

BIOLOGICAL SURVEY

PROPOSED GOLDEN STATE CORRIDOR ECONOMIC DEVELOPMENT INFRASTRUCTURE IMPROVEMENTS PROJECT FRESNO COUNTY, CALIFORNIA



July 2011

Biological Survey of the Proposed Golden State Corridor
Economic Development Infrastructure Improvements Project
Fresno County, California

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EXECUTIVE SUMMARY

The proposed project is the revitalization of a section of Golden State Boulevard (Corridor), between the cities of Fowler and Kingsburg in Fresno County, California (Figures 1 and 2). The project area currently contains urbanized environments within each respective city's limits, as well as access to industrial sites, agriculturally productive fields, and businesses providing various services in the unincorporated areas. A railroad line is located approximately 20 to 25 feet to the east of the Corridor, and State Highway 99 is located approximately 800 feet to the west.

Based on the field survey, there are no sensitive habitats or special-status plant species, or habitat that would support special-status plant or wildlife species on the project site. No special-status wildlife species were observed on the project site. Raptors and migratory birds may occur within the Corridor. Several plant and wildlife species, including California tiger salamander, California jewel-flower, and Madera leptosiphon are known to occur within five miles of the project area; however, no habitat occurs within the project area that would support any these species. The western mastiff bat and pallid bat are known to occur within five miles of the project area, and roosting habitat for the two species occurs within the project area. Two special-status wildlife species that may occur from time to time are the San Joaquin kit fox and the Swainson's hawk. Mitigation measures are provided that will reduce levels of impacts to these species to a degree that is less than significant.

1.0 INTRODUCTION

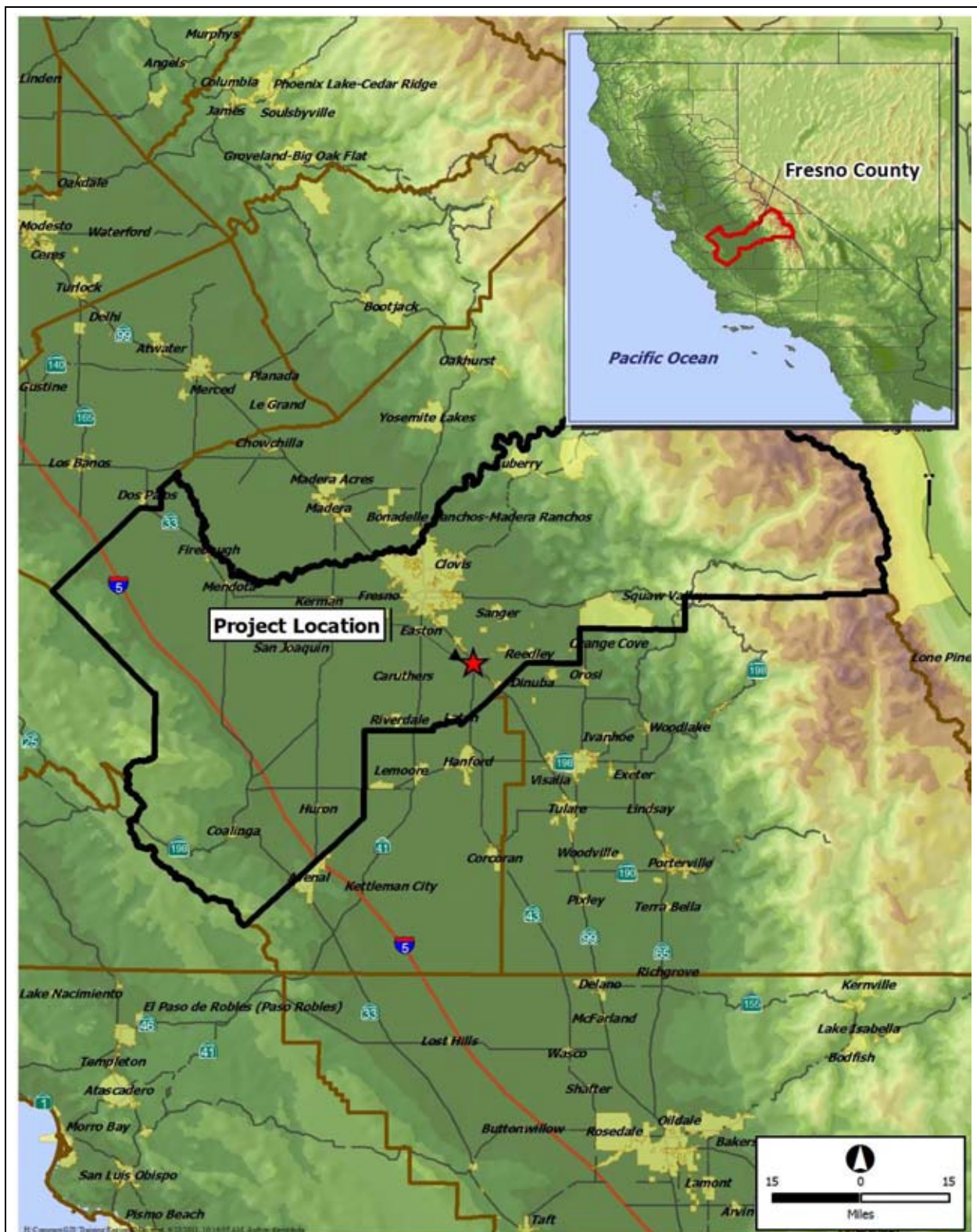
1.1 *Project Description and Objective*

The County of Fresno and the cities of Fowler, Selma, and Kingsburg have been working collaboratively for a number of years to maximize the economic development potential of the Golden State Corridor. The four jurisdictions, along with the Fresno Council of Governments (COG), have developed a common vision and goals for the Corridor that encompass the desires of the adjacent communities in the areas of land use, preserving the agricultural industry, protecting the environment, promoting tourism and recreation, encouraging and supporting economic development, and fostering new partnerships focused on economic success.

The vision and goals were presented in the *Community Vision for the Golden State Corridor* prepared by Chabin Concepts in 2003. The Golden State Corridor Economic Development Infrastructure Improvement Project has advanced from an initial Community Vision document to its current phase, which includes Planning Design Guidelines, and 30 percent Engineering Design Plans.

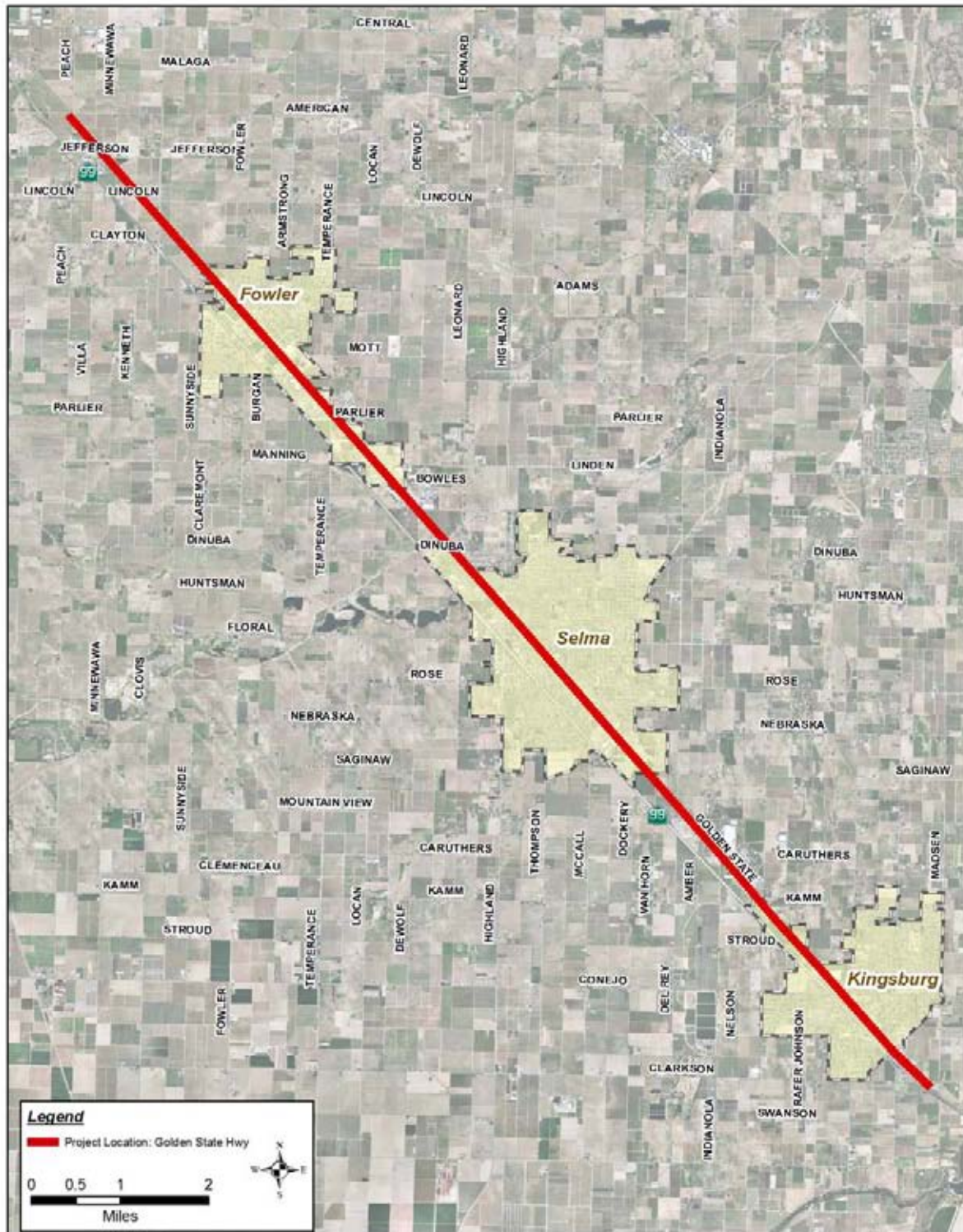
The objectives of this biological evaluation are to:

- describe the regional setting of the project area,
- describe the regulatory framework relative to biological issues,



REGIONAL LOCATION OF THE GOLDEN STATE CORRIDOR PROJECT AREA

Figure
1



GOLDEN STATE CORRIDOR PROJECT AREA

Figure
2

- describe existing biotic conditions on the proposed project site;
- determine the likelihood of occurrence of sensitive plant and animal species on the project site;
- identify potential impacts on sensitive species that would result from implementation of the proposed project; and
- identify mitigation measures that would avoid impacts or reduce impacts to a level that would be less than significant.

