRESTRIAL BIOLOGICAL RESOURCES

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### 7.4.1 INTRODUCTION

#### 7.4.1.1 Content

This section describes those elements of the Monterey Amendment and the Settlement Agreement that have the potential to directly affect terrestrial biological resources (listed in Table 7.4-1).

One comment on the NOP, in a letter from the Department of Food and Agriculture by Steve Shaffer (Director of the Office of Agricultural and Environmental Stewardship), recommended that the cumulative loss of agricultural land as a result of the Monterey Amendment and the Settlement Agreement be analyzed for the potential impacts to wildlife. Migratory birds and some special-status species have adapted to using agricultural land (due to the loss of natural habitat), and if such land is taken out of production, it may no longer be suitable for use.

There are no designated critical habitat areas or local ordinances protecting terrestrial biological resources that will be affected by the proposed project; therefore, these issues will not be addressed in this section.

#### 7.4.1.2 Analytical Method

The following documents were reviewed to describe the environmental setting as it existed in 1995:

- Biological information collected for the 1995 Draft and Final Program Environmental Impact Report (EIR) for the Implementation of the Monterey Agreement;
- The Final EIR for the Artificial Recharge, Storage and Overdraft Correction Program, Kern County, California (Kern Water Bank) (December 1986);
- The Kern Water Bank (KWB) First Stage Kern Fan Element Draft Supplemental EIR (December 1990); and
- The Semitropic Groundwater Banking Project EIR (March, 1994).

The following documents were reviewed to describe the environmental setting as it existed in 2003:

- A California Natural Diversity Database (CNDDDB) query and U.S. Fish and Wildlife Service (USFWS) official species lists for the following 7.5 minute topographic quadrangle maps, including the Department facility and surrounding quads in an approximately 10-mile radius:
  - For Lake Perris – Riverside East, Sunnymead, El Casco, Steele Peak, Perris, Lakeview, Lake Elsinore, Romoland, and Winchester quads;
  - For Castaic Lake - Black Mountain, Liebre Mountain, Burnt Peak, Lake Hughes, Green Valley, Warm Springs Mountain, Whitaker Peak, Cobblestone Mountain, Piru, Val Verde, Newhall, and Mint Canyon quads;

| <b>TABLE 7.4-1</b>  |   |   |
|---|---|---|
| <b>IMPACTS OF PROPOSED PROJECT ELEMENTS ON TERRESTRIAL BIOLOGICAL RESOURCES</b> |   |   |
| <b>Proposed Project Element</b>   | <b>Potentially Affected Environmental Resources</b>   | <b>Impact Number</b>  |
| <b>Monterey Amendment</b>   |   |   |
| Altered water allocation procedures   | Terrestrial biological resources from potential changes in agricultural practice, new groundwater banks outside contractors' area, land use management of the Kern Fan Element property, fluctuations of water surface elevations in reservoirs, changes in river flows, and changes in Delta outflow | 7.4-1, 7.4-2, 7.4-3, 7.4-4, 7.4-5, 7.4-6, 7.4-7, 7.4-8, 7.4-9 |
| Permanent Table A transfers and retirements                                     | Terrestrial biological resources from potential changes in agricultural practice, new groundwater banks outside contractors' area, land use management of the Kern Fan Element property, fluctuations of water surface elevations in reservoirs, changes in river flows, and changes in Delta outflow | 7.4-1, 7.4-2, 7.4-3, 7.4-4, 7.4-5, 7.4-6, 7.4-7, 7.4-8, 7.4-9 |
| Transfer of Kern Fan Element lands  | Terrestrial biological resources with changes in land use and management of Kern Fan Element lands and construction of recharge ponds on the Kern Fan Element property  | 7.4-1, 7.4-3  |
| Water supply management practices   | Terrestrial biological resources from potential changes in agricultural practice, new groundwater banks outside contractors' area, land use management of the Kern Fan Element property, fluctuations of water surface elevations in reservoirs, changes in river flows, and changes in Delta outflow | 7.4-1, 7.4-2, 7.4-3, 7.4-4, 7.4-5, 7.4-6, 7.4-7, 7.4-8, 7.4-9 |
| Restructured financial arrangements   | NA  | NA  |
| <b>Settlement Agreement</b>   |   |   |
| Substitute Table A amount for entitlement                                       | NA  | NA  |
| Disclosure of SWP delivery capabilities   | NA  | NA  |
| Guidelines on permanent transfers   | NA  | NA  |
| Guideline for public participation  | NA  | NA  |
| Restrictions on Kern Fan Element lands  | Terrestrial biological resources with changes in land use and management of Kern Fan Element lands and construction of recharge ponds on the Kern Fan Element property  | 7.4-1, 7.4-3  |
| Watershed forum in Plumas   | Terrestrial biological resources with improvements to the Feather River watershed   | 7.4-10  |
| Amendment of Plumas SWP contract water shortage provision                       | NA  | NA  |
| Funding for plaintiffs  | NA  | NA  |
| Note:<br>NA – Not Applicable.   |   |   |

- For San Luis Reservoir – Mustang Peak, Crevison Peak, Howard Ranch, Ingomar, Pacheco Peak, Pacheco Pass, San Luis Dam, Volta, Three Sisters, Mariposa Peak, Los Banos Valley, and Ortigalita Peak NW quads; and
- For the Kern Fan Element – Lokern, Buttonwillow, Rio Bravo, Rosedale, Stevens, Tupman, East Elk Hills, West Elk Hills, Fellows, Taft, Mouth of Kern and Millux quads.
- A CNDDDB query and USFWS official species lists of Plumas County; and the Sacramento/San Joaquin River Delta;

- A CNDDDB query for a 200-foot wide corridor along the Feather River, from Lake Oroville to where it joins the Sacramento River; and the Sacramento River from where it joins the Feather River to the Delta;
- The KWBA Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), prepared by the Kern Water Bank Authority (KWBA) (October, 1997);
- The KWBA HCP/NCCP 2004 Annual Compliance Report and 2005-2006 Management Plan (May 2005);
- The Draft Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), prepared for the County of Riverside Transportation and Land Management Agency (November 2002); and
- Personal communications with facility agents, including Cheryl Harding from the KWBA and Geary Hund from the California Department of Parks and Recreation (Lake Perris).

Certain facilities have been targeted for analysis in this document based on the changes implemented by the Monterey Amendment and Settlement Agreement. Due to the different locations throughout the state that implementation of the Amendment and Agreement would affect, the environmental setting for each facility or region affected is discussed separately below. A more detailed description of each area, including habitat communities and special-status species can be found in Appendix J. For the purposes of this report, special-status terrestrial biological resources are defined as those species listed as either threatened or endangered under either the California or federal ESAs, species identified by either the CDFG or the USFWS as “species of concern” and plant species identified by the California Native Plant Society (CNPS) in their Lists 1A, 1B, or 2. Further explanation of these categories is included under the Regulatory Setting Section. In addition, habitats considered to be rare by the CDFG are also considered special-status.

Changes that have occurred at the facilities as a result of other projects, have also been analyzed to determine if the proposed project could have a similar impact. This is particularly true for Lake Perris, where the water levels have been reduced to retrofit the dam.

#### **7.4.1.3 Standards of Significance**

For the purpose of this EIR, impacts to terrestrial biological resources are considered significant if the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as endangered, rare, or threatened, as listed in Title 14 of the California Code of Regulations (Section 670.2 or 670.5) or Title 50 of the Code of Federal Regulations (Sections 17.11 or 17.12);
- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the USFWS or California Department of Fish and Game (CDFG);
- Reduce the number or restrict the range of an endangered, rare, or threatened species;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by USFWS or CDFG;

- Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including marshes or vernal pools) through direct removal, filling, hydrological interruption, or other direct means;
- Interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with the provisions of an adopted HCP, Natural Communities Conservation Plan, or other approved local, regional, or state HCP.

## **7.4.2 ENVIRONMENTAL SETTING**

The California SWP stretches for more than 600 miles, from Lake Oroville in the north to Lake Perris in the south. Its main purpose is to store water and distribute it to urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley and Southern California. The project is also operated to meet water quality objectives in the Sacramento-San Joaquin River Delta, control Feather River floodwaters, provide recreational activities to the public, and enhance fish and wildlife habitat.

### **7.4.2.2 Physical Setting in 1995**

#### **Southern San Joaquin Valley portion of Kern, Tulare, and King Counties**

The Monterey Amendment resulted in the transfer or retirement of Table A amounts that ultimately resulted in a reduction of irrigation water for the following water districts in the southern San Joaquin Valley: Belridge WSD, Berrenda Mesa WD, Lost Hills WD, Wheeler Ridge-Maracopa WD, and the Dudley Ridge WD. The Belridge WSD, Berrenda Mesa WD, Lost Hills WD, and Wheeler Ridge-Maracopa WD are located within the KCWA boundaries along western Kern County. The Dudley Ridge WD is located in Kings County.

The vegetation communities in the southern San Joaquin Valley historically consisted of tule marsh, San Joaquin saltbush, and California prairie.<sup>1</sup> Beginning in the 1880s, marshes were drained and the valley floor was converted to agricultural uses. The majority of this land was in agricultural production by 1995. Major waterways in this region include the Kern River and a multitude of canals conveying agricultural water, including the California Aqueduct and the Cross Valley Canal. Approximately 15 special-status plants and 17 special-status animals have recorded occurrences within this region as of 1995 (see Table 7.4-2).

#### **Kern Fan Element**

The approximately 19,900 acre Kern Fan Element property is located in Kern County, about 20 miles west of Bakersfield and 10 miles south of Buttonwillow. Interstate 5 and the Kern River both bisect the area. The Kern Fan Element property had historically been subject to periodic flooding from the Kern River, and is able to absorb water at an extremely high rate, retaining it in underground aquifers. The land was used for cattle grazing in the 1880s, and then crop production in the 1930s. It was also explored for gas and oil resulting in numerous wells and pipelines. The Department purchased the land in 1988 with the intention of creating a groundwater bank. In 1995, four special-status plants and eleven special-status animals were known to occur on the Kern Fan Element property (see Table 7.4-2).

| TABLE 7.4-2   |   |         |  |                              |                        |                 |                |                       |                                  |                         |                  |
|---|---|---------|--|------------------------------|------------------------|-----------------|----------------|-----------------------|----------------------------------|-------------------------|------------------|
| SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION |   |         |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Species Name  | Status <sup>1</sup><br>Federal/State/CNPS |         | Habitat  | So. San<br>Joaquin<br>Valley | Kern<br>Fan<br>Element | Castaic<br>Lake | Lake<br>Perris | San Luis<br>Reservoir | Sacramento<br>River and<br>Delta | San<br>Francisco<br>Bay | Plumas<br>County |
|   | 1995                                      | 2003    |  |                              |                        |                 |                |                       |                                  |                         |                  |
| <b>Plants</b>   |   |         |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Hoover's woolly- star<br>(eriastrum)<br><i>Eriastrum hooveri</i>  | T/-/4                                     | D/-/4   | Alkali sinks, washes.<br>Usually on silty to sandy<br>soils.   |                              | X                      |                 |                |                       |                                  |                         |                  |
| Recurved larkspur<br><i>Delphinium<br/>recurvatum</i>   | C2/-/1B                                   | SC/-/1B | On alkaline soils  |                              | X                      |                 |                |                       |                                  |                         |                  |
| San Joaquin<br>woollythreads<br><i>Monolopia<br/>(Lembertia)<br/>congdonii</i>  | E/-/1B                                    | E/-/1B  | Alkaline or loamy plains,<br>sandy soils   |                              | X                      |                 |                |                       |                                  |                         |                  |
| Slough thistle<br><i>Cirsium crassicaule</i>  | C2/-/1B                                   | SC/-/1B | Sloughs, riverbanks, and<br>marshy areas   |                              | X                      |                 |                |                       |                                  |                         |                  |
| <b>Amphibians</b>   |   |         |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Western spadefoot<br><i>Scaphiopus<br/>hammondii</i>  | C2/CSC                                    | SC/CSC  | Primarily grassland<br>habitats, requires vernal<br>pools for breeding and egg-<br>laying.                 | X                            | X                      |                 |                |                       |                                  |                         |                  |
| <b>Reptiles</b>   |   |         |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Blunt-nosed leopard<br>lizard<br><i>Gambelia sila</i>   | E/E, FP                                   | E/E, FP | Sparsely vegetated alkali<br>and desert scrub habitats,<br>in areas of low topographic<br>relief.          | X                            | X                      |                 |                |                       |                                  |                         |                  |
| Western pond turtle<br><i>Actinemys<br/>marmorata (includes<br/>both subspecies)</i>  | C2/CSC                                    | SC/CSC  | Permanent or nearly<br>permanent bodies of water;<br>requires basking sites, and<br>suitable nesting sites | X                            | X                      |                 |                | X                     | X                                | X                       |                  |