1.2 *Project History*

A rail line was first installed by the Southern Pacific Railroad in the 1880s, running northwest/southeast throughout the Central Valley, carrying agricultural goods to other areas of the state. As towns and cities were established along the railroad, downtown districts were laid out in rectangular grids parallel to the railroad. Golden State Boulevard was constructed by the State from 1909 to 1914, and ran parallel to and west of the railway line. State Route 99 was built west of, and parallel to Golden State Boulevard in the 1960s. Throughout the Central Valley, agricultural fields and surrounding roads were constructed on a north-south and east-west grid, so that the railroad and Golden State Boulevard bisect them at a 45-degree angle.

Once State Route 99 was completed, Golden State Boulevard was deeded back to the cities and Fresno County in the 1960s, and remains under their jurisdiction. As businesses expanded along State Route 99, Golden State Boulevard became a secondary, local roadway, and many businesses, such as hotels, restaurants, and gasoline stations began to decline. However, Golden State Boulevard continues to be well traveled within the small cities it serves, and also provides access to businesses along the eastern side of State Highway 99. Today the Golden State Corridor project area is primarily a built-out urban environment within the cities, interspersed with agricultural and industrial uses and service operations (some in disrepair or abandoned) in the unincorporated areas.

2.0 SETTING

2.1 *Site Description*

The proposed Project is located along a 14.2 mile section of the Golden State Boulevard from American Avenue north of the City of Fowler to the terminus point of Golden State Boulevard near Mission Street in Kingsburg. The proposed Project passes through the cities of Fowler, Selma, and Kingsburg and unincorporated areas under the responsibility of the County of Fresno, California (Figure 2). Golden State Boulevard is a 4-lane roadway, separated by a median with trees and grasses. Also included within the project area are eight to 20 foot-wide rights-of-way to the east and west of the improved road. State Route 99 is located approximately 800 feet west of the Corridor, and a railroad line, used for transportation of local goods, is located to the east. ~~approximately 20 to 25 feet.~~

2.2 Environmental Setting

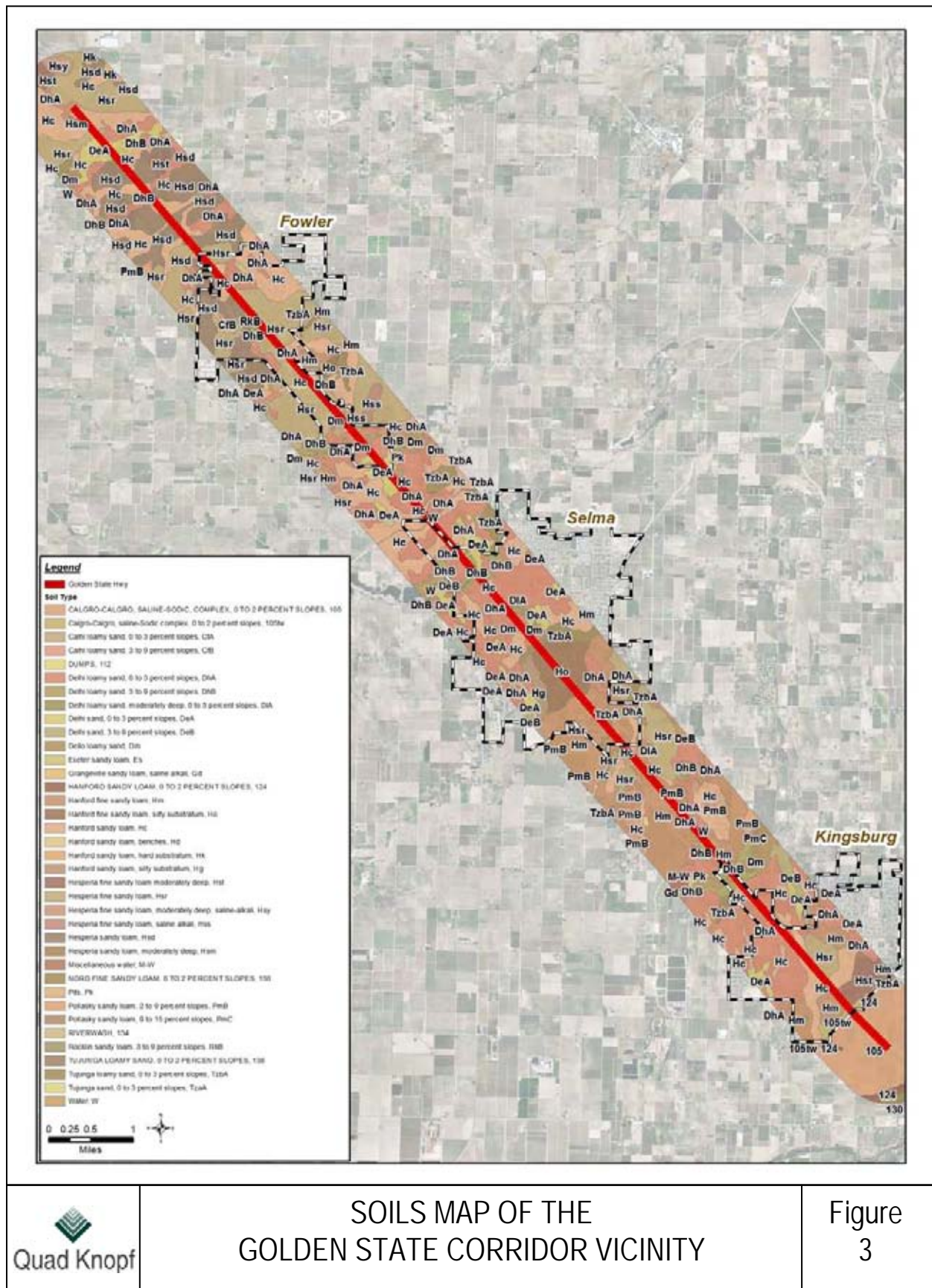
The surrounding topography includes the flat floor of the Central Valley, utilized primarily for agricultural production. The City of Fresno is located approximately five miles to the north. The proposed Project is located at an elevation of approximately 300 feet above mean sea level (AMSL). Historically, vegetation communities in the vicinity of the project site likely consisted of a mosaic of Valley Grassland and Sacaton Grassland. The vast majority of these vegetative communities have been eliminated from the area by conversion to agricultural and urban uses. Lands in the vicinity of the project site are now dominated by either rural agriculture, or urban uses within one of the three cities through which the Golden State Boulevard passes.

The project site is surrounded by the railroad directly to the east, and various industrial and commercial businesses and vacant lands to the immediate west, with State Highway 99 further to the west. Vineyards and orchards are the dominate land uses along the northern end of the Corridor at American Avenue. Traveling southeast, the Corridor next passes through the City of Fowler. To the southeast of Fowler, land use again becomes rural until reaching the City of Selma. Mission Street, within the City of Kingsburg is at the southern terminus of the Corridor. The area to the south of this terminus is in agricultural production. In the unincorporated areas, paved roads intersect the project area approximately every one-half mile, and provide access to businesses to the west and rural lands to the east. The Corridor provides access to the cities' downtown areas and State Highway 99 in the urbanized areas.

There is little native vegetation on the project site. Sparsely distributed patches of ruderal native and non-native weedy species occur along the roadside. The dominant grasses and forbs found in these areas are sideoats grama grass (*Avena fatua*), foxtail chess (*Hordeum murinum*), and red brome (*bromus madritensis*). Several species of trees are planted in the rights of way and median of the Corridor. This section of Golden State Boulevard supports oleander (*Nerium oleander*), fan palm (*Washingtonia sp.*), and Ash (*Fraxinus sp.*). Wildlife observed on or near the site included red-tailed hawk (*Buteo jamaicensis*), and California ground squirrel (*Spermophilus beecheyi*).

The climatic conditions of the project site are typical of the southern San Joaquin Valley. It is hot and dry in the summer and cold and moist in the winter. Winter rains are interspersed with spells of cloudy, foggy, or sunny weather. The average winter temperature range is 37 to 53 degrees Fahrenheit in December and 66 to 97 degrees Fahrenheit in July (Selma Draft General Plan, 2010).