TABLE 7.4-2

**SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION**

| Species Name   | Status <sup>1</sup><br>Federal/State/CNPS |            | Habitat   | So. San<br>Joaquin<br>Valley | Kern<br>Fan<br>Element | Castaic<br>Lake | Lake<br>Perris | San Luis<br>Reservoir | Sacramento<br>River and<br>Delta | San<br>Francisco<br>Bay | Plumas<br>County |
|--|---|------------|---|------------------------------|------------------------|-----------------|----------------|-----------------------|----------------------------------|-------------------------|------------------|
|  | 1995                                      | 2003       |   |                              |                        |                 |                |                       |                                  |                         |                  |
| <b>Birds</b>   |   |            |   |                              |                        |                 |                |                       |                                  |                         |                  |
| Bald eagle<br><i>Haliaeetus leucocephalus</i>            | E/E                                       | PD,T/E, FP | Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. General habitats include ocean shore, lake margins, and rivers for both nesting and wintering. |                              |                        | X               | X              | X                     |                                  |                         |                  |
| Burrowing owl<br><i>Athene cunicularia</i>               | C2/CSC                                    | SC,BCC/CSC | Subterranean nester, dependant upon burrowing mammals, Burrow sites typically in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.      | X                            | X                      |                 |                |                       |                                  |                         |                  |
| California thrasher<br><i>Toxostoma redivivum</i>        | -/-                                       | SC/-       | Lowland and coastal chaparral, riparian thickets  |                              |                        |                 | X              | X                     | X                                |                         |                  |
| Cooper's hawk<br><i>Accipiter cooperii</i>               | -/CSC                                     | -/CSC      | Nests in riparian growths of deciduous trees, as in canyon bottoms of river floodplains, within open, interrupted or marginal woodland.   |                              | X                      |                 | X              |                       |                                  |                         |                  |
| Double-crested cormorant<br><i>Phalacrocorax auritus</i> | -/CSC                                     | -/CSC      | Fresh, brackish, and salt water, along coastal regions and inland lakes   |                              | X                      |                 | X              |                       |                                  |                         |                  |
| Lawrence's goldfinch<br><i>Carduelis lawrencei</i>       | -/-                                       | SC, BCC/-  | Oak and riparian woodland, chaparral, pinion/juniper woodland, and weedy areas near water.  |                              | X                      |                 | X              |                       | X                                |                         |                  |

**TABLE 7.4-2**

**SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION**

| Species Name  | Status <sup>1</sup><br>Federal/State/CNPS |            | Habitat  | So. San Joaquin Valley | Kern Fan Element | Castaic Lake | Lake Perris | San Luis Reservoir | Sacramento River and Delta | San Francisco Bay | Plumas County |
|---|---|------------|--|------------------------|------------------|--------------|-------------|--------------------|----------------------------|-------------------|---------------|
|   | 1995                                      | 2003       |  |                        |                  |              |             |                    |                            |                   |               |
| Least bell's vireo<br><i>Vireo bellii pusillus</i>                  | E/E                                       | E,BCC/E    | Summer resident of southern California, in low riparian habitat in the vicinity of water or in dry river bottoms; nests placed along margins of bushes or on twigs projecting into pathways, usually on willow, baccharis, or mesquite.        |                        |                  |              | X           |                    |                            |                   |               |
| Loggerhead Shrike<br><i>Lanius ludovicianus</i>                     | C2/CSC                                    | SC,BCC/CSC | Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting. Typically nests in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and wash. |                        | X                |              | X           |                    |                            |                   |               |
| Northern Harrier<br><i>Circus cyaneus</i>                           | -/CSC                                     | -/CSC      | Breeds in shrubby vegetation within marshes, or grasslands.  |                        |                  |              | X           |                    |                            |                   |               |
| Osprey<br><i>Pandion haliaetus</i>                                  | -/CSC                                     | -/CSC      | Large bodies of water supporting fish. Nest in exposed locations, often in the tops of trees or in snags in beaver swamps.   |                        |                  |              | X           | X                  |                            |                   |               |
| Southwestern willow flycatcher<br><i>Empidonax traillii extimus</i> | E/E                                       | E/E        | Riparian woodlands in southern California.   |                        |                  | X            | X           |                    |                            |                   |               |

| TABLE 7.4-2   |   |                       |   |                        |                  |              |             |                    |                            |                   |               |
|---|---|-----------------------|---|------------------------|------------------|--------------|-------------|--------------------|----------------------------|-------------------|---------------|
| SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION |   |                       |   |                        |                  |              |             |                    |                            |                   |               |
| Species Name  | Status <sup>1</sup><br>Federal/State/CNPS |                       | Habitat   | So. San Joaquin Valley | Kern Fan Element | Castaic Lake | Lake Perris | San Luis Reservoir | Sacramento River and Delta | San Francisco Bay | Plumas County |
|   | 1995                                      | 2003                  |   |                        |                  |              |             |                    |                            |                   |               |
| Swainson's hawk<br><i>Buteo swainsoni</i>   | -/T                                       | SC,BCC/T              | Breeds in stands with few trees in Juniper-sage flats, riparian areas and oak savannahs. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.  | X                      |                  |              |             |                    |                            |                   |               |
| White-tailed (black shouldered) kite<br><i>Elanus leucurus</i>  | -/*                                       | SC,MNBMC/FP           | Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. General nesting habitat is rolling foothill/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. |                        |                  |              | X           | X                  |                            |                   |               |
| Yellow warbler<br><i>Dendroica petechia brewsteri</i>   | -/CSC                                     | -/CSC                 | Nests in riparian habitat, often in willows, cottonwoods, aspens, sycamores and alders. Also nests in montane shrubbery in open conifer forests.  |                        |                  |              | X           |                    |                            |                   |               |
| <b>Mammals</b>  |   |                       |   |                        |                  |              |             |                    |                            |                   |               |
| American badger<br><i>Taxidea taxus</i>   | -/CSC                                     | -/SA<br>(CSC in 2006) | Need friable soils and open, uncultivated ground in drier open stages of most shrub, forest, and herbaceous habitats.   | X                      | X                |              |             |                    |                            |                   |               |

| TABLE 7.4-2   |   |        |  |                              |                        |                 |                |                       |                                  |                         |                  |
|---|---|--------|--|------------------------------|------------------------|-----------------|----------------|-----------------------|----------------------------------|-------------------------|------------------|
| SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION |   |        |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Species Name  | Status <sup>1</sup><br>Federal/State/CNPS |        | Habitat  | So. San<br>Joaquin<br>Valley | Kern<br>Fan<br>Element | Castaic<br>Lake | Lake<br>Perris | San Luis<br>Reservoir | Sacramento<br>River and<br>Delta | San<br>Francisco<br>Bay | Plumas<br>County |
|   | 1995                                      | 2003   |  |                              |                        |                 |                |                       |                                  |                         |                  |
| Buena Vista Lake shrew<br><i>Sorex ornatus relictus</i>   | C1/CSC                                    | E/CSC  | Marshlands and riparian areas in the Tulare Basin. Prefers moist soil. Uses stumps, logs and litter for cover.   | X                            | X                      |                 |                |                       |                                  |                         |                  |
| Greater western mastiff bat<br><i>Eumops perotis californicus</i>   | C2/CSC                                    | SC/CSC | Roosts in crevices in cliff faces, high buildings, trees and tunnels; uses many open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. |                              |                        | X               | X              | X                     |                                  |                         |                  |
| San Joaquin antelope squirrel<br><i>Ammospermophilus nelsoni</i>  | C2/T                                      | SC/T   | Western San Joaquin Valley on dry, sparsely vegetated loam soils. Need widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes  |                              | X                      |                 |                |                       |                                  |                         |                  |
| San Joaquin kit fox<br><i>Vulpes macrotis mutica</i>  | E/T                                       | E/T    | Needs loose-textured sandy soils for burrowing, and suitable prey base, in annual grasslands or grassy open stages with scattered shrubby vegetation.  | X                            | X                      |                 |                | X                     |                                  |                         |                  |
| Tipton kangaroo rat<br><i>Dipodomys nitratoides nitratoides</i>   | E/E                                       | E/E    | Needs soft friable soils which escape seasonal flooding within saltbrush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley                                  | X                            | X                      |                 |                |                       |                                  |                         |                  |

**TABLE 7.4-2**

**SPECIAL-STATUS SPECIES WITH KNOWN OCCURRENCES AND THE POTENTIAL TO BE IMPACTED BY THE PROPOSED PROJECT, BY FACILITY OR REGION**

| Species Name                            | Status <sup>1</sup><br>Federal/State/CNPS |      | Habitat   | So. San Joaquin Valley | Kern Fan Element | Castaic Lake | Lake Perris | San Luis Reservoir | Sacramento River and Delta | San Francisco Bay | Plumas County |
|---|---|------|---|------------------------|------------------|--------------|-------------|--------------------|----------------------------|-------------------|---------------|
|   | 1995                                      | 2003 |   |                        |                  |              |             |                    |                            |                   |               |
| Yuma myotis<br><i>Myotis yumanensis</i> | C2/-/                                     | SC/- | Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to the bodies of water. Maternity colonies in caves, mines, buildings or crevices. |                        | X                |              | X           | X                  | X                          |                   | X             |

Notes 1. Status explanation

Federal

E Listed as endangered under the Federal Endangered Species Act.

T Listed as threatened under the Federal Endangered Species Act.

C1 Category 1 Candidate for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules not yet issued because this action is precluded at present by other listing activity.

C2 Category 2 Candidate for which information now in the possession of the USFWS indicated that proposing to list and endangered or threatened is possibly appropriate, but for which persuasive data on biological vulnerability and threat are not currently available to support proposed rules.

SC Federal Species of Concern. The USFWS decided to no longer maintain C2 and C3 lists, and species formerly categorized as such were informally termed "Species of Concern." The Sacramento Fish & Wildlife Office maintains a list of *Species of Concern*. These species receive no legal protection and the use of the term does not mean that they will eventually be proposed for listing. In 2006, the USFWS stopped maintaining a Federal Species of Concern list.

PD Proposed for Delisting.

D Delisted – Delisted species are monitored for five years after being delisted.

BCC US Fish and Wildlife Service, Bird of Conservation Concern

MNBMC US Fish and Wildlife Service, Migratory Nongame Bird of Management Concern

- No listing

State

E Listed as endangered under the California Endangered Species Act.

T Listed as threatened under the California Endangered Species Act.

CSC California Special Concern Species – categorized as such because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

FP Fully Protected – Fully protected species may not be taken or possessed without a permit from the Fish and Game Commission.

\* Taxa listed with an asterisk (\*) fall into one or more of the following categories – (1) Taxa that are biologically rare, very restricted in distribution, or declining throughout their range; (2) population(s) in California that are peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California; and (3) taxa closely associated with a habitat that is declining in California (e.g. wetlands, riparian, old growth forest).

SA Taxa found on the July 2003 Special Animals List, which have no legal or protection status.

- No listing.

Other – California Native Plant Society

1B Rare, threatened or endangered in California and elsewhere

4 Plants of limited distribution.

Sources:  
 USFWS List of Candidate Fauna from California and Nevada as of 31 August 1994 (59 FR 58982).  
 Endangered and Threatened Wildlife and Plants 50 CFR 17.11 and 17.12, August 20, 1994.  
 State and Federal Endangered Animals for California and Listing Dates, Department of Fish and Game, Revised January 1994.  
 California Department of Fish and Game Natural Diversity Data Base Special Animals, December 1992 (The 1994 version could not be located).

Prior to the Department's purchase of the Kern Fan Element property, approximately 17,068 acres of the property was under extensive cultivation.<sup>2</sup> The remaining property contained 1,515 acres of isolated sensitive native plant communities (valley saltbush scrub, Great Valley mesquite scrub and valley sacaton grassland) and 1,317 acres of non-native grassland, which had been leased for oil recovery facilities. No wetland habitat was present in the project area, except for the canals used to convey agricultural water.

After the Department acquired the property, it continued to be farmed by tenants for several years. The Department gradually took the Kern Fan Element lands out of production and by 1995, approximately 16,000 acres of the Kern Fan Element consisted of fallow farmland that had been previously irrigated; 288 acres of actively irrigated farmland; and approximately 2,690 acres of native and disturbed vegetation, including open areas, and land maintained under dry farming for weed management. The remaining 490 acres consisted of roads, canals, and oil and gas facilities.<sup>3</sup>

### **Castaic Lake**

The physical characteristics of Castaic Lake are described in Chapter 2. Vegetation communities surrounding Castaic Lake include coastal scrub, red shank-chamise chaparral, and undifferentiated chaparral scrub. Due to the steep topography, fluctuating water levels and minimal shoreline, little aquatic vegetation is associated with the lake margin. Castaic Lagoon, surrounded by coastal scrub habitat, is located below Castaic Dam, and has gentler slopes and constant water levels, which allows for the establishment of vegetation. In addition, the lagoon has maintained public beaches and campgrounds vegetated with grasses and non-native shrubs and trees, such as pines (*Pinus* sp.) and eucalyptus (*Eucalyptus* sp.). No sensitive habitats are known to occur within the margin of Castaic Lake that could be affected by the proposed project.

Creation of Castaic Lake has resulted in a large body of water in an otherwise arid region, which now provides habitat for large numbers of waterfowl, such as western grebes (*Aechmophorus occidentalis*), Canada geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), gulls (*Larus* spp.) and American coots (*Fulica americana*). The uplands surrounding the lake provides habitat for those species adapted to the arid conditions of southern California. Many special-status species located in the region, however, use riparian habitats or upland habitats and would not be affected by changes in the water level at Castaic Lake. No special-status plants are known to occur along the lake margin. However, both bald eagles (*Haliaeetus leucocephalus*), which could use the lake surface to forage and greater western mastiff bats (*Eumops perotis californicus*), which could use the lake surface for drinking water and foraging, have been recorded at Castaic Lake (see Table 7.4-2).

### **Lake Perris**

The physical characteristics of Lake Perris are described in Chapter 2. Vegetation communities surrounding Lake Perris include a band of riparian vegetation approximately 2.2 miles long, containing willows (*Salix* sp.) and mulefat (*Baccharis salicifolia*) on the northeast and eastern border, and mixed sage scrub along the northern and southern borders. The immediate northern shoreline is maintained as part of the Lake Perris State Recreation Area, and contains grassy lawns and shade trees such as pepper (*Schinus* sp.), eucalyptus, cypress (*Cupressus* sp.), palm (*Washingtonia* sp.), and pine.

Terrestrial wildlife that could be affected by the proposed project at Lake Perris use the riparian habitat and the lake surface (foraging raptors or bats, and waterfowl). The riparian zone provides relief from the arid uplands, including shade, shelter, food and perch sites for a number of bird species, many of which migrate through the area, and nesting habitat for waterfowl. No special-status plants are known to occur along the margin of Lake Perris, but 13 special-status terrestrial animals could use the lake or the riparian habitat for a portion of their lifecycles (see Table 7.4-2).

### **San Luis Reservoir**

The San Luis Reservoir, with a 12,529-acre surface area, is located in western Merced County, just east of the Merced/Santa Clara County line. Lying in the foothills of the Diablo Range, the reservoir stores primarily imported water, though a few ephemeral streams, including Cottonwood Creek and San Luis Creek, also flow into the reservoir. Vegetation surrounding the facilities includes non-native grassland, coastal scrub and riparian habitats, but the shoreline generally lacks vegetation. No special-status plant species and eight special-status terrestrial wildlife species potentially use the reservoir (see Table 7.4-2).

### **Lake Oroville**

Lake Oroville, with a maximum surface area of 15,000 acres is located on the Feather River, in Butte County, approximately 75 miles north of Sacramento. The reservoir is fed by the North, Middle, and South Forks of the Feather River and was formed in 1964 by the construction of the Oroville Dam. Other facilities associated with the lake include the Thermalito Forebay, the Thermalito Afterbay, the Feather River Hatchery, and the Feather River Low Flow Channel. Vegetation at the lake is limited due to loss of soil from wave action and periodic inundation followed by severe desiccation.

Terrestrial wildlife that could be affected by the proposed project at Lake Oroville use the Thermalito Complex, which supports emergent wetlands and annual grassland habitat. Additionally, wildlife can use the lake surface (foraging raptors or bats and waterfowl). Five special status plants and six special status wildlife species have been recorded along the lake margin or potentially use the lake for foraging.

### **Feather River**

The Feather River, from the Dam at Lake Oroville to where it flows into the Sacramento River, is approximately 68 miles long. The river generally flows south from Lake Oroville across the Sacramento Valley, east of the Sutter Buttes, past the City of Oroville and Yuba City-Marysville and joining the Sacramento River from the north approximately 20 miles north-northwest of Sacramento.

Honcut Creek, the Yuba River, and the Bear River join the Feather River below Oroville. The Feather River currently supports a fragmented and narrow riparian forest compared to historic riparian forests. The majority of the trees associated with the riparian forest of the Feather River are broad-leaved and deciduous including cottonwoods (*Populus fremontii*), valley oaks (*Quercus lobata*), California sycamore (*Platanus racemosa*) and willows (*Salix* spp.). No special status plants and one special status wildlife species, the bank swallow (*Riparia riparia*) occurs along the Feather River.

## **Sacramento River**

The lower Sacramento River, from where it meets the Feather River to where it enters the Sacramento/San Joaquin Delta, is predominantly channelized, leveed, and bordered by agricultural lands. Aquatic habitat in the lower Sacramento River is characterized primarily by slow-water glides and pools, is depositional in nature, and has reduced water clarity and habitat diversity, relative to the upper portion of the river. The American River joins the Sacramento River in the City of Sacramento. As with the Feather River, the Sacramento River supports a fragmented and narrow riparian forest. There are no recorded occurrences of terrestrial special status plants or special status wildlife species within this portion of the Sacramento River, but western pond turtle (*Actinemys marmorata*), are known to occur in the area.

## **Sacramento/San Joaquin Delta**

The Sacramento/San Joaquin Delta (Delta) is a 1,100-square mile region in the center of the Great Central Valley of California. Historically, the Delta was a large natural marsh created by the confluence of the Sacramento, San Joaquin, Cosumnes, and Mokelumne rivers that extended along both sides of the Sacramento and San Joaquin Valleys reaching the lower foothills of the inner Coast Range to the west and the foothills of the Sierra Nevada on the east. The Delta now includes numerous islands reclaimed from original marshland for agricultural production. It is a level plain, except for the levees that have been constructed to prevent flooding of agricultural lands. Elevations range from below sea level to a few feet above sea level on levees. The river channels are meandering and have been modified by flood control and navigation. There are many overflow channels and brackish tidal water enters the area when river flow is low during the summer and fall.

### **7.4.2.3 Changes in Physical Setting between 1996 and 2003**

Changes in the physical setting are described below.

#### **Southern San Joaquin Valley portion of Kern County**

Many changes have occurred in this region unrelated to this project as agricultural land has been converted to urban uses associated with the City of Bakersfield.

The Monterey Amendment encourages water banking. In Kern County, a total of 7,634 acres have been converted to shallow recharge basins since 1995, some of which is used for out-of-service area storage programs. This has occurred at the KWB (see below) and Arvin-Edison WSD. In addition, the Kern Delta WD has plans to develop a recharge program. In the future these districts are expecting to construct approximately 1,700 acres of ponds. Additionally, approximately eight new special-status animals have recorded occurrences within this region since 1995 (see Table 7.4-2).

#### **Lake Perris**

No changes in terrestrial biological resources have occurred at Lake Perris between 1996 and 2003. The riparian community has remained stable and healthy, providing habitat for least Bell's vireo, a state and federal endangered species, and a variety of other wildlife species. Efforts to improve the habitat include tamarisk and *Arundo* removal. A thorough assessment of the habitat has not occurred, but additional wildlife surveys have been conducted in the area under the Long-term HCP for the Stephen's Kangaroo Rat in Western Riverside County, and

the Western Riverside County MSHCP. As a result, least Bell's vireo, greater western mastiff bat and the Yuma myotis bat have been documented at Lake Perris.<sup>4</sup>

## **Plumas County**

As a result of the Settlement Agreement, Plumas County will receive funds to for watershed improvement projects. Located in northeastern California, where the Sierra Nevada and Cascade mountain ranges meet, Plumas County has more than 100 lakes, 1,000 miles of rivers and streams with over a million acres of national forest, including portions of the Plumas National Forest and Lassen Volcanic National Park.

These parks and much of the rural county supports many terrestrial wildlife species including over 300 species of birds, and large mammals such as deer, black bear and mountain lions. Most of Plumas County drains into the Feather River. The Middle Fork of the Feather River has been designated as a "National Wild and Scenic River" from the confluence of its tributary streams to one kilometer south of Beckworth, California.

### **7.4.2.4 Regulatory Setting in 1995**

#### **Federal**

##### Federal Endangered Species Act

The Federal Endangered Species Act (FESA) prohibits "take" of federally-listed threatened or endangered wildlife species, without either a Section 7 or 10 permit. "Take" as defined, includes actions that involve harming, pursuing, possessing, or harassing individuals of a protected species, as well as "such acts as may include significant habitat modification or degradation" (50 CFR §17.3). For listed plants, the FESA does not strictly prohibit take but does require compliance with state and local regulations. Species identified as candidates for listing in either Category 1 or 2<sup>5</sup> do not have the full protection of the FESA; however, USFWS advises project applicants that a Category 1 or 2 species could be elevated to listed status at any time.

Under the FESA, the Secretary of the Interior and the Secretary of Commerce, jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether the project would have a potentially significant impact on any federally-listed threatened or endangered species, on any species proposed to be listed under FESA, or would result in the destruction or adverse modification of critical habitat (16 USC 1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation.

Projects that would result in "take" of any federally-listed threatened or endangered species are required to obtain authorization from the USFWS through either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project. The Section 7 authorization process is used to determine if a project with a federal nexus would jeopardize the continued existence of a listed species and what mitigation measures would be required to avoid jeopardizing the species. The Section 10(a) process allows take of endangered species or their habitat in non-federal activities.