The primary soil types within the project area are in the Hanford-Delhi-Hesperia association (NRCS 1981). These soils types are classified as deep, somewhat excessively drained and well-drained sands to fine sandy loams that are partly wind modified (Figure 3). Soils are primarily comprised of Delhi loamy sand (28.4%), Hanford fine sandy loam (16.5%), Hesperia fine sandy loam (16.5%), and Hanford sandy loam (15.1%). No part of the site is within the 100 year floodplain, although there are two primary areas adjacent to the project area that are within the



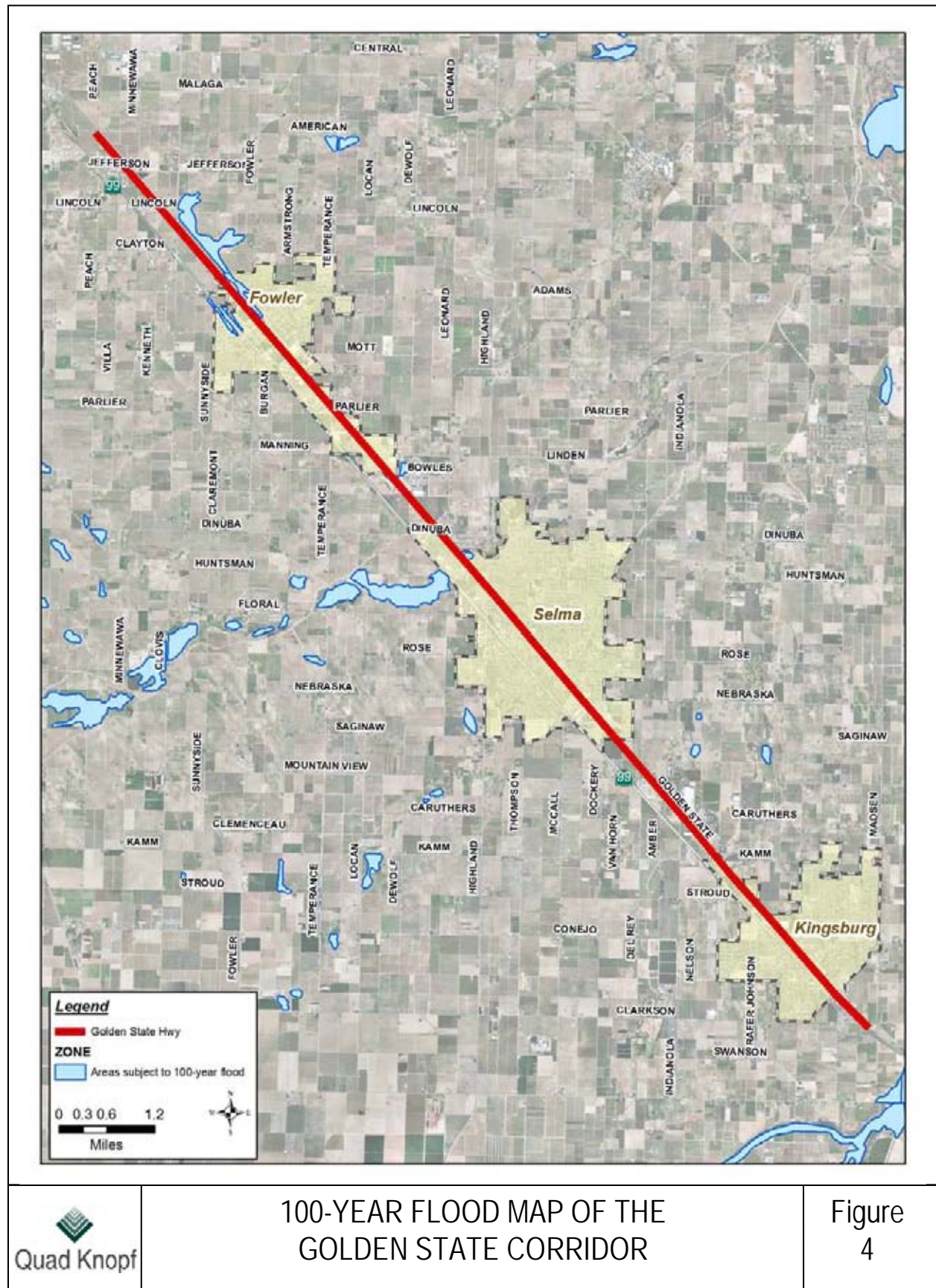


Figure
4

100 year floodplain (Figure 4). These areas are north of the city of Fowler and south of Lincoln Avenue to the east of Golden State Boulevard, and to the west of the city of Selma between Huntsman and Floral Avenues to the west of Golden State Boulevard. The 100 year flood plain is the area of flooding expected to occur within a given area once within a 100-year period.

2.3 *Regulatory Setting*

The natural vegetation communities of the southern San Joaquin Valley historically supported a diverse assemblage of plant and animal species. The conversion of native and naturalized plant communities by agricultural development, flood control, road construction, dam construction, and urbanization has significantly reduced available wildlife and plant habitat. As a result of this conversion, a number of plant and animal species have been extirpated from the region, and populations of other species have declined significantly. As a result, and as directed by State and federal legislation, the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS) have listed many species as threatened, endangered, or as candidates for State or Federal listing. Other species have been designated as “species of special concern” by the CDFG. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special-status species”. For this report, the terms “sensitive species,” “special-status species” or “species of concern” refer to those species viewed with special concern by the USFWS; the CDFG Natural Diversity Data Base (CNDDB) “Special Animals” (CDFG 2011a); and the CNDDB “Special Vascular Plants, Bryophytes, and Lichens List” (CDFG 2011b). This report identifies and addresses potential project related effects on special-status animal and plant species that could potentially be present on the project site. Special-status species included in the report may be listed under one or more of the following categories:

Federal Endangered – Listed as Endangered by the Federal Government.

Federal Threatened – Listed as Threatened by the Federal Government.

Federal Candidate – Candidate for federal listing (Taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened).

Federal Species of Concern – Federal Species of Concern (Taxa whose conservation status is of concern to the USFWS).

MBTA – Species protected under the auspices of the Migratory Bird Treaty Act.

State Endangered – Listed as Endangered by the State of California.

State Threatened – Listed as Threatened by the State of California.

State Rare – Plant species listed as Rare by the State of California and afforded protection under the Native Plant Protection Act.

State Species of Special Concern – California Department of Fish and Game Species of Special Concern.

Protected Species – those species that are fully protected by Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code.

There are federal, State, and local laws, regulations and policies that may affect project approval and permitting. These regulations consist of:

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) defines an *endangered species* as “any species or subspecies that is in danger of extinction throughout all or a significant portion of its range.” A *threatened species* is defined as “any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

Once a species is listed, it is fully protected from take unless a take permit is issued by the USFWS. *Take* is defined as “the killing, capturing, trapping, or harassing of a species.” Proposed endangered or threatened species are those species for which a proposed regulation but not final rule has been published in the Federal Register.

Migratory Bird Treaty Act

The MBTA is an international treaty among the United States, Canada, Mexico, Japan, and Russia for the conservation and management of bird species that may migrate through more than one country. The MBTA (50 CFR Section 10) is enforced in the United States by the USFWS and covers 972 bird species. According to the provisions of the MBTA, it is unlawful to pursue, hunt, take, capture, or kill or attempt to do the same to any species covered by the MBTA, including their nests, eggs, or young. Any disturbance that causes nest abandonment or loss of reproductive effort is considered a take and is potentially punishable by fines or imprisonment. Birds covered under this act include all waterfowl, shorebirds, gulls, wading birds, raptors, owls, hummingbirds, warblers, flycatchers, and most perching bird species. The Migratory Birds Treaty Act is provided in Appendix A.

Clean Water Act – Section 404

The goal of Section 404 of the Clean Water Act (1972) is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation’s waters. Under Section 404 of the Clean Water Act, the US Army Corps of Engineers (USACE) regulates discharges of dredged and fill materials into “waters of the United States” (jurisdictional waters). Waters of the US include a wide variety of water bodies including waters used for interstate commerce, intrastate lakes, rivers, streams, sandflats, mudflats, playa lakes, sloughs, wet meadows, wetlands, natural ponds, and wetlands adjacent to any water of the US (33 CFR Part 328, Section 328.3). Impacts to jurisdictional waters, including wetlands (a special category of water of the US), require a

permit from USACE and typically require mitigation. Impacts to wetlands often require compensation in kind to ensure no net loss of wetland function and value.

Clean Water Act – Section 401

Section 401 of the Clean Water Act requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the RWQCB. To obtain the water quality certification, the RWQCB must indicate that the proposed discharge would be consistent with the standards set forth by the state.

STATE

California Endangered Species Act

Section 2080 of the California Endangered Species Act (CESA) prohibits the take of any state-listed threatened and endangered species. CESA defines *take* as “any action or attempt to hunt, pursue, catch, capture, or kill any listed species.” If the proposed project results in a take of a listed species, a permit pursuant to Section 2080 of CESA is required from the CDFG.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) protects endangered and rare species, subspecies, and varieties of wild plants native to California. A “native plant” is defined as a plant growing in a wild, uncultivated state which is normally found native to the vegetation of California. The CNPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria defined in Public Resources Code 15380(b). Under CEQA, public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency (i.e., USFWS or CDFG).

Birds of Prey

Under the California Fish and Game Code (Section 3503), all birds of prey (orders Falconiformes and Strigiformes) are protected. The Code states that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take.

The Porter Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Water Code Section 13260, requires that “any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State to file a report of discharge” with the Regional Water Quality Control Board (RWQCB) through an application for waste discharge (Water Code Section 13260(a)(1)). The term “waters of the state” is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code Section 13050(e)). Pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of the Corps jurisdiction as defined by the SWANCC decision (see the section above for the Clean Water Act).

The RWQCB generally considers filling in waters of the state to constitute “pollution.” Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code Section 13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any “threat” to water quality.

LOCAL

Fresno County General Plan

The Fresno County General Plan provides guidance for the protection of natural and cultural resources. Updating and maintaining the Fresno County General Plan serves several important purposes. The proposed improvements and enhancements along the Corridor incorporate most of these, as listed below:

- Establishing within County government a framework for analyzing local and regional conditions and needs in order to respond effectively to the problems and opportunities facing Fresno County;
- Identifying Fresno County's economic, environmental, and social goals;
- Recording the County government's policies and standards for the maintenance and improvement of existing development and the location and characteristics of future development;
- Providing Fresno County's citizens with information about their community and with opportunities to participate in the local planning and decision-making process;
- Improving the coordination of community development and environmental protection activities among the County, cities, and regional, State, and Federal agencies; and
- Establishing a basis for subsequent planning efforts, such as preparation and updating of community plans, specific plans, redevelopment plans, and special studies to deal with unique problems or areas in the community.

City of Fowler General Plan

The City of Fowler's General Plan strives to preserve the City's character while providing goals to protect the environment, increase economic opportunities, and enhance the downtown area. Some of the concepts the City incorporated included:

- Establishing limits to urban growth that will maintain Fowler as a freestanding City surrounded by agricultural land;
- Providing commercial and industrial sites consistent with Fowler's growth;
- Using Growth Management to implement general plan policies and quality of life objectives; and
- Providing for a high quality of life for existing and future residents.

City of Kingsburg General Plan

The City of Kingsburg is constrained by geography and previous build-out to expansion in the northern section of the City. Only this section includes the Golden State Corridor. The North Kingsburg Specific Plan includes objectives consistent with the City's General Plan relating to advancing economic opportunities, ensuring fair-share and financially feasible community improvements and infrastructure, encouraging infill, creating corridors between public facilities, creating cohesive landscaping and architectural designs, and providing housing to meet the needs of the community.

City of Selma General Plan

The City of Selma's opportunities to expand are somewhat constricted by the City's location between Fowler and Kingsburg. The Corridor includes vacant lands on which the City can develop private businesses. Its General Plan Land Use Element policies were developed to "provide a framework for future policy decisions on private development and City capital expenditures. The City's strategy for growth management can best be described as prudent location and timing of new development to maximize the efficient use of urban facilities and services." (Land Use Element, 1997).

3.0 METHODOLOGY

Quad Knopf, Inc. was retained by the Council of Fresno County Governments to prepare an environmental document in compliance with CEQA requirements. This reconnaissance level biological survey of the project site provides technical information in support of that environmental document. The methods used to evaluate the biological resources on the project site and determine potential impacts to those resources that could result from demolition, construction, removal of vegetation, and other activities include:

- Searching existing databases to obtain existing information of the site and surrounding area;

- Characterizing vegetation associations and habitat conditions present on the project site; and
- Conducting an on-site survey of the project area to obtain information on existing vegetation, wildlife, and site conditions.

3.1 Pre-survey Investigations

Prior to conducting the field survey, a query of the California Natural Diversity Database (CNDDB, CDFG 2011) was conducted for the 16 topographic quadrangles in which the project area is located or adjacent. These U.S. Geologic Survey (USGS) 7.5 minute topographic quadrangles included: Burris Park, Caruthers, Clovis, Conejo, Fresno North, Fresno South, Laton, Malaga, Reedley, Riverdale, Round Mountain, Piedra, Sanger, Selma, Traver, and Wahtoke. A query of the California Native Plant Society's Electronic Inventory (CNPS 2011) was conducted for the same quadrangles to provide information on additional plant species of concern that may occur in the project area and surrounding vicinity. A species list was obtained from the U.S. Fish and Wildlife Service (USFWS) website for the same quadrangles to provide information on additional federally-protected special-status species that have the potential to occur in the vicinity of the proposed project. Only those sensitive natural communities and special-status species with the potential to occur on the project site were considered in this report.

A query of the USFWS National Wetland Inventory (NWI) Map was reviewed to determine the occurrence of known wetlands in the project vicinity. Soils on the project site and surrounding areas were identified from USDA Soil Conservation Service maps from Fresno County (USDA 1982).

3.2 Field Survey Methods

On June 3, 2011 Quad Knopf, Inc. biologist, Ginger White, conducted a reconnaissance-level biological survey to determine whether sensitive natural communities, special-status plant and animal species, or habitats that would support special-status species exist on the project site. The project site was surveyed by driving the entire route and accessing the rights-of-way where possible. Areas that could potentially contain special-status plant or wildlife species were walked to locate species or sign of species.

A determination of the potential for rare plant species to occur on the project site was made based upon habitat types present, soils types occurring on the project site, exposures, levels of disturbance, and other factors. An evaluation of the potential for the project site to support special status wildlife species was based upon the presence of vegetation associations, project site elevation, known occurrences in the vicinity of the project site, and habitat affinities and known distributions and ranges of the various species.

4.0 RESULTS AND DISCUSSION

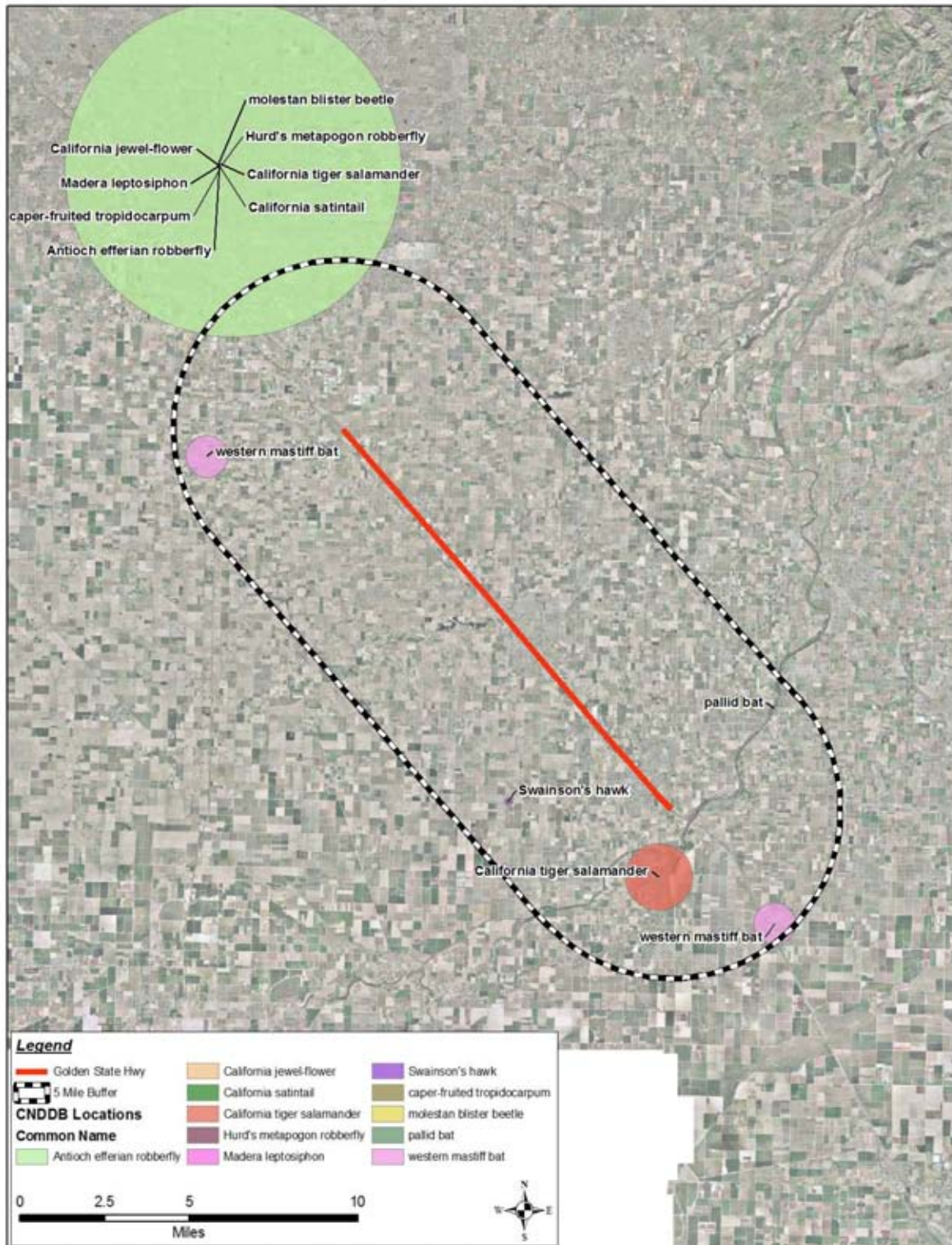
4.1 Site Conditions and Vegetation and Wildlife Observed

The project site consists of a divided, paved four-lane roadway, median, and the rights-of way on either side of the roadway. Vegetation within the median and rights-of-way in the rural areas includes ruderal grasses and forbs, barren graded areas, and trees planted as landscaping. In areas further from the Corridor, to the east and west, land use includes vineyards and agricultural-related businesses (e.g., packing houses and shipping yards), or industrial and commercial businesses. Areas within city limits generally contain urbanized landscaping, structures, utilities, and shipping yards. A railway line parallels the eastern side of the entire length of the Corridor. All 14 plant species identified along the Corridor are typical of disturbed or landscaped habitats and the 3 species of wildlife observed are also common in disturbed and urban or rural areas (Table 1). Representative photographs of site conditions are provided in Appendix B.

Table 1
Plant and Animal Species Observed During the
Field Survey of the Golden State Corridor Project Area, June 2011

SCIENTIFIC NAME	COMMON NAME	OBSERVATION NOTES
<u>Plants</u>		
<i>Achillea millefolium</i>	Western yarrow	along edge of roadway, south end
<i>Avena fatua</i>	Wild oats	along median of roadway
<i>Bouteloua curtipendula</i>	Sideoats grama grass	along edges of roadway (most common)
<i>Bromus madritensis</i>	Red brome	along edges of roadway
<i>Centaurea solstitialis</i> L.	Yellow star thistle	along edges of roadway, disturbed areas
<i>Conyza anadensis</i>	Canadian horseweed	along edges of roadway (common)
<i>Eremocarpus setigerus</i>	Turkey mullein	along edges of roadway, disturbed areas
<i>Eucalyptus globules</i>	Blue gum eucalyptus	along median and edges of roadway
<i>Fraxinus</i> sp.	Ash (California?)	along median of roadway
<i>Hordeum murinum</i> ssp. <i>gussoneanum</i>	Foxtail chess	along edges of roadway
<i>Lepidium oblongum</i> var. <i>oblongum</i>	Wayside peppergrass	along edges of roadway
<i>Malva parviflora</i>	Cheese weed	along edges of roadway, disturbed areas
<i>Nerium Oleander</i>	Oleander	along median and roadway (common)
<i>Washingtonia</i> sp.	Fan palm	along median and roadway
<u>Birds</u>		
<i>Buteo jamaicensis</i>	Red-tailed hawk	in urban area (Kingsberg)
<i>Zenaida macroura</i>	Mourning dove	in urban area (Selma)
<u>Mammals</u>		
<i>Spermophilus beecheyi</i>	California ground squirrel	along roadway at north end of project area only

There are four ponding basins that are located outside of the Corridor (Figure 5), but in close proximity to the project. Several small ditches and canals cross beneath the Corridor roadway and provide water for local agricultural fields. These man-made basins and waterways are maintained on a regular basis and provide only low quality habitat for plant and wildlife species,



and weedy species or those with a tendency to occur within disturbed areas predominate. No riparian vegetation occurs around these ditches and canals. Agricultural fields and taller trees may provide seasonal foraging and nesting habitat for a variety of migratory birds and raptors. California ground squirrels were observed along the rights of way only near the northern terminus of the project area.