### Federal Regulation of Activities in Wetlands

The regulations and policies of various federal agencies (e.g., the United States Army Corps of Engineers [Corps], United States Environmental Protection Agency [EPA], USFWS, and the National Marine Fisheries Service [NMFS]) mandate that the filling or excavating of wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering permits to fill jurisdictional waters of the U.S. under the Rivers and Harbors Act (Sections 9 and 10), Section 404 of the Clean Water Act and a Memorandum of Understanding with the EPA. Most waters of the U.S. are defined by list (e.g., lakes, ponds, rivers) but also include navigable waterways, their tributaries (including intermittent streams), and wetlands. The EPA, USFWS, NMFS, and several other agencies provide comment on Corps permit applications. The EPA has provided the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

### Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

## **State**

### California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code 2050 *et seq.*). Listed wildlife species may not be “taken” without adequate mitigation and compensation. Under 1995 conditions, “take” meant to hunt, pursue, catch, capture, or kill or attempt to do so; it did not prohibit indirect harm by way of habitat modification. Listed plants could not be taken unless advance notice and request to salvage were given to CDFG. Typically, CDFG implemented endangered species protection by entering into management agreements (Section 2081 management agreements) with project proponents.

CDFG also maintains a list of “species of special concern”, which are species that the CDFG has considered to be indicators of regional habitat changes, or are considered to be potential future protected species. Species of special concern do not have any special legal status, but CDFG affords these species special consideration when evaluating proposed projects.

### CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA section 15380 provides that a species not listed on the federal or state lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. Guidelines issued by the Director of CDFG state that CNPS List 1B plants fulfill these criteria and therefore should be included in environmental impact reports and mitigation. CDFG guidelines do not carry the obligations of law or regulation, but CDFG views this policy as a means to avoid project delays in addressing species issues of which the applicant was not formerly notified. Thus, CEQA provides an agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Fish and Game Code - Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. These regulations could require that elements of the proposed Project (particularly vegetation removal or construction near nest trees) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFG and/or USFWS.

CDFG Streambed Alteration Agreement

Sections 1600-1607 of the California Fish and Game Code prohibit alterations of any streams, including intermittent and seasonal channels and many artificial channels without a permit from CDFG. The limit of CDFG jurisdiction is (subject to the judgment the Department), up to the 100-year flood level.

California Native Plant Society (CNPS)

Vascular plants listed as rare or endangered by the CNPS (Skinner and Pavlik, 1995),<sup>6</sup> but which have no designated status or protection under federal or state-endangered species legislation, are defined as follows:

- List 1A Plants Believed Extinct.
- List 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
- List 2 Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- List 3 Plants About Which More Information is Needed – A Review List.
- List 4 Plants of Limited Distribution – A Watch List.

In general, plants appearing on CNPS List 1 are considered to meet CEQA section 15380 criteria.

**7.4.2.5 Changes in Regulatory Setting between 1996 and 2003****Federal**FESA

No change to the FESA occurred between 1995 and 2003, though the definition of “take” has been further refined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct”, where “harm” includes significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering (50 CFR 17.3). Project-related impacts to listed threatened or endangered species, species proposed for listing or their habitats are still considered significant and would require mitigation. The USFWS no longer tracks candidate species, though in 2003, these remained on the CDFG Special Animals list as

“federal species of concern” and are considered rare under CEQA section 15380. As of May 2006, the USFWS no longer maintains the “federal species of concern” lists although many of these species remain on the CDFG Special Animals list. Table 7.4-3 lists each species whose status has changed since 1995 and explains the change. Information on species known to occur in the region, but not impacted by the proposed project, can be found in Appendix J.

| <b>TABLE 7.4-3</b>  |  |   |   |
|---|--|---|---|
| <b>SPECIAL-STATUS UPDATES FOR PLANT AND WILDLIFE SPECIES<br/>KNOWN TO OCCUR IN THE PROJECT AREA</b> |  |   |   |
| <b>Common Name</b>  | <b>Scientific Name</b>   | <b>1994 Status<br/>(Federal/State/CNPS)</b> | <b>2003 Status<br/>(Federal/State/CNPS)</b> |
| Hoover's woolly-star (eriastrum)  | <i>Eriastrum hooveri</i>   | T/--/CNPS 4                                 | D/--/CNPS 4                                 |
| Recurved larkspur   | <i>Delphinium recurvatum</i>   | C2/--/CNPS 1B                               | SC/--/CNPS 1B                               |
| Slough thistle  | <i>Cirsium crassicaule</i>   | C2/--/CNPS 1B                               | SC/--/CNPS 1B                               |
| Western spadefoot   | <i>Scaphiopus hammondi</i>   | C2/CSC                                      | SC/CSC                                      |
| Western pond turtle   | <i>Clemmys marmorata</i>   | C2/CSC                                      | SC/CSC                                      |
| Bald eagle  | <i>Haliaeetus leucocephalus</i>  | E/E, FP                                     | T, PD/E, FP                                 |
| Burrowing owl   | <i>Athene cunicularia</i>  | C2/CSC                                      | SC, BCC/CSC                                 |
| California thrasher   | <i>Toxostoma redivivum</i>   | -/-   | SC/-  |
| Lawrence's goldfinch  | <i>Carduelis lawrencei</i>   | -/-   | SC, BCC/-                                   |
| Least Bell's vireo  | <i>Vireo bellii pusillus</i>   | E/E   | E, BCC/E                                    |
| Loggerhead shrike   | <i>Lanius ludovicianus</i>   | C2/CSC                                      | SC, BCC/CSC                                 |
| Swainson's hawk   | <i>Buteo swainsoni</i>   | -/T   | SC, BCC/T                                   |
| White-tailed (black-shouldered) kite  | <i>Elanus leucurus</i>   | -/*   | SC, MNBMC/FP                                |
| American badger   | <i>Taxidea taxus</i>   | -/CSC                                       | -/SA  |
| Buena Vista Lake shrew  | <i>Sorex ornatus relictus</i>  | C1/CSC                                      | E/CSC                                       |
| Greater western mastiff bat   | <i>Eumops perotis californicus</i>   | C2/CSC                                      | SC/CSC                                      |
| San Joaquin antelope squirrel   | <i>Ammospermophilus nelsoni</i>  | C2/T  | SC/T  |
| Yuma myotis   | <i>Myotis yumanensis</i>   | C2/-  | SC/-  |
| <b>Federal:</b>   |  |   |   |
| E   | Listed as endangered under the Federal Endangered Species Act.   |   |   |
| T   | Listed as threatened under the Federal Endangered Species Act.   |   |   |
| C1  | Category 1 Candidate for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules not yet issued because this action is precluded at present by other listing activity.  |   |   |
| C2  | Category 2 Candidate for which information now in the possession of the USFWS indicated that proposing to list and endangered or threatened is possibly appropriate, but for which persuasive data on biological vulnerability and threat are not currently available to support proposed rules.   |   |   |
| SC  | Federal Species of Concern. The USFWS decided to no longer maintain C2 and C3 lists, and species formerly categorized as such were informally termed "Species of Concern." The Sacramento Fish & Wildlife Office maintains a list of <i>Species of Concern</i> . These species receive no legal protection and the use of the term does not mean that they will eventually be proposed for listing.  |   |   |
| D   | Delisted – Delisted species are monitored for five years after being delisted.   |   |   |
| BCC   | US Fish and Wildlife Service, Bird of Conservation Concern.  |   |   |
| MNBMC   | US Fish and Wildlife Service, Migratory Nongame Bird of Management Concern.  |   |   |
| -   | No listing.  |   |   |
| <b>State:</b>   |  |   |   |
| E   | Listed as endangered under the California Endangered Species Act.  |   |   |
| T   | Listed as threatened under the California Endangered Species Act.  |   |   |
| CSC   | California Special Concern Species – categorized as such because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.  |   |   |
| FP  | Fully Protected – Fully protected species may not be taken or possessed without a permit from the Fish and Game Commission.  |   |   |
| *   | Taxa listed with an asterisk (*) fall into one or more of the following categories – (1) Taxa that are biologically rare, very restricted in distribution, or declining throughout their range; (2) population(s) in California that are peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California; and (3) taxa closely associated with a habitat that is declining in California (e.g. wetlands, riparian, old growth forest). |   |   |
| SA  | Taxa found on the July 2003 Special Animals List, which have no legal or protection status.  |   |   |
| -   | No listing.  |   |   |
| <b>Other:</b>   |  |   |   |
|   | CNPS 1B – Plants that are rare, threatened or endangered in the state of California.   |   |   |
|   | CNPS 4 – Plants of Limited Distribution – A Watch List.  |   |   |

Federal Regulation of Activities in Wetlands

No changes to regulation of activities in wetlands have occurred between 1995 and 2003 in a way which would change the regulatory requirements of the proposed project.

Migratory Bird Treaty Act

No changes to the Migratory Bird Treaty Act have occurred between 1995 and 2003 in a way that would change the regulatory requirements of the proposed project.

**State**California Endangered Species Act (CESA)

No change to the CESA has occurred between 1995 and 2003 in a way that would change the regulatory requirements of the proposed project. CDFG continues to maintain a list of candidate, threatened and endangered species, as well as species of concern. Project-related impacts on state endangered or threatened species and species of concern are considered significant under CEQA Guidelines Section 15380, and would require mitigation.

Changes to the state Fish and Game code occurred that limited the duration of the consultation process required under Section 2090-2096. Regardless of this change, CDFG still consults with applicants whose projects could impact state-listed species.

CEQA Guidelines Section 15380

No change to CEQA Guidelines Section 15380 has occurred between 1995 and 2003.

CDFG Streambed Alteration Agreement

Since 1995, the California Fish and Game Code that addresses the CDFG Streambed Alteration Agreements has been changed to include modifications to lakes. As a result of a 1999 Mendocino County court ruling, CDFG is required to meet CEQA requirements prior to issuing a lake or streambed alteration agreement. In addition, the Code was replaced in January 2004 with the new Sections 1600-1616, which lays out the timelines differently, extends the duration of agreements to five years with an option for longer terms, and raises the maximum fee that can be collected from \$2,400 to \$5,000.

Fish and Game Code-Section 3503, 3503.5, 3513

No change to Fish and Game Code Sections 3503, 3503.5, 3513 has occurred between 1995 and 2003.

**Other Statutes, Codes, and Policies Affording Limited Species Protection**

The sixth edition of CNPS's Inventory of Rare and Endangered Plants of California was published in August 2001. This edition included non-vascular plants (including mosses and liverworts) and more than 300 newly-described plants. While a plant's status may have changed between 1995 and 2003 due to new information, CNPS List 1 or 2 are now considered to meet CEQA section 15380 criteria and effects on these species are considered significant in this EIR. Table 7.4-3 lists each species whose status has changed since 1995 and explains the

change. Information on species known to occur in the region, but not impacted by the proposed project can be found in Appendix J.

#### Kern Water Bank (KWB) Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)

The USFWS and CDFG approved the HCP/NCCP in October 1997. The federal and state HCP and NCCP programs seek to make the permit application process more efficient, while still complying with current federal, state and county laws that protect threatened or endangered species. The goal is to conserve plant and wildlife species by preserving their natural communities. The HCP/NCCP serves as an HCP pursuant to Section 10(a)(1)(B) of the 1973 FESA, as well as a Natural Communities Conservation Plan (NCCP) under the California NCCP Act of 2001. It allows the incidental “take” of selected species in areas outside of preserve boundaries, while guaranteeing that natural communities capable of sustaining the covered species’ population needs are preserved in perpetuity.

The KWB HCP/NCCP documents a plan to accomplish both water conservation and environmental objectives by:

1. Allowing the economic development of water recharge and recovery facilities;
2. Preserving compatible upland habitat and other sensitive areas of natural habitat and rare plants;
3. Conserving species listed as threatened or endangered, pursuant to federal and state environmental laws (listed species as well as other sensitive species);
4. Re-creating intermittent wetland/rangeland habitat;
5. Providing a conservation bank for third parties; and
6. Permitting farming.