Areas of agriculture, agricultural related businesses, and commercial and urban development that occur near the Corridor are heavily degraded by vehicles, agricultural equipment, grading or disking, and other human activities. These activities reduce the potential for the occurrence of habitat that would support a high diversity of native plant and wildlife species.

4.2 Sensitive Habitats, Special-Status Plants, and Special Status Wildlife

There are no sensitive natural communities known to occur within or in close proximity to the Golden State Corridor project area. There are 20 special-status plant species, and 18 special-status wildlife species that are known to exist in the general vicinity of the project site (Table 2, Figure 6 and Appendix C and D). Special-status plants or habitat that would support special-status plants do not occur within the Corridor as the area includes only a paved roadway and highly disturbed rights of way and medians. Much of the disturbed areas within the medians and rights of way contain invasive and/or non-native plant species, and are not suitable to support special-status plant or wildlife species. Several small irrigation ditches flow from east to west beneath the Corridor roadway.

No special-status wildlife species were observed within or adjacent to the Corridor. However, there is the potential for 4 special status wildlife species to occur along the Corridor (Table 2). Habitat occurs on the Corridor that would support roosting of the western Mastiff bat (*Eumops perotis*) and pallid bat (*Antrozous pallidus*), although opportunities for foraging are limited. It is possible that the Swainson's hawk (*Buteo swainsonii*) may occur on the project site from time to time. The agricultural lands adjacent to the Corridor may provide suitable foraging habitat for the Swainson's hawk and the trees along the Corridor provide suitable roosting habitat. No nests of this species were observed and it is unlikely that the Swainson's hawk would nest along the corridor because of its tendency to avoid areas of high human activity. One record of Swainson's hawk occurs within five miles of the Corridor (Figure 6). Swainson's hawks are known from the region and could roost in trees adjacent to the property on a seasonal basis. The San Joaquin kit fox (*Vulpes macrotis mutica*) is known to occur within ten miles of the project site (Table 2) and may occur on the site as a transient forager. Agricultural access roads and open or fallow agricultural fields provide suitable corridors for the movements of this species, although the project site contains very limited prey for the San Joaquin kit fox.

There is also one record of the California tiger salamander (*Ambystoma californiense*) occurring near the project site (Figure 6), however, there is no habitat within the project site that would support a breeding population of this species and the upland habitat that occurs along the project site is generally not suitable for use as upland aestivation habitat for this species. A description of the natural history of species which may occur along the Corridor, and a discussion of their potential for occurrence is provided in Appendix D.

Table 2
Special-Status Species Potentially Present on the Golden State Corridor Project

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
SENSITIVE NATURAL COMMUNITIES: none				
SPECIAL STATUS PLANTS				
<i>Atriplex depressa</i>	Brittlescale	1B.2	The brittlescale is found in Chenopod scrub, meadows, playas, and valley and foothill grasslands, and in vernal pools. It typically occurs in alkaline clay soils.	Absent. There is no Chenopod scrub or other suitable habitat within the project area, and human activity has disturbed soils and habitat to such an extent that it is unlikely to support this species. Alkaline clay soils are not present within the project area.
<i>Atriplex erecticaulis</i>	Earlimart orache	1B.2	This plant species is commonly found in valley and foothill grassland between 131 and 328 feet AMSL.	Absent. No habitat suitable to support this species is located within or adjacent to the project corridor.
<i>Atriplex minuscula</i>	Lesser saltscale	1B.1	This annual plant occurs in Chenopod scrubland, grassland, and alkali sink habitats, but it is also known to occur in wet areas. It ranges in elevation from 0 to 656 feet AMSL.	Absent. No habitat suitable to support this species is located within or adjacent to the project corridor.
<i>Atriplex persistens</i>	vernal pool smallscale	1B	This plant is restricted to alkaline vernal pools on the floor of the San Joaquin Valley and it is endemic to California.	Absent. The project area does not contain suitable habitat to support this species.
<i>Atriplex subtilis</i>	subtle orache	1B.2	This annual plant occurs in chenopod scrubland, grassland, and alkali sink habitats, but it also is known to occur in wet areas.	Absent. The project area does not contain suitable habitat to support this species.
<i>Castilleja campestris</i> ssp. <i>Succulent</i>	succulent owl's clover	FT, 1B.2, CE	This species requires moist places, and usually acidic soils and is found in vernal pools, and valley and foothill grassland.	Absent. Although the site includes valley grasslands, the project area is highly disturbed (graded, mowed, sprayed, etc.) and does not support vernal pools. Habitat suitable to support this species is lacking from the project site.
<i>Caulanthus californicus</i>	California jewel flower	FE, CE, 1B.1	This plant occurs on sandy soils with chenopod scrub, pinyon juniper woodland, and grasslands.	Absent. The project site does not contain suitable habitat to support this species. Habitat suitable to support this species is lacking from the project site. An historic

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
				record of this plant was recorded approximately 5.5 miles north of the project area, so it was once known to exist in the vicinity of the project.
<i>Chamaesyce hooveri</i>	Hoover's spurge Critical habitat	FX	This plant is restricted to vernal pool habitats. It ranges in elevation from 0 to 800 feet AMSL.	Absent. The project site does not support vernal pools.
<i>Eryngium spinosepalum</i>	Spiny-sepaled button celery	1B.2	This species is associated with vernal pools and depressions within grasslands. It is found between 330 to 840 feet AMSL.	Absent. The project site does not support vernal pool or other habitats (e.g., swales or moist depressions) that would support this species.
<i>Imperata brevifolia</i>	California satintail	1B.1	This species is found in a variety of habitat including chaparral, coastal sage scrub, creosote bush scrub, and wetland-riparian.	Absent. There is no habitat within the project area that would support this species. This species has been recorded approximately 5.5 miles northwest of the project area, indicating that it once occurred in the vicinity of the project.
<i>Lepidium jaredii</i> ssp.	Panoche pepper-grass	1B.2	This species occurs in valley and foothill grasslands, on steep slopes with clay soils.	Absent. The project is located on the flat valley floor. Habitat suitable to support this species is not located within the project area.
<i>Leptosiphon serrulatus</i>	Madera leptosiphon	1B.2	This plant occurs in cismontane woodland and lower montane coniferous forests. It ranges in elevation from 1,000 to 4,250 feet AMSL	Absent. The elevation of the project is not within the range of this species. Habitat capable of supporting this species does not occur within the project site. This species has been recorded northwest of the project area in the Jessie Morrow Mountain area.
<i>Mimulus acuttindens</i> Greene	Kings River monkeyflower	3	This monkey flower is found at altitudes significantly higher than the project area, including Miramonte and Auberry in Fresno County.	Absent. No habitat suitable to support this species is located within or adjacent to the project corridor.
<i>Orcuttia inaequalis</i>	San Joaquin Valley orcutt grass	FT	This species is found in alluvial fans and the grasslands surrounding vernal pools. It is associated with acidic soils. It ranges in elevation from 10 to 2,000 feet AMSL.	Absent. The project area is highly disturbed by human activity and will not support vernal pools needed for this species.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Pseudobahia peirsonii</i>	San Joaquin adobe sunburst	FT, CE	This plant is associated with clay soils occurring within foothill woodlands and grasslands. It generally occurs on slopes or ridges of small hills or in the foothill habitat, and ranges in elevation from 300 to 2,625 feet AMSL	Absent. The project site does not contain habitat suitable for supporting this species.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	This species is found in freshwater marshes and wetlands.	Absent. No habitat suitable to support this species is located within or adjacent to the project. Known records are from areas north and west of Fresno.
<i>Schizymenium shevokii</i>	Shevock's copper moss	1B.2	This species is located in Cismontane woodland in metamorphic and mesic rock.	Absent. No habitat suitable to support this species is located within or adjacent to the project corridor.
<i>Sidalcea keckii</i>	Keck's checkerbloom and Its critical habitat	FE	This species is found in Cismontane woodland, and valley and foothill grasslands. Microclimate includes grassy slopes with a substrate of ultramafic soils..	Absent. The project area does not contain habitat that would support this species.
<i>Tropidocarpum capparideum</i>	Caper-fruited tropidocarpum	1B.1	This plant is found in valley and foothill grassland, especially in alkaline soil in northern Fresno County, and other areas north of the project area.	Absent. The project area is unlikely to support this species because of intense disturbance from human activity. A CNDDB record from 1930 occurs near Fresno, but the plant is considered extirpated from this location.
<i>Tuctoria greenei</i>	Greene's tuctoria	FE, CR	This species occurs in small or shallow vernal pools or the early drying sections of large, deep vernal pools in the Central Valley. It ranges in elevation from 98 to 3,510 feet AMSL.	Absent. Habitat suitable for supporting this species is not present within or adjacent to the project.
SPECIAL-STATUS WILDLIFE				
<u>AVIAN</u>				
<i>Buteo swainsoni</i>	Swainson's hawk	CSC, MBTA	Swainson's hawks occur in riparian forests and other forested areas. They roost in a variety of trees and forage widely over forests, grasslands, and shrublands, and agricultural row crops. They are easily disturbed by human activities.	Unlikley. No Swainson's hawks or potential Swainson's hawk nests were observed on the project site. Marginal habitat for nesting and foraging does exist adjacent to the project site, however, the site receives significant traffic and other human presence. One CNDDB