The KWB HCP/NCCP planning area comprises the entire 19,900-acre Kern Fan Element property. A breakdown of permitted land uses is shown in Table 7.4-4. The KWB HCP/NCCP allows for the incidental take of up to 161 rare, threatened or endangered species with documented occurrences or potential habitat in the project area that may be affected by the proposed project, or species that do not currently occur and for which habitat does not currently exist in the project area, but for which habitat may be created in the future.

#### Western Riverside Multi-Species Habitat Conservation Plan (MSHCP)

The County of Riverside Transportation and Land Management Agency has prepared the Western Riverside MSHCP which serves as an HCP pursuant to Section 10(a)(1)(B) of the 1973 FESA, as well as a NCCP under the California NCCP Act of 2001. This plan, similar in function to the KWB HCP/NCCP, covers an area of 1.26 million acres in western Riverside County, including Lake Perris.

Existing and future state and federal lands will contribute approximately 338,000 acres (68 percent) of the total 500,000-acre MSHCP Conservation Area, with private sector development contributions of 72,000 acres (14 percent), public infrastructure project contributions of 25,000 acres (five percent), and local public land contributions of about 65,000 acres (13 percent). Approximately 97,000 acres of private lands will be conserved through local development processes, including mitigation for impacts to biological resources as a result of development projects in the Plan Area.

| <b>TABLE 7.4-4</b>   |                                  |
|--|----------------------------------|
| <b>KERN WATER BANK HCP/NCCP LAND USE DESIGNATIONS</b>  |                                  |
| <b>Land Use</b>  | <b>Area in Acres<sup>1</sup></b> |
| Recharge Basins  | 5,900 <sup>2</sup>               |
| Other Banking Facilities   | 481                              |
| Compatible Habitat   | 5,592 <sup>2</sup>               |
| Sensitive Habitat  | 960                              |
| DWR Mitigation Land  | 530                              |
| Farming  | 3,170                            |
| Conservation Bank <sup>3</sup>   | 3,267                            |
| <b>Total</b>   | <b>19,900</b>                    |
| Notes:   |                                  |
| 1. Administrative modification will allow for a shift of up to 559 acres of Compatible Habitat and 95 acres of Sensitive Habitat acres to Recharge Basins or Other Water Banking Facilities as described in section V.D. of the HCP. |                                  |
| 2. KWBA Mitigation Land – 146 acres of Recharge Basins and 489 acres of Compatible Habitat totaling 635 acres will be covered by a conservation easement.  |                                  |
| 3. Includes potential commercial development zone of up to 490 acres.  |                                  |
| Source: Kern Water Bank Habitat Conservation Plan/Natural Community Conservation Plan, 1997.   |                                  |

### Long-term Habitat Conservation Plan for the Stephens' Kangaroo Rat

In 1995, the Riverside County Habitat Conservation Agency (RCHCA) requested a Section 10(a) permit from the USFWS, and a Section 2081 permit from the CDFG to allow the take of Stephen's kangaroo rat for otherwise lawful activities for a 30-year period. Further, the RCHCA proposed to implement a long-term HCP for the Stephen's kangaroo rat, which would ultimately result in the preservation of approximately 15,000 acres of Stephen's kangaroo rat habitat. Any private or public projects would be allowed to participate in the plan by paying mitigation fees, which would allow for the acquisition and management of habitat for the long-term management of the species. The permit was issued in May 1996. Lake Perris is located in the Core Reserve Area, but the reservoir and ancillary facilities operated by the Department are excluded from the reserve.

### **7.4.3 IMPACTS AND MITIGATION MEASURES**

#### **7.4-1 Implementation of the proposed project could potentially affect special-status terrestrial biological resources in the southern San Joaquin Valley portion of Kern and King's Counties as a result of potential changes in agricultural practices.**

#### **1996 — 2003**

The southern San Joaquin Valley portion of Kern and King's County was once comprised of tule marsh, San Joaquin saltbush and California prairie habitats.<sup>7</sup> These supported a variety of endemic species adapted to xeric conditions, including the now federally-listed San Joaquin kit fox (*Vulpes macrotis mutica*), blunt nosed leopard lizard (*Gambelia sila*), and Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*). Agricultural conversion of the region in the late 1800s drained the marshes and irrigated the dry uplands, displacing native plants and animals and stressing remaining populations through a general increase in human activity and disturbance.

Though the value of agricultural land is generally lower than that of natural habitat to wildlife, some species have adapted and have extended their range into converted agricultural habitats. Rodents such as voles and ground squirrels, for example, can take advantage of increased food availability and water supply in agricultural lands to increase their populations, which in turn can provide a larger prey base for predators such as raptors. Grain and row crops (and the insects that feed on them) can support bird and mammal populations that would otherwise be constrained by the absence of such food resources in more xeric habitats. Conversely, increased levels of human activity, the plowing and tilling of soils, and the application of fertilizers, pesticides and herbicides to stimulate agricultural production can adversely affect native wildlife resulting in displacement or avoidance.

As discussed in Section 7.6, Agricultural Resources, there is no strong evidence to support a conclusion that land was taken out of irrigated production as a result of the proposed project. Although the proposed project resulted in a reduction of agricultural contractor's share of SWP Table A amount on an annual average basis, it increased the reliability of their supplies. As a result, the risk associated with planting permanent crops was reduced. The proposed project could have, therefore, accelerated an existing trend toward more permanent crops. However, no clear trend can be attributed to the proposed project that can be discerned for the period between 1996 and 2003.

The increased reliability in water supply could have affected the amount and types of agricultural production, which in turn affected the availability and utilization of agricultural habitat by wildlife. As a result (and due in part to economic benefits) farmers have, in some cases, replaced annual crops with permanent orchard crops such as grapes and almonds because they can depend on receiving water allocations annually, instead of being subject to drought conditions. Orchard crops provide even lower quality habitat than row crops due to increased cover, pesticide/herbicide applications and frequent disturbance.

While some animals have adapted to exploit cultivated fields (in some cases, becoming pests), few special-status species benefit from agricultural cultivation. San Joaquin kit fox are able to use the habitat for migration, but no longer can den. Swainson's hawks (*Buteo swainsoni*), however, commonly rely on the increased insect and rodent populations in agricultural fields within ten miles of their nests, actually preferring to forage in alfalfa, beet, tomato, rice (during the non-flooded period), cereal grain (including corn after harvest), and other low-growing, row or field crops; fallow fields; and dry- and irrigated pasture. Though only one Swainson's hawk nest has been recorded in the western portion of Kern County, it is highly unlikely that this nest would remain active if all of the surrounding farmland were converted from annual row-crops to orchards.

To the extent that some land was converted to orchard crops as a result of the proposed project, this would not prohibit San Joaquin kit fox migration, but could adversely impact Swainson's hawk, as this habitat is not suitable for foraging. However, there is only one recorded occurrence of Swainson's hawk within the water district boundaries that total almost 75,000 acres. The Swainson's hawk recorded occurrence was documented within the Tulare Lake Basin WSD. As discussed in Section 7.6, Agricultural Resources, no change in the proportion of permanent crops occurred in this district. Therefore, the impact on special-status terrestrial biological resources from a change in agricultural practices would be **less than significant**.

Mitigation Measures

*None required.*

**Future Impacts**

Approximately 14,000 acre-feet of the Table A amount would be transferred from KCWA to urban water contractors in the future. As discussed in Section 7.6, Agricultural Resources, the proposed project would have little or no impact on the acreage of irrigated land in the southern San Joaquin Valley in the future. The trend of replacing irrigated annual crops with permanent crops is expected to continue in the future with or without the proposed project. While it is possible that additional land could be converted to permanent crops as a result of the proposed project, no clear trend can be attributed to the proposed project that can be discerned from the historical analysis period. Additionally, the Tulare Lake Basin WD (where a Swainson's hawk nest has been recorded) is subject to periodic flooding which makes it unsuitable for anything but annual crops. Therefore, impacts on habitat for terrestrial biological resources, including Swainson's hawk and other raptors, would be ***less than significant***.

Mitigation Measures

*None required.*

**7.4-2 Implementation of the proposed project could potentially affect special-status terrestrial biological resources in the southern San Joaquin Valley portion of Kern County (excluding the Kern Fan Element property) resulting from construction of new groundwater storage facilities.**

**1996 — 2003**

Between 1996 and 2003, several contractors began storing water outside their service areas in groundwater banks in the southern San Joaquin Valley. Two types of groundwater banking projects exist in Kern County, direct recharge projects and in lieu projects. Direct recharge projects involve the construction of percolation ponds, while in lieu projects do not. Two new groundwater storage projects were built in Kern County outside the Kern Fan Element property between 1996 and 2003. The Arvin-Edison WSD Project is a direct recharge project and included the construction of 520 acres of percolation ponds. The Semitropic WSD Project is an in lieu project. Because in lieu projects involve minimal surface disturbance they have minimal effects on terrestrial wildlife habitat, as documented in the Semitropic WSD Project EIR. Prior to implementation of these groundwater banking projects, water districts prepared project-level CEQA documents to assess any environmental consequences of these projects.

Generally speaking, the creation of recharge basins would be advantageous to terrestrial wildlife species. Pondered water would provide habitat for migratory waterfowl, in a similar fashion to the tule marsh habitat that was historically present in the San Joaquin valley portion of Kern County. The one- to two-foot levees that form the basins could serve as corridors for other migratory wildlife such as San Joaquin kit fox. Aside from these beneficial impacts, if the water banks were constructed in areas of native habitat, then they could impact special-status species such as the San Joaquin kit fox, Tipton kangaroo rat, and blunt nosed leopard lizard.

Arvin-Edison WSD evaluated the construction of groundwater recharge basins and necessary infrastructure in its Arvin-Edison Water Management Project Negative Declaration. This document reported that the basins were to be constructed in land that was previously under

active agriculture, and special-status species surveys of those areas would not be required. However, the project required an intertie to the California Aqueduct, which was located in an area with ruderal vegetation, and both special-status plant and wildlife surveys were conducted in February and March 1996. No special-status species were observed during these surveys and the project was found to have no impact on all biological resources.<sup>8</sup>

Because impacts associated with both groundwater banking programs were evaluated in a separate, project-level environmental documents which determined that no significant impact would occur, the proposed project has resulted in a ***less-than-significant impact*** on terrestrial biological resources.

#### Mitigation Measures

*None required.*

#### **Future Impacts**

Between 1996 and 2003, several contractors began storing water outside their service areas in groundwater banks in the southern San Joaquin Valley. It is expected that in the future, contractors would increase their use of groundwater banks, resulting in construction of approximately 500 acres of additional recharge basins. While this would create open water and wetland habitat for waterfowl, the conversion of land for use as recharge basins could adversely impact terrestrial biological resources if the location serves as habitat for special-status species. Therefore, the impacts on special-status terrestrial biological resources would be *potentially significant*.

#### Mitigation Measures

Impacts to terrestrial biological resources in the southern San Joaquin Valley portion of Kern and King's counties would be reduced through the following mitigation measures; however because the Department has no jurisdiction over local agency decisions and cannot enforce implementation of these measures, and the impacts of individual activities are unknown at this time, this impact remains ***potentially significant and unavoidable***.

- 7.4-2 a) *Special-status species surveys shall be conducted prior to the site selection for future recharge basins, to determine if any special-status plants or wildlife would be impacted. To the extent possible, the basins shall be sited such that any special-status species and their habitats are avoided.*
- b) *If special status species cannot be avoided, then mitigation for impacts shall be required consistent with current requirements from the CDFG and USFWS. If the future projects are located within the Kern Water Bank Master Permit Credit Area, then mitigation credits may be purchased at the Kern Water Bank Conservation Bank.*
- c) *The water districts shall prepare CEQA documents to assess any environmental impacts from the construction and use of future recharge basins.*

This mitigation would prevent any adverse impact to special-status terrestrial biological resources through avoidance of special-status species and their habitat. If avoidance is not possible, then consultation with the resource agencies will be required to determine appropriate

mitigation. At this time, without knowing the future site locations, it is unrealistic to provide specific mitigation for the special-status species that may be affected.