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
				record south of Selma in eucalyptus grove: presumed nesting pair as they stayed in the area despite disturbance.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC, CE	This bird species nests in riparian forests, along the broad, lower flood-bottoms of larger river systems.	Absent. No habitat to support this species is found within the project area. The closest sighting of the yellow-billed cuckoo is approximately 6 miles NE of Fresno, over 15 miles from the project site.
<u>INVERTEBRATES</u>				
<i>Branchinecta conservatio</i>	conservancy fairy shrimp	FE	Conservancy fairy shrimp occur in rather large, cool-water vernal pools with moderately turbid water.	Absent. The project site does not contain vernal pool habitat capable of supporting this species.
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT	Vernal pool fairy shrimp occur in a variety of vernal pool habitats from small, clear sandstone rock pools to large, turbid, alkaline, grassland valley floor pools.	Absent. The project site does not contain vernal pool habitat capable of supporting this species.
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	Valley elderberry longhorn beetles are associated with elderberry trees (<i>Sambucus</i> spp.) in the Central Valley.	Absent. No elderberry trees exist on or in the vicinity of the project site.
<i>Efferia antiochi</i>	Antioch efferian robberfly	CSC	This fly has a known distribution from only Antioch, Fresno and Scout Island in the San Joaquin River	Absent. The project site does not include any of the locations where this fly is known to exist. CNDDDB records indicate it is found north west of the project site, further than 5 miles distant.
<i>Metapogon hurdi</i>	Hurd's metapogon robberfly	CSC	Known only from the sand dunes at Antioch and remnant dunes within the San Joaquin Valley	Absent. Habitat capable of supporting this species does not occur within the project site. CNDDDB records indicate it is found north west of the project site, further than 5 miles distant.
<i>Lytta molesta</i>	Molestan blister beetle	CSC	This insect is found in Central California, often on flowers including <i>Lupinus</i> , <i>Trifolium wormskioldii</i> in dried vernal pools, and on <i>Ediodum</i> . This species is most often, if not always, associated with dried vernal pools,	Absent. Habitat capable of supporting this species is not present within the project area. CNDDDB records indicate it is found northwest of the project area, further than 5 miles distant.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE	The vernal pool tadpole shrimp occurs in vernal pools and swales in the Sacramento Valley, containing clear to highly turbid water.	Absent. The project site includes no vernal pool habitat capable of supporting this species.
<u>AMPHIBIANS</u>				
<i>Ambystoma californiense</i>	California tiger salamander	FT	This species requires underground refuges, such as small mammal burrows. Also requires vernal pools or other seasonal water sources for breeding.	Absent. No habitat suitable to support this species occurs within the project area. The CNDDB indicates records of sighting along water courses or ponds north (1991), south (1925) east and west of the project sight, further than 1.5 miles (range of adults) from the project corridor.
<i>Rana aurora draytonii</i>	California red-legged frog	FT	California red-legged frogs occur in small streams, ponds and marshes, preferably with dense shrubby vegetation such as cattails and willows near deep water pools.	Absent. No perennial aquatic habitat, which is a requirement for this species, occurs on the project site.
<u>REPTILES</u>				
<i>Gambelia sila</i> (= <i>Crotaphytus silus</i>)	blunt-nosed leopard lizard	FE	Blunt-nosed leopard lizards reside in sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. They seek cover in mammal burrows (they do not excavate their own burrows), under shrubs, or structures such as fence posts.	Absent. Suitable habitat is not present on the project site.
<i>Thamnophis gigas</i>	giant garter snake	FT, CT	Giant garter snakes require permanent or semi-permanent marshes and sloughs.	Absent. Habitat that would support this species does not occur on the site or in the immediate vicinity of the site.
<u>MAMMALS</u>				
<i>Antrozous pallidus</i>	pallid bat	CSC	Pallid bats occur in grasslands, shrublands, woodlands, and forests at elevations from sea level to high altitude mixed conifer forests. This species is most common in open, dry habitats with rocky areas for	Possible: roosting habitat is present on the project area in tall trees. Possible foraging habitat occurs adjacent to the project area in irrigation ditches and canals. CNDDB records indicate that the species is found within five miles of the project area.

Scientific Name	Common Name	Status	Habitat Requirements	Probability of Occurrence and Assessment of Impacts
			roosting. It is locally common in low elevations in California.	
<i>Dipodomys nitratooides exillis</i>	Fresno kangaroo rat	FE, CE	Fresno kangaroo rat require alkali sinks and open grassland habitat, especially in western Fresno county. Microhabitat includes bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs & grasses.	Absent. The project site does not contain habitat suitable of supporting this species. This species is considered extirpated from Fresno County, with the last known capture occurring in 1992 at the Alkali Sink Ecological Reserve.
<i>Dipodomys nitratooides nitratooides</i>	Tipton kangaroo rat	FE, CE	Tipton kangaroo rats are found in saltbrush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. They need soft friable soils which escape seasonal flooding to dig their burrows in elevated soil mounds at the base of shrubs.	Absent. This subspecies is typically located south of the King's River. Suitable habitat to support this species does not occur on the project site.
<i>Eumopsperotis</i>	western mastiff bat	CSC	The western mastiff bat roosts in crevices in cliff faces, high buildings, trees and tunnels. It roosts in large colonies, which take significant space. In California the western mastiff bat is most commonly encountered in broad open areas, but occurs in many semi-arid to arid habitats. They forage over slow moving water.	Possible: roosting habitat is present on the project area under bridges (highway overpasses). Possible foraging habitat occurs adjacent to the project area in irrigation ditches and canals. CNDDDB records indicate that the species is found within five miles of the project area.
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	FE, CT	San Joaquin kit foxes occur in open, dry grassland and shrub and open forest habitats on the floor of the San Joaquin Valley and surrounding foothills.	Possible. Habitat for the kit fox exists in the vicinity of the project site. However, this species is known to occur in extremely low numbers within this portion of its range.

Sources:

California Department of Fish and Game. 2009. California Natural Diversity Data Base, California Department of Fish and Game, Sacramento, CA.
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United States Fish and Wildlife Service (USFWS). 2009. Critical Habitat Portal, Critical Habitat Map, United States Fish and Wildlife Service, Sacramento, CA.
United States Fish and Wildlife Service (USFWS). 2009. Federal Endangered and Threatened Species List, Sacramento Fish and Wildlife Office, Sacramento, CA.
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Abbreviations:

FE	Federal Endangered Species
FT	Federal Threatened Species
MBTA	Species Protected Under the Auspices of the Migratory Bird treaty Act
CE	California Endangered Species
CT	California Threatened Species
CR	California Rare Species Afforded Protection Under the Native Plant Protection Act
FSC	Federal Species of Special Concern.
CSC	California Department of Fish and Game Species of Special Concern
1B	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere
1B.1	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Seriously Threatened in California
1B.2	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California and Elsewhere; Fairly Threatened in California
2.1	California Native Plant Society List 1B Species-Plants Categorized as Rare, Threatened, or Endangered in California, but More Common Elsewhere; Seriously Threatened in California
SC	California Department of Fish and Game Sensitive Community

*Potential Occurrence Definitions:

Present: Species or sign of their presence observed on site at time of the field survey.

Likely: Species not observed on site, but may reasonably be expected to occur there on a regular basis. Or, species not observed on the site, exceptional habitat exists, and additional surveys needed to verify presence.

Possible: Species not observed on site, but could occur there from time to time. Or, species not observed on the site, suitable habitat exists, and additional surveys needed to verify presence.

Unlikely: Species not observed on site, and would not be expected to occur there except, perhaps, as a transient. Or, species not observed on the site, marginally suitable habitat exists, and additional surveys needed to verify presence.

Absent: Species or sign of their presence not observed on site, and precluded from occurring there because habitat requirements are not met.

The project site may provide some foraging opportunities for a number of additional sensitive wildlife species including various species of raptors and migratory birds that are protected by the Migratory Bird Treaty Act.

5.0 ANALYSIS OF POTENTIAL IMPACTS

This project will improve and revitalize a 14.2 mile segment of Golden State Boulevard within the Corridor that connects the cities of Fowler, Selma, and Kingsburg. The project includes roadway improvements such as wider intersections, installation of bicycle lanes north of Kingsburg, curbs and gutters, and resurfacing to encourage development of roadside businesses. These improvements will require grading, paving, and other activities within the rights of way and median of the Corridor. The widths of the roadway are anticipated to remain as they are. Some additional right-of-way may be needed for intersection improvements, however the improvements would occur on vacant, disturbed land. Specific improvements, construction activities, and other activities are presently unknown, and will be determined as funding becomes available. Additional site-specific studies ~~will~~may be necessary as specific projects are proposed. These additional studies are proposed in Section 6 (Recommended Mitigation Measures). Nonetheless, based upon the project footprint provided and the biological information gathered, some evaluations of project impacts are possible and are provided. In some cases where there is a lack of sufficient information, these evaluations are not conclusive, but speculative. These include evaluations of the potential for the project to impact:

- Special status plants;
- Special status wildlife;
- Raptor nests and migratory birds nests; and
- Waterways.

Conditions in the rights of way and median have been heavily impacted by a variety of human activities, such as grading to clear areas of unwanted vegetation; planting of non-native grasslands and landscaping, paving of access roads; development and operations of commercial businesses, and agriculturally activities such as planting, harvesting, packing, and shipping. These activities have resulted in a loss of habitat previously used for breeding, foraging, nesting, roosting, and other activities, so that most areas are not currently suitable for sustaining a diversity of plants and wildlife native to the Central Valley.

5.1 *Impacts to Special Status Plants*

The Corridor has been heavily impacted by human activities, including grading, application of herbicides, and the replacement of native vegetation with agricultural crops and invasive grasses, weedy species, and ornamental landscape species. The current habitat is not suitable to support sensitive status plants and the project will not result in impacts to special status plant species.

5.2 *Impacts to Special Status Wildlife*

Seventeen special status wildlife species were identified as historically occurring within ten miles of the project site. Of these, four species have the potential to occur on the project site; the

western mastiff bat, the pallid bat, the Swainson's hawk, and the San Joaquin kit fox. The western mastiff bat and the pallid bat may roost and forage within the project site, there is the potential for the Swainson's hawk to nest and forage within the project site (although no evidence of this was obtained during the biological survey of the site), and the San Joaquin kit fox may occur as an occasional transient. Some species of migratory birds and raptors may also exist along the Corridor and be subject to project impacts.

Impacts to roosting habitat for the western mastiff bat and pallid bat ~~are not expected to~~ may occur, because project development plans provide for the ~~avoidance-removal~~ of some trees, however overpasses, and other highway structures that would provide potential roosting sites for these bats would not be impacted. Impacts to foraging habitat of San Joaquin kit foxes is unlikely to occur, as roadways will not be expanded in width, and existing rights-of-way and medians do not currently provide foraging habitat. Additional right-of-way that is needed for intersection improvements also occur on vacant, disturbed land and do not provide foraging habitat. ~~However~~ Nevertheless, construction activities may create temporary impacts to roadways and habitat that provide access to foraging sites for the two bat species, raptors, San Joaquin kit fox, and other wildlife. San Joaquin kit foxes are protected by the State and Federal Endangered Species Acts. The implementation of mitigation measures presented in Section 6, would ensure that there will be no take of these species.

5.3 Impacts to Raptors and Migratory Bird Nests

The Swainson's hawk and other raptors, and many other species of migratory birds are protected under the Migratory Bird Act and other laws and regulations. Project designs ~~do not~~ include the removal of some trees from the rights of way and medians, however, most trees along and the Corridor will be preserved and will continue to provide the nesting and roosting opportunities currently available. During the June 2011 survey, few birds were observed within or adjacent to the Corridor. However, trees within the Corridor may be utilized more extensively during migration and nesting seasons. The Corridor is adjacent to rural fields that are either planted in vineyards or are fallow, providing foraging opportunities.

Construction activities, including tree removal could ~~have temporary impacts to~~ Swainson's hawk and other raptors and migratory birds, as these species are sensitive to disturbance, particularly during the nesting season. Although the project site would continue to provide foraging and nesting habitat, there is the potential for ~~temporary~~ impacts to nesting birds during construction. The implementation of the mitigation measures recommended in Section 6 will reduce the impacts to nesting birds to less than significant levels.

5.4 Waterways

The Corridor does not include any major waterways protected by state or federal agencies. However, it includes ditches and canals that carry irrigation water to adjacent agricultural fields. Project designs incorporate these waterways with no intention of moving, blocking, or altering them. The areas where the waterways cross through the project area offer no suitable habitat to support special status species. Some construction related activities may, however, have the potential to impact waterways by causing sedimentation.

6.0 RECOMMENDED PROTECTION, AVOIDANCE, AND COMPENSATION MEASURES

6.1 *Western Mastiff Bats and Pallid Bats*

To reduce potential impacts to western mastiff bats and/or pallid bats that could occur during construction activities, the following measures shall be implemented prior to and during construction activities to reduce impacts to a level that is less than significant. [÷ The Lead Agency or Designee shall determine the applicability of the following measures depending on specific construction activities and shall implement such measures when required.](#)

Prior to the ~~commencement of any demolition of existing structures,~~ removal of trees, or construction activities within 100 feet of the Corridor, the project applicant will conduct a survey to determine the presence of roosting bats. The survey should be conducted 14 days prior to the start of the proposed activity. A Survey shall be conducted during the day to determine potential signs of bats (e.g., white wash, guano) and at dusk, when bats would be expected to be emerging from roost sites. Survey will be conducted by a wildlife biologist qualified to identify the species of bats using these roosts. If the survey determines that no bats are roosting on or in structures, bridges or trees, then no further mitigation is required.

If roosting bats are present, the biologist will determine if the roost is a day roost or is a maternal roost. Then, if the roost is determined to be a maternal roost, construction activities that cause the abandonment of the maternal roost or cause harm to bats (e.g., diesel fumes being trapped under the bridges) will be prohibited until the biologist determines that the bat pups have left the roost and are able to fend for themselves. The biologist will consult with the DFG for further guidance on avoiding and minimizing impacts on a maternal colony.

If bats are determined to be roosting within the proposed project area, the above measures will be implemented before demolition or construction occurs. If it is determined that the roost is a day roost, the wildlife biologist who conducted the preconstruction survey will recommend appropriate measures to exclude the bats from roosting. These include installing exclusion devices (i.e., lightweight polypropylene netting [$<1/6$ -inch mesh], plastic sheeting, tube-type excluders, etc.) to prevent roosting bats from being in the project area when construction occurs. The biologist will also recommend, through consultation with the DFG and other bat experts, appropriate replacement roosting habitat for the displaced bats.

6.2 *Swainson's Hawks, Other Raptors, and Migratory Birds*

To reduce project related impacts to active bird nests and to reduce the potential for construction activities to interrupt breeding and rearing behaviors of birds, the following measures shall be implemented prior to and during construction activities to reduce impacts to a level that is less than significant. [÷ The Lead Agency or Designee shall determine the applicability of the following measures depending on specific construction activities and shall implement such measures when required.](#)

1. A pre-construction survey shall be conducted to determine the presence of nesting birds if ground clearing or construction activities will be initiated during the breeding season (February 15 through September 15). The Project Site and potential nesting areas within 500 feet of the site shall be surveyed 14 to 30 days prior to the initiation of construction. Surveys will be performed by a qualified biologist or ornithologist to verify the presence or absence of nesting birds. Construction shall not occur within a 500 foot buffer surrounding nests of raptors or a 250 foot buffer surrounding nests of migratory birds. If construction within these buffer areas is required or if nests must be removed to allow continuation of construction, then approval will be obtained from California Department of Fish and Game (CDFG).
2. All trees which are suitable for Swainson's hawk nesting that are within 2,640 feet of construction activities shall be inspected for nests by a qualified biologist.
3. If potential Swainson's hawk nests are located, surveys to determine whether Swainson's hawks use those nests will be determined by conducting surveys at the following intensities, depending upon dates of initiation of construction:

Construction start	Survey period	Number of surveys	Timing
1 January to 20 March	1 January to 20 March	1	All day
21 March to 24 March	1 January to 20 March	1	All day
	21 March to 24 March	Up to 3	Sunrise to 1000 and 1600 to sunset
24 March to 5 April	1 January to 20 March	1	All day
	21 March to 5 April	3	Sunrise to 1000 and 1600 to sunset
6 April to 9 April	21 March to 5 April	3	Sunrise to 1000 and 1600 to sunset
	6 April to 9 April	Up to 3	Sunrise to 1000 and 1600 to sunset
	1 January to 20 March	1 (if all 3 surveys are performed between 6 and 9 April, then this survey need not be conducted)	All day
10 April to 30 July	21 March to 5 April	3	Sunrise to 1000 and 1600 to sunset
	6 April to 20 April	3	Sunrise to 1200 and 1630 to sunset
31 July to 15 September	6 to 20 April	3	Sunrise to 1200 and 1630 to sunset
	10 to 30 July	3	Sunrise to 1200 and 1600 to sunset

A nest can be eliminated as a potential Swainson's hawk nest if another species of raptor is using the nest.

4. If Swainson's hawks are detected to be nesting in trees within 600 feet of the construction area, construction will not occur within this zone until after young Swainson's hawks have fledged (this usually occurs by early June). The nest will be monitored by a qualified biologist to determine fledging date. If Swainson's hawks are found within the project area, the project site would be considered foraging habitat and compensation for foraging habitat would be required by CDFG at a ratio of 0.75 to 1 (0.75 acre for every 1.0 acre adversely affected).
5. If other raptors are found nesting within 250 feet of the construction area, construction will be postponed until after young have fledged. The date of fledging will be determined by a qualified biologist. If construction cannot be delayed within this zone, the CDFG will be consulted and alternative protection measures required by the CDFG will be followed.
- ~~5.6.~~ The removal of trees shall not occur during the breeding season (February 1st to September 15th). Trees slated for removal during the breeding season shall be surveyed by a qualified biologist prior to removal to ensure that there are no nesting birds occupying the tree.

6.3 San Joaquin Kit Fox

Because there is the potential for San Joaquin kit foxes to occur on site, the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 1999) will be followed (Appendix E). The measures that are listed below have been excerpted from those guidelines and will protect San Joaquin kit foxes from direct mortality and from destruction of active dens and natal or pupping dens. The Lead Agency or Designee shall determine the applicability of the following measures depending on specific construction activities and shall implement such measures when required.

1. Pre-construction surveys shall be conducted no fewer than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities, or any project activity likely to impact the San Joaquin kit fox or American badger. Exclusion zones shall be placed in accordance with USFWS Recommendations using the following:

Potential Den	50 foot radius
Known Den	100 foot radius
Natal/Pupping Den (Occupied and Unoccupied)	Contact U.S. Fish and Wildlife Service for guidance
Atypical Den	50 foot radius

If dens must be removed, they must be appropriately monitored and excavated by a trained wildlife biologist. Replacement dens will be required. Destruction of natal dens and other "known" kit fox dens must not occur until authorized by USFWS.