**7.4-3 Implementation of the proposed project could potentially affect special-status terrestrial biological resources on the Kern Fan Element property due to changes in land use and management.**

**1996 — 2003**

The Monterey Amendment called for ownership of the Kern Fan Element property to be transferred from the Department to the KCWA, which occurred in 1996. In 1995, the KCWA received interim permits/authorizations from the USFWS and CDFG to initiate water banking to take advantage of a high availability of water due to a heavy snow pack in the Sierras. As a condition of the interim permit, KCWA was required to set aside permanent habitat mitigation land, which had moderate habitat value, or natural vegetation, until the long term HCP could be implemented in the Kern Fan Element.<sup>9</sup> The interim project was carried out in two stages. The first stage resulted in the rehabilitation of disused canals and inundation of approximately 1,500 acres of former agricultural land. Pre-construction surveys were conducted, and revealed poor habitat values throughout the Stage 1 area, and no suitable habitat for listed species.

The second stage resulted in the inundation of approximately 1,400 acres of grassland and fallow agricultural land, which had the potential to support listed species. Biological surveys were conducted in all areas proposed for disturbance by either construction or flooding and 58 potential San Joaquin kit fox dens were found to be unoccupied and destroyed, and the animals did not return prior to construction. Approximately 300 potential Tipton kangaroo rat burrows were located during surveys, but were not monitored for the presence of Tipton kangaroo rat. If any of these burrows were inhabited, then a take may have occurred if the animals were unable to escape. Approximately one-quarter to one-third of a known population of San Joaquin woolly threads were inadvertently covered with excavated soils during project construction. The location of this plant was not identified prior to construction, but upon discovering the damage, the area was flagged and avoided. Construction of the recharge basins resulted in the loss of potential San Joaquin kit fox and Tipton kangaroo rat habitat, the potential take of Tipton kangaroo rat, and the destruction of a portion of the San Joaquin woolly thread population. This was not fully mitigated for prior to project construction, but has been mitigated for through post-construction participation in the Kern Water Bank HCP/NCCP.

Since 1996, the KWBA has been responsible for land management of the Kern Fan Element property. Lands have been managed in accordance with a HCP/NCCP approved by USFWS and CDFG in 1997.<sup>10</sup> The KWB HCP/NCCP documents a plan to accomplish both water conservation and environmental objectives, mitigating project specific impact to less than significant at a regional level. The primary water conservation objective is the storage of water in aquifers during times of surplus for later recovery during times of shortage. The primary environmental objective is to set aside large areas of the Kern Fan Element property for endangered, threatened and other sensitive species and to implement a program to protect and enhance the habitat.

Under the KWB HCP/NCCP, the 19,900-acre Kern Fan Element property was divided up for different land uses (see Table 7.4-4).

- Recharge Basins and Other Banking Facilities – Permanent operation of the banking facilities included the flooding of basins, constructing facilities for recovery of the water from underground aquifers and maintenance of all project facilities.

- Compatible Habitat – This habitat is largely fallowed agricultural land that has become established as non-native annual grassland that has been preserved and managed around the banking facilities. It will provide upland habitat for San Joaquin kit foxes and other upland species.
- Sensitive Habitat – Three areas of sensitive habitat containing remnant native saltbush and valley sink scrub habitat have been identified. They are comprised of historic upland habitat and non-farmed locations on the Kern Fan Element property and will benefit native upland species. These areas will be protected throughout the life of the permit.
- Department Mitigation Land – A 530-acre conservation easement has been established on the Kern Fan Element property to mitigate other projects carried out by the Department prior to the transfer of this land to the KCWA. This easement will be managed by KWBA in accordance with the management plan established for the area.
- Farming – 3,170 acres of the project site may be farmed in a manner appropriate to soil conditions found on site. The land may also be used for water recharge and recovery purposes, including recharge basins, levees and related uses.
- Conservation Bank - 3,267 acres of potential and occupied habitat has been designated for a conservation bank. Under the HCP, KWBA may use, or sell up to 490 acres of this habitat for commercial development. Much of this land was pre-approved mitigation land by CDFG and is adjacent to other land preserved in the area. KWBA can use or sell up to 3,267 conservation credits to landowners, developers and others for mitigation for projects within the Master Permit Credit Area.

Between 1998 and 2003, the KWBA built an additional 4,080 acres of shallow recharge basins on the Kern Fan Element property. Some of acres were located within an area designated for farming.<sup>11</sup> Of the original 3,267 acres of available conservation credits, 744 acres have been sold as of December 31, 2005.

Several measures were implemented in accordance with the KWB HCP/NCCP, to reduce impacts on native or migratory wildlife using the Kern Fan Element property, including:

- Maintaining water levels constant, to the extent possible to prevent impacts on birds nesting in the recharge basins;
- Slowly refilling basins and canals that have been idle for more than two years, so that any covered animals will be able to escape before drowning;
- Constructing shallow canal side slopes to allow animals to escape from the interior and extending internal access roads across new canals, which would provide access for animals to cross the canal when wet;
- Surveying unused canals that will be used in the near future, prior to the burrowing owl nesting season. Any burrows found will be collapsed, in consultation with the Resource Agencies, to prevent nesting in those locations;
- Vegetation removal from roadways, turnouts, interbasin structures, road crossings and control structures will be accomplished by burning, motor grading (used minimally), mowing, herbicide or hand. Vegetation removed from canals and basins will be accomplished by hand control, lightweight equipment (weed-eaters), grazing, mowing and burning; and

- Complying with the “Interim Measures for Use of Rodenticides in Kern County,” in order to prevent damage to facilities from rodents and to prevent the poisoning of listed species.

A Vegetation Management Plan was created to describe cost effective vegetation management and restoration practices for the long-term adaptive management and enhancement of the Kern Water Bank. Protection of existing and newly established sensitive habitats, vegetation management of compatible habitat using effective, low-cost adaptive methods and exotic pest plant control are primary goals under this management plan.

Under the KWB HCP/NCCP, the KWBA has authorization to incidentally take (including harm or harass) 161 covered species that are listed, or may be listed in the future under FESA. Of these species, fourteen special-status plants and animals have recorded occurrences on the Kern Fan Element property. Since the approval of the KWB HCP/NCCP, no take has been reported or is known to have occurred in the Kern Fan Element property.<sup>12</sup>

In addition to the KWB HCP/NCCP, an Initial Study and Addendum was prepared for the Kern Water Bank, which included mitigation measures to reduce impacts on terrestrial biological resources. These mitigation measures, in addition to measures from the KWB HCP/NCCP have reduced the impact of the proposed project to a ***less-than-significant level***, and are incorporated into this document to mitigate for future impacts of the proposed project, as discussed below.

#### Mitigation Measures

*None required.*

#### **Future Impacts**

As noted under above, the KWBA manages land within the Kern Fan Element property in accordance with a KWB HCP/NCCP, approved by the USFWS and CDFG in 1997. As of December 31, 2004, 4,699 acres of recharge basins<sup>13</sup> have been constructed with an additional 1,201 acres to be developed. In addition, the KWBA constructed 2,415 acres of recharge basins on lands designated for farming, and constructed 258 acres of other banking facilities, with approximately 289 more acres that could be developed.

Because the Kern Fan Element property is under a HCP/NCCP, the KWBA is required to follow specific guidelines to prevent take of special-status species and to enhance and preserve the natural habitat currently present. Under the conditions of the KWB HCP/NCCP, the KWBA is required to prepare annual reports summarizing activities within the Kern Fan Element property including updates on the water supply management and related activities; any amendments to the HCP/NCCP; a summary of any take occurrences; land and habitat management and mitigation measures; monitoring programs and studies; mitigation measures and cooperation with wildlife agencies; and the status of conservation credits. An independent study regarding the impacts related to the transfer, development and operation of the KWB in light of the Kern Environmental Permits, documented that the KWB is operating as intended and within the confines of the KWB HCP/NCCP.<sup>14</sup>

Under the Settlement Agreement, additional restrictions have been placed on allowable uses of the Kern Fan Element property. The KWBA will retain title to the Kern Fan Element property. The KWBA shall continue to use the property for operation of a water bank and other uses

authorized by the HCP, so long as such use remains legally and economically feasible. If KWBA determines use of the property as a water bank becomes legally or economically infeasible, and the property cannot feasibly be used for SWP purposes provided in California Water Code §12930 et seq. or if DWR and KWBA are unable to agree on terms and conditions for such SWP use, then the KWBA may transfer or develop the property for another purpose provided that no unmitigable adverse environmental impacts result from the new use. Any net proceeds of land transfer or development will be used by the KWBA for water management purposes. Furthermore the 490 acres, designated as a “Commercial Development Zone” in the KWB HCP/NCCP, may not be developed and are now included in the conservation bank land use component. Provided that there is enough development within the Master Permit Credit Area, the proposed project would insure the complete build out of the conservation bank, thus protecting a total of 3,267 acres of potential or occupied habitat.

While no incidental take has occurred since the creation of the Kern Water Bank (with exception of San Joaquin woolly threads), it is possible that the proposed project could result in take during construction, operation and maintenance, through collapsed burrows, road kills, crushed by grading equipment, harassment, habitat loss, drowning, etc. This would result in a *potentially significant* impact on special-status terrestrial wildlife.

### Mitigation Measures

The proposed project would result in impacts to terrestrial biological resources on the Kern Fan Element property that would be reduced to ***less than significant*** through the following mitigation measures currently implemented by the KWBA. These measures were outlined in the Initial Study and Addendum to Monterey Amendment EIR of the KWBA, Kern Water Bank HCP/NCCP:

#### 7.4-3 a) *Biological Monitor*

*A qualified biologist shall monitor all ground disturbing activities during construction in the Sensitive Habitat Sector and will oversee measures undertaken to reduce the take of listed species.*

#### b) *Construction practices*

- i. *Delineation of Disturbance Areas – During construction, KWBA shall clearly delineate disturbance area boundaries by stakes, flagging, or by reference to terrain features, as directed by CDFG and USFWS to minimize degradation or loss of adjacent wildlife habitats during operation.*
- ii. *Signage – During construction, KWBA shall post signs and/or place fencing around construction sites to restrict access of vehicles and equipment unrelated to site operations.*
- iii. *Resource Agency Notification – At least 20 working days prior to initiating ground disturbance for project facilities in designated salvage/relocation areas, KWBA shall notify the Fresno Field Office of CDFG and the Sacramento Field Office of USFWS of its intention to begin construction activities at a specific location and on a specific date. The agencies will have ten working days to notify the KWBA of their intention to salvage or relocate*

*listed species in the construction area. If KWBA is notified, it shall wait an additional five days to allow the salvage/relocation to take place.*