2. Project-related vehicles shall observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Nighttime construction shall be avoided, unless the construction area is appropriately fenced to exclude kit foxes. The area within any such fence must be determined to be uninhabited by San Joaquin Kit foxes prior to initiation of construction. Off-road traffic outside of designated project areas shall be prohibited.

3. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under numbers 8 and 9 of this section must be followed.
4. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe, becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
5. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from a construction or Project Site.
6. No firearms shall be allowed on the Project Site.
7. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets shall be permitted on Project Sites.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox, or who finds a dead, injured or entrapped individual. The representative's name and telephone number shall be provided to the USFWS and CDFG.
9. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the USFWS and CDFG should be contacted for advice.
10. Any contractor, employee(s), or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or biologist.
11. The Sacramento Fish and Wildlife Office and CDFG will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, 2800 Cottage Way,

Suite W2605, Sacramento, CA 95825-1846, and (916) 414-6620. The CDFG contact is Mr. Ron Schlorff at 1416 9th Street, Sacramento, CA 95814, (916) 654-4262.

6.4 *Waterways*

Significant impacts to waterways may be avoided by installing buffer areas of up to 100 feet or greater to protect all canals and ditches and ensure that there would be no change in the hydrologic conditions of waterways. If a 100 foot avoidance area cannot be maintained during construction, the a discharge permit and a storm water pollution prevention plan (SWPPP) should be completed for specific projects.

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Appendix A

Migratory Bird Treaty Act

Migratory Bird Treaty Act of 1918

Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended by: Chapter 634; June 20, 1936; 49 Stat. 1556; P.L. 86-732; September 8, 1960; 74 Stat. 866; P.L. 90-578; October 17, 1968; 82 Stat. 1118; P.L. 91-135; December 5, 1969; 83 Stat. 282; P.L. 93-300; June 1, 1974; 88 Stat. 190; P.L. 95-616; November 8, 1978; 92 Stat. 3111; P.L. 99-645; November 10, 1986; 100 Stat. 3590 and P.L. 105-312; October 30, 1998; 112 Stat. 2956

The original 1918 statute implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia).

Specific provisions in the statute include:

- Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)

This prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Russia.

- Authority for the Secretary of the Interior to determine, periodically, when, consistent with the Conventions, "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any . . . bird, or any part, nest or egg" could be undertaken and to adopt regulations for this purpose. These determinations are to be made based on "due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times of migratory flight." (16 U.S.C. 704)
- A decree that domestic interstate and international transportation of migratory birds which are taken in violation of this law is unlawful, as well as importation of any migratory birds which are taken in violation of Canadian laws. (16 U.S.C. 705)
- Authority for Interior officials to enforce the provisions of this law, including seizure of birds illegally taken which can be forfeited to the U.S. and disposed of as directed by the courts. (16 U.S.C. 706)
- Establishment of fines for violation of this law, including misdemeanor charges. (16 U.S.C. 707)

- Authority for States to enact and implement laws or regulations to allow for greater protection of migratory birds, provided that such laws are consistent with the respective Conventions and that open seasons do not extend beyond those established at the national level. (16 U.S.C. 708)
- A repeal of all laws inconsistent with the provisions of this Act. (16 U.S.C. 710)
- Authority for the continued breeding and sale of migratory game birds on farms and preserves for the purpose of increasing the food supply. (16 U.S.C. 711)

The 1936 statute implemented the Convention between the U.S. and Mexico for the Protection of Migratory Birds and Game Mammals. Migratory bird import and export restrictions between Mexico and the U.S. were also authorized, and in issuing any regulations to implement this section, the Secretary of Agriculture was required to consider U.S. laws forbidding importation of certain mammals injurious to agricultural and horticultural interests. Monies for the Secretary of Agriculture to implement these provisions were also authorized.

The 1960 statute (P.L. 86-732) amended the MBTA by altering earlier penalty provisions. The new provisions stipulated that violations of this Act would constitute a misdemeanor and conviction would result in a fine of not more than \$500 or imprisonment of not more than six months. Activities aimed at selling migratory birds in violation of this law would be subject to fine of not more than \$2000 and imprisonment could not exceed two years. Guilty offenses would constitute a felony. Equipment used for sale purchases was authorized to be seized and held, by the Secretary of the Interior, pending prosecution, and, upon conviction, be treated as a penalty.

Section 10 of the 1969 amendments to the Lacey Act (P.L. 91-135) repealed the provisions of the MBTA prohibiting the shipment of wild game mammals or parts to and from the U.S. or Mexico unless permitted by the Secretary of the Interior. The definition of "wildlife" under these amendments does not include migratory birds, however, which are protected under the MBTA.

The 1974 statute (P.L. 93-300) amended the MBTA to include the provisions of the 1972 Convention between the U.S. and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction. This law also amended the title of the MBTA to read: "An Act to give effect to the conventions between the U.S. and other nations for the protection of migratory birds, birds in danger of extinction, game mammals, and their environment."

Section 3(h) of the Fish and Wildlife Improvement Act of 1978 (P.L. 95-616) amended the MBTA to authorize forfeiture to the U.S. of birds and their parts illegally taken, for disposal by the Secretary of the Interior as he deems appropriate. These amendments also authorized the Secretary to issue regulations to permit Alaskan natives to take migratory birds for their subsistence needs during established seasons. The Secretary was required to consider the related migratory bird conventions with Great Britain, Mexico, Japan, and the Soviet Union in establishing these regulations and to establish seasons to provide for the preservation and maintenance of migratory bird stocks.

Public Law 95-616 also ratified a treaty with the Soviet Union specifying that both nations will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. (See entry for the Convention Between the United States of America and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and Their Environment; T.I.A.S. 9073; signed on November 19, 1976, and approved by the Senate on July 12, 1978; 92 Stat. 3110.)

Public Law 99-645, the 1986 Emergency Wetlands Resources Act, amended the Act to require that felony violations under the MBTA must be "knowingly" committed.

P.L. 105-312, Migratory Bird Treaty Reform Act of 1998, amended the law to make it unlawful to take migratory game birds by the aid of bait if the person knows or reasonably should know that the area is baited. This provision eliminates the "strict liability" standard that was used to enforce Federal baiting regulations and replaces it with a "know or should have known" standard. These amendments also make it unlawful to place or direct the placement of bait on or adjacent to an area for the purpose of taking or attempting to take migratory game birds, and makes these violations punishable under title 18 United States Code, (with fines up to \$100,000 for individuals and \$200,000 for organizations), imprisonment for not more than 1 year, or both. The new amendments require the Secretary of Interior to submit to the Senate Committee on Environment and Public Works and the House Committee on Resources a report analyzing the effect of these amendments and the practice of baiting on migratory bird conservation and law enforcement. The report to Congress is due no later than five years after enactment of the new law.

P.L. 105-312 also amends the law to allow the fine for misdemeanor convictions under the Migratory Bird Treaty Act to be up to \$15,000 rather than \$5000.

Appendix B

Site Photographs



Overpass to Highway 99 from Golden State Boulevard



Intersection along Golden State Boulevard including Railroad Crossing and Vineyards



SITE PHOTOGRAPHS

Photos
1 & 2



Golden State Boulevard with Eucalyptus Trees and Landscaped Right of Way



Intersection at Urban Interface, including Golden State Boulevard Right of Way to the West



SITE PHOTOGRAPHS

Photos
3 & 4



Area West of Golden State Boulevard with Bike Lane, Landscaping, Lighting, and Structures



Golden State Boulevard Right of Way with Bike Lane and Graded Earth



SITE PHOTOGRAPHS

Photos
5 & 6

Appendix C

Species that may Occur Within the Golden State Corridor Project Area

Mammals

Common Name: pallid bat

Scientific Name: *Antrozous pallidus*

Status: California Species of Special Concern

Recovery Plan: This species is not currently addressed by a recovery plan.

Natural History: The pallid bat has large eyes compared to many other North American bats, and its ears are pale and wide. Its fur varies from a pale cream color to light brown dorsally and is white on the venter. The skull is large and the teeth are heavy and robust. The snout of the pallid bat is square and has a ridge on the top. The bat has a total length of 3.5 to 5.5 inches, a wing span of 13 to 15 inches, and a forearm length of 1.9 to 2.3 inches (Hermanson and O'Shea 1983).

Pallid bats become sexually mature at about two years of age. Their breeding season occurs from October to February with females storing the resultant sperm until the first two weeks in April, when ovulation and fertilization take place. Twins are usually born and birth generally takes place during the first half of June. The weight of young at birth is from 3 to 3.5 grams. Within four or five weeks, the young bats are capable of short flights and by eight weeks they attain full adult size (Hermanson and O'Shea 1983).

Female bats roost with their young, while male bats remain separated from the colony until the newborn bats are weaned. Communication between colony members is largely achieved by vocalizations.

Pallid bats leave the day roost about a hour after sunset to forage. They consume up to half their weight in insects every night. They rarely catch flying insects, but instead usually capture prey from foliage or on the ground. Pallid bats typically feed on beetles, crickets, scorpions, and other insects and small arthropods (Hermanson and O'Shea 1983).

The pallid bat is usually found in rocky, mountainous areas and near water. They are also found over more open, sparsely vegetated grasslands, and seem to prefer to forage in open areas. The pallid bat has three different roosts. The day roost is usually in a warm, horizontal opening such as in attics or rock cracks; the night roost is usually in trees with light foliage; and the hibernation roost is often in buildings, caves, or cracks in rocks (Hermanson and O'Shea 1983).

EVALUATION OF POTENTIAL FOR OCCURRENCE ON THE PROJECT SITE

There is a single record of the pallid bat located approximately five miles east of the project site (CNDDDB 2010, Figure 4). Pallid bats may forage over the project site, but it is unlikely they nest there, because they typically nest and roost in rocky areas.

Common Name: western mastiff bat