- iv. *Salvage and Relocation – KWBA shall allow time and access to USFWS and/or CDFG, or their designees, to relocated listed species, at the Resource Agencies' expense, from construction areas prior to disturbance of areas that have been identified by the Resource Agencies as having known populations of the listed species they wish to salvage or relocate.*
  - v. *Construction Site Review – All construction pipes, culverts, or similar structures with a diameter of three inches or greater that are stored at a construction site on the Kern Water Bank for one or more overnight periods shall be thoroughly inspected for trapped kit foxes and other animals before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight shall be capped. If during construction a kit fox or other animal is discovered inside a pipe, that section of pipe shall not be moved or, if necessary, shall be moved only once to remove it from the path of construction activity until the animal has escaped.*
  - vi. *Employee Orientation – An employee orientation program for construction crews, and others who will work on-site during construction, shall be conducted and shall consist of a brief consultation in which persons knowledgeable in endangered species biology and legislative protection explain endangered species concerns. The education program shall include a discussion of the biology of the listed species, the habitat needs of these species, their status under FESA and CESA, and measures being taken for the protection of these species and their habitats as a part of the project. The orientation program shall be conducted on an as needed basis prior to any new employees commencing work on the Kern Water Bank. Every two years or at the beginning of construction for the Supply/Recovery canal, a refresher course will be conducted for employees previously trained. A fact sheet conveying this information shall also be prepared for distribution to all employees. Upon completion of the orientation, employees shall sign a form stating that they attended the program and understand all protection measures. These forms shall be filed at KWBA's office and shall be accessible by CDFG and USFWS.*
  - vii. *Standards for Construction of Canals - Concrete lined canals will have a side slope of 1.5 to 1 or less and the sides will have a concrete finish which will assist in the escape of animals. If canals are determined by CDFG or USFWS to be substantial impediments to kit fox movement, plank or pipe crossings will be provided across concrete canals in areas identified as having high kit fox activity.*
- c) *On-Going Practices*
- i. *Equipment Storage - All equipment storage and parking during site development and operation shall be confined to the construction site or to previously disturbed off site areas that are not habitat for listed species.*
  - ii. *Traffic Control - KWBA's project representative shall establish and issue traffic restraints and signs to minimize temporary disturbances. All*

*construction related vehicle traffic shall be restricted to established roads, construction areas, storage areas, and staging and parking areas. Project related vehicles shall observe a 25 MPH speed limit in all project areas except on county roads and state and federal highways.*

- iii. *Food Control - All food-related trash items such as wrappers, cans, bottles, and food scraps generated both during construction and during subsequent facility operation shall be disposed of in closed containers and shall be regularly removed from the site. Food items may attract kit foxes onto a project site, consequently exposing such animals to increased risk of injury or mortality.*
- iv. *Dog Control - To prevent harassment or mortality of kit foxes or destruction of kit fox dens or predation on this species; no domestic dogs or cats, other than hunting dogs, shall be permitted on-site.*
- v. *Pesticide Use - Use of rodenticides and herbicides on the site shall be permitted in accordance with the Vegetation Management Plan, which incorporates by reference the Interim Measures for Use of Rodenticides in Kern County, and which will incorporate by reference any other applicable laws, rules and regulations regarding the use of pesticides as they take effect.*

d) *Project Representatives*

*KWBA shall designate a specific individual as a contact representative between KWBA, USFWS, and CDFG to oversee compliance with protection measures-detailed herein. KWBA shall provide written notification of the contact representative to CDFG and USFWS within 30 days of issuance of the Permits and the Management Authorizations. Written notification shall also be provided by KWBA to CDFG and USFWS in the event that the designee is changed.*

e) *Notification Regarding Dead, Injured or Entrapped Listed Animals*

*Any employee or agent of KWBA who kills or injures a San Joaquin kit fox, blunt nosed leopard lizard, Tipton kangaroo rat, San Joaquin antelope squirrel, or other listed species listed as a threatened or endangered animal under FESA or CESA, or who finds any such animal either dead, injured, or entrapped on the Kern Water Bank shall report the incident immediately to KWBA's representative who shall, in turn, report the incident or finding to USFWS and CDFG. In the event that such observations are of entrapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape unimpeded. In the event that such, observations are of injured or dead animals, KWBA shall immediately notify USFWS and CDFG by telephone or other expedient means. KWBA shall then provide formal notification to USFWS and CDFG, in writing, within three working days of the finding of any such animal(s). Written notification shall include the date, time, location, and circumstances of the incident.*

*The USFWS contact for this information shall be the Assistant Field Supervisor for Endangered Species, Sacramento Field Office. The CDFG contact shall be*

*the Environmental Services Supervisor at the San Joaquin Valley-Southern Sierra Region Headquarters.*

*USFWS or CDFG will be notified if any other animal, which is otherwise a listed species, is found dead or injured.*

f) *Construction of Supply/Recovery Canal*

*Within 60 days prior to the construction of the supply/recovery canal within the zone marked within the Map of the Kern Water Bank, KWBA shall conduct a limited survey within the area of the Kern Water Bank, which will be affected by that construction, with the sole goal of identifying potential San Joaquin kit fox dens. KWBA shall contact USFWS and CDFG pursuant to the salvage procedures set forth above if any kit fox dens are found.*

g) *Take Avoidance Protocol for Fully Protected Species*

*Existing data on the blunt nosed leopard lizard at the Kern Water Bank indicates that populations occur within habitat set asides (either sensitive, compatible, or conservation bank habitat), thus the likelihood of take from project construction, operation, and maintenance is negligible. However, in the future adaptive management measures may expand to areas of suitable habitat.*

*Until such time that the KWBA obtains appropriate authorization for take of the state-designated fully protected blunt-nosed leopard lizard by the Fish and Game Commission, the following take avoidance protocol shall apply in any areas that contain suitable habitat of the blunt-nosed leopard lizard:*

- i. *A qualified biologist shall survey any areas proposed for project related disturbance that contain suitable habitat for the blunt-nosed leopard lizard to determine the likelihood of presence. Suitable habitat consists of valley and foothill grasslands, saltbush scrubland, iodine bush grassland, and alkali flats.*
- ii. *If blunt nosed leopard lizards are found to occur in areas proposed for project facilities construction or maintenance, consideration of avoidance should take place first. If avoidance is not practicable, then the blunt nosed leopard lizard will be trapped and relocated prior to disturbance at KWBA's expense in accordance with the applicable annual management plan. This work must be done by or under the direction of USFWS staff by persons with appropriate experience and with their own take for scientific purposes permits. This procedure will avoid any violation of state law.*

*Three other species, which may be found on the Kern Water Bank, are also state designated fully protected species: American peregrine falcon, Greater sandhill crane, and White-tailed kite. The likelihood of the take of any of these species from project construction, operation, and maintenance is negligible due to their mobility and preferred habitats. However, to avoid any take of these species, the same take avoidance protocol as set out for the blunt nosed leopard lizard shall apply to each of these three species.*

*The use of a biological monitor, and special construction activities and on-going practices will result in a heightened awareness and education regarding sensitive biological resources, which will reduce the potential for impacts on special-status species. In addition, the use of a project representative as a liaison between the KWBA and the resource agencies will expedite notification regarding any take of a listed animal. While take of a fully protected species is not anticipated, this mitigation outlines avoidance protocol to further reduce the likelihood of said take. Together these mitigation measures and the beneficial net increase of habitat for special-status species through implementation of the HCP/NCCP will reduce any potential impact to a less-than-significant level.*

#### **7.4-4 Implementation of the proposed project could potentially affect special-status terrestrial biological resources at Castaic Lake.**

##### **1996 — 2003**

Article 54 of the Monterey Amendment provides that certain SWP contractors may borrow water from Castaic Lake, which must be replaced within five years. If a contractor borrows water from Castaic Lake, the storage volume is reduced and the water level falls. Depending on the amount borrowed and the supplies available to the contractor that borrowed it, it may take anywhere from a few weeks to a year or more for the contractor to replace the borrowed water in the reservoir. Thus, this provision of the Monterey Amendment has the potential to reduce the surface elevation in Castaic Lake compared to baseline operations.

To accommodate potential borrowing by these contractors, the Department has reduced the amount of its typical annual drawdown of Castaic Lake, with the result that the reservoir is maintained at a generally higher surface elevation than prior to the Monterey Amendment. The surface elevation at Castaic Lake for this time period increased an average of 10 to 20 feet most of the time. Although borrowing by contractors reduced water surface elevation in the reservoir at times, the Department's reduced annual drawdown, except during emergencies, maintenance, or borrowing by contractors, led to an increase in average water surface elevation.

Special-status terrestrial wildlife that are recorded at, or expected to use Castaic Lake include greater western mastiff bats and wintering bald eagles that use the lake as a food and water source. In addition, riparian communities, which have been identified as sensitive by CDFG, have been recorded in the natural creeks up and downstream of Castaic Lake, but not at the lake margin which is too steep to support any vegetation. This slight change in lake surface elevation would not adversely affect the quality of riparian habitat up- or downstream from Castaic Lake or the productivity of the lake, which would not adversely affect foraging opportunity.

Because the proposed project is not likely to adversely affect the riparian habitat up- or downstream of Castaic Lake, nor is it likely to affect productivity of the lake, it has had a ***less-than-significant impact*** on terrestrial biological resources.

##### Mitigation Measures

*None required.*

## Future Impacts

Between 1996 and 2003, the only water agencies that took advantage of Article 54 were the Castaic Lake WA, and MWDSC. It is expected that the two contractors mentioned above, and Ventura County WA, would borrow SWP water from Castaic Lake in the future when it is to their advantage to do so, potentially lowering the water level temporarily by 110 to 155 feet. In actions unrelated to the Monterey Amendment, operational limits have been placed on drawdown activities to prevent adverse impacts to fisheries resources and recreational uses and are as follows:

|                               |                                 |
|-------------------------------|---------------------------------|
| March                         | Seven feet per seven-day period |
| April and May                 | Four feet per seven-day period  |
| June through September 15     | Seven feet per seven-day period |
| September 16 through February | Two feet per day                |

The worst-case condition could occur if the contractors borrowed the maximum amount of water permitted under Article 54 and the water was not replaced for the maximum permitted duration of five years. In this case, 160,000 acre-feet would be borrowed from Castaic Lake, about half its maximum capacity of 323,700 acre-feet. The reservoir would remain drawn down for five years. This could result in drawdowns greater than those under baseline operations. Although the worst case condition could occur, it would be unlikely because it is in the interests of the Department and the contractors that receive water from Castaic Lake to keep the terminal reservoir full most of the time.

There is no vegetation associated with the Castaic Lake shoreline due to the steep slopes. Special-status species associated with the water surface or lake margin include the greater western mastiff bat and wintering bald eagle, which use the lake for foraging and for water supply. As discussed in Section 7.3, a reduction in lake levels could reduce overall fish populations, a food source for the bald eagle, generally reported for southern California reservoirs as 2-10 eagles between November and March each year (Stephenson and Calcarone 1999). However, as the lake is stocked for recreational fisheries use, it is unlikely that fish populations would drop below a level that could adversely affect wintering bald eagles. Therefore, the proposed project would have a ***less-than-significant impact*** on special status terrestrial biological species at Castaic Lake.

### Mitigation Measures

*None required.*

#### **7.4-5 Implementation of the proposed project could potentially affect special-status terrestrial biological resources at Lake Perris. 1996 — 2003**

Article 54 of the Monterey Amendment provides that certain SWP contractors may borrow water from Lake Perris, which must be replaced within five years. If a contractor borrows water from Lake Perris, the storage volume is reduced and the water level falls. Depending on the amount borrowed and the supplies available to the contractor that borrowed it, it may take anywhere from a few weeks to a year or more for the contractor to replace the borrowed water in the reservoir. Thus, this provision of the Monterey Amendment has the potential to reduce the average monthly surface elevation in Lake Perris beyond what is required for SWP operations.

Borrowing of water from Lake Perris between 1996 and 2003 led to reduced cycling and increased water surface elevations after 1995. Lake Perris surface elevations increased on average four feet as a result of the proposed project. Although borrowing by contractors reduced water surface elevations in the reservoirs at times, the Department's reduced annual drawdown, except during emergencies, maintenance, or borrowing by contractors, led to an increase in average water surface elevations.

Lake Perris supports a variety of special-status species (Table 7.4-2) including the osprey (*Pandion haliaetus*), greater western mastiff bat and Yuma myotis (*Myotis yumanensis*) that use the lake for foraging and water supply. Additionally, two special status species, the double-crested cormorant (*Phalacrocorax auritus*), and the bald eagle, are known to winter at Lake Perris. An average increase of four feet in surface elevation and fluctuations within the magnitude of that prior to implementation of the proposed project are not likely to adversely affect the productivity of the lake, and therefore would not affect the species recorded at Lake Perris.

Because the proposed project is not likely to affect productivity of the lake, it has had a ***less-than-significant impact*** on special status terrestrial biological resources.

#### Mitigation Measures

*None required.*

#### **Future Impacts**

MWDSC has the option of borrowing up to 65,000 acre-feet of water, which could result in a 30 to 35 foot drop in surface elevation from its normal maximum storage elevation of 1588. It is assumed that if this amount were borrowed, the drop in water surface elevation would occur between September and March, because of a 2001 Memorandum of Understanding (MOU) among CDFG, the Department, MWDSC, California Department of Boating and Waterways, and California State Parks. The MOU established a Lake Perris Operations Committee (LPOC) that developed operational guidelines, establishing a maximum fluctuation of 0.5-foot per day with a total of three feet of elevation change between March 15 and May 1, the spring fish-spawning period.<sup>15</sup> Additionally a minimum elevation goal of 1,584 feet between the start of Memorial Day weekend and Labor Day has been established, primarily to provide the maximum recreational space possible.<sup>16</sup>

The worst-case condition could occur if the contractors borrowed the maximum amounts of water permitted under Article 54 and the water was not replaced for the maximum permitted duration of five years. In this case, 65,000 acre-feet would be borrowed from Lake Perris (about half its maximum capacity of 131,500 acre-feet), and the reservoir would remain drawn down for five years. Although the worst case condition could occur, it would be unlikely because it is in the interests of the Department and the contractors that receive water from Lake Perris that it be kept full most of the time.

As discussed above, and in Section 7.3, a reduction in lake levels could reduce overall fish populations, which in turn could adversely affect terrestrial biological resources that use the lake to forage. As part of the Department's ongoing seismic repairs at Lake Perris, the Santa Ana Watershed Association (SAWA) is currently conducting quarterly bird surveys to document how that drawdown affects birds in the area. The results of these surveys may provide insight into the effects on the reduction of food resources as a result of future drawdowns. Regardless, a

reduction in food resources could result in reduced nesting success for raptors, bats, and waterfowl, which would result in a ***potentially significant and unavoidable impact***.

#### Mitigation Measures

*None feasible.*

#### **7.4-6 Implementation of the proposed project could potentially affect riparian habitat and the special-status terrestrial species it supports at Lake Perris.**

##### **1996 — 2003**

Lake Perris has an extensive lake-dependent riparian corridor located along its eastern margin that supports special-status species including California thrasher (*Toxostoma redivivum*), Cooper's hawk (*Accipiter cooperii*), Lawrence's goldfinch (*Carduelis lawrencei*), least Bell's vireo (*Vireo bellii pusillus*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), white tailed kite (*Elanus leucurus*), and yellow warbler (*Dendroica petechia brewsteri*). Additionally, in 2007 the California gnatcatcher (*Polioptila californica*) was observed using the riparian corridor. Drastic changes in surface elevation during the growing season or a prolonged drawdown could have substantial impacts on riparian vegetation, which supports a variety of wildlife species, providing food, shelter, and nesting habitat.

As discussed above, Lake Perris experienced an average increase of four feet in surface elevation and fluctuations of that magnitude prior to implementation of the proposed project. As this change is not likely to have a substantial adverse effect on the riparian habitat along or adjacent to Lake Perris, it has had a ***less-than-significant impact*** on riparian habitat.

#### Mitigation Measures

*None required.*

#### **Future Impacts**

Under the worst-case condition, approximately half of the water in Lake Perris could be borrowed for a period of up to five years. Although the worst case condition could occur, it would be unlikely because it is in the interests of the Department and the contractors that receive water from Lake Perris that it be kept full most of the time. As discussed above, drastic changes in surface elevation at Lake Perris, beyond what is required for SWP purposes, during the growing season or a prolonged drawdown could have substantial impacts on riparian vegetation.

As part of the Department's ongoing seismic repairs at Lake Perris, a number of mitigation measures have been initiated to reduce impacts to riparian vegetation. An irrigation system that draws water from Lake Perris and feeds the entire stretch of riparian vegetation has been installed. As of May 2007, the riparian vegetation is irrigated twice per week. The success of this system is being monitored monthly by the California Department of Parks and Recreation and may provide insight into the effects of drawdown on the riparian habitat.

Regardless, a decline in the riparian vegetation would be ***potentially significant*** as this habitat is considered sensitive by DFG, and it supports the special-status species above.

### Mitigation Measures

Impacts to the riparian habitat located at Lake Perris may be reduced with the implementation of the following mitigation:

- 7.4-6 a) *Baseline Studies - A surface and groundwater hydrology study shall be conducted to determine what water source is maintaining the riparian habitat. In addition, a qualified biologist shall conduct a complete habitat assessment of the riparian habitat documenting the size of the habitat, and all wildlife and plant species that use this habitat, including any special-status species. Protocol-level surveys for species known or expected to occur in the riparian habitat (i.e. least Bell's vireo) shall be conducted. A certified arborist shall evaluate the health of the trees and prepare an arborist report.*
- b) *Annual Monitoring - Once a baseline is established, annual monitoring will be required to determine changes in hydrologic activities, changes in the health of the riparian habitat, and changes in the use of said habitat by special-status and other wildlife species.*

*Should a prolonged drawdown (longer than one year) occur, an irrigation system shall be installed to water the riparian habitat or the existing irrigation system shall be maintained and operated (assuming it is successful in maintaining riparian vegetation during the seismic repairs). In addition, monthly monitoring shall occur to document any changes in the riparian habitat and allow for a timely adjustment of the watering schedule.*

Implementation of the above mitigation measures may reduce the impact on the riparian habitat and the associated special-status species to a less-than-significant level, if the changes in water do not impact the riparian habitat, or if any loss of water is supplemented through the sub-surface or surface irrigation. However, because of the complexity of the system, it is unknown at this time what the real impacts on the riparian habitat will be and therefore, the residual impact cannot be assessed. This remains a **potentially significant and unavoidable impact**.

### **7.4-7 Implementation of the proposed project could potentially affect special-status terrestrial biological resources at the San Luis Reservoir.**

#### **1996 — 2003**

Because storage is limited south of the Delta, the Department keeps as much water as possible in San Luis Reservoir, the Department's major south-of-the-Delta storage facility. Occasionally, several of the water supply management practices that are part of the Monterey Amendment (Article 56) caused filling of the reservoir to be delayed by a few months in the winter and early spring relative to the baseline scenario. However, average water surface elevation increased during this period as described in Section 7.1.

Sensitive terrestrial biological resources associated with San Luis Reservoir include local riparian habitats found in intermittent creeks that flow into the reservoir, the special-status species that are associated with this habitat, special-status birds and mammals that use the lake to forage, and San Joaquin kit foxes that use the area as a migratory corridor. The relatively small changes in surface elevation and the delay in filling did not adversely affect the riparian habitat, affect foraging quality, or limit the San Joaquin kit fox from migration.

Therefore, the proposed project has had a ***less-than-significant impact*** on special-status terrestrial biological resource.

#### Mitigation Measures

*None required.*

#### **Future Impacts**

The altered allocation procedures and Table A transfers and retirements would result in increased storage in San Luis Reservoir much of the time under 2020 conditions as shown in Figure 7.1-9 in Section 7.1, Surface Water Hydrology, Water Quality, and Water Supply. Occasionally, several of the water supply management practices that are part of the Monterey Amendment (Article 56) would cause filling of the reservoir to be delayed by a few months in the winter and early spring relative to the baseline scenario. Water levels could be reduced by up to 50 feet. However, the modeling found that this would occur less often between 2003 and 2020 than it had between 1996 and 2003.

Sensitive terrestrial biological resources associated with San Luis Reservoir include local riparian habitats found in intermittent creeks that flow into the reservoir, the special-status species that are associated with this habitat, special-status birds and mammals that use the lake to forage, and San Joaquin kit foxes that use the area as a migratory corridor. An increase in surface elevation would not adversely affect the riparian habitat, affect foraging opportunity, or limit the San Joaquin kit fox from migration. Therefore, the proposed project will have a ***less-than-significant impact*** on special-status terrestrial biological resources.

#### Mitigation Measures

*None required.*

#### **7.4-8 Implementation of the proposed project could potentially affect special-status terrestrial biological resources along the Feather, American, Sacramento and San Joaquin Rivers.**

##### **1996 — 2003**

North of the Delta, the Feather, Sacramento, and American rivers are the water transport routes used to move water from the main storage reservoirs to the Delta pumping plants. Article 55 conveyance provisions of the proposed project has the potential to change how water is released for transport within these rivers. These changes could result in different flow levels at different times of years. However, as discussed in Sections 7.1 and 7.3, the change in flow in the rivers from the proposed project, has been so minimal it would not likely affect any terrestrial resources along the rivers. Therefore, a ***less-than-significant impact*** on special status terrestrial resources would occur as a result of the proposed project.

#### Mitigation Measures

*None required.*

## Future Impacts

The CALSIM II model compared 2020 baseline conditions to the 2020 proposed project to determine the percent change in flow for the Feather, American, Sacramento, and San Joaquin rivers. As discussed in Section 7.3, streamflow changes resulting from the 2020 proposed project are so small that they would not substantially affect any special status terrestrial species or their habitat. Therefore, this impact would be ***less than significant***.

### Mitigation Measures

*None required.*

#### **7.4-9 Implementation of the proposed project could potentially affect special-status terrestrial biological resources within the Sacramento/San Joaquin Delta.**

##### **1996 — 2003**

The volume of water discharged through the Delta has been greatly reduced by many factors, resulting in adverse impacts to terrestrial biological resources. As discussed in Section 7.1, implementation of the proposed project would not substantially change Delta outflow. Therefore, impacts on terrestrial biological resources associated with the Delta would be ***less than significant***.

### Mitigation Measures

*None required.*

## Future Impacts

As discussed above, the volume of water discharged through the Delta has been greatly reduced by many factors, resulting in adverse impacts to biological resources. Based on CALSIM II model results, no change was found in Delta outflow under the 2020 baseline compared to the 2020 proposed project. Therefore, impacts on terrestrial biological resources associated with the Delta would be ***less than significant***.

### Mitigation Measures

*None required.*

#### **7.4-10 Implementation of the proposed project could potentially benefit special-status terrestrial biological resources in Plumas County as a result of watershed improvement projects.**

##### **1995 — 2003**

Because the Settlement Agreement was not implemented during this period, there were no watershed improvements in Plumas County and there was ***no impact***.

## Future Impacts

The Settlement Agreement provides funds to Plumas County to establish a watershed forum, which would identify and oversee the implementation of watershed improvement projects.

These projects take many forms, but most involve actions to prevent erosion and restore wildlife habitat along streams and rivers. In general, projects of this type improve the appearance of stream banks by returning them to a more natural condition.

The number and size of watershed improvement projects that would result from the proposed project are relatively small. The projects would be expected to improve conditions along a few miles of stream bank in a county with thousands of miles of stream channels. It is possible that construction of these projects could have a temporary adverse impact to terrestrial biological resources, but as the goal is to improve the stream banks, these impacts would be less than significant. The proposed project would have a modest ***long-term beneficial effect*** on the terrestrial biological resources of selected stream channels in Plumas County, relative to 2003 conditions.

#### Mitigation Measures

*None required.*

## ENDNOTES

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4. Hund, Geary, Senior Ecologist, California State Parks, Inland Empire District, personal communication, October, 2003.
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17. Stephenson, J.R., and G.M. Calcarone. 1999. Southern California mountains and foothills assessment: habitat and species conservation issues. General Technical Report GTR-PSW-172. Albany, CA: Pacific Southwest Research Station, USDA Forest Service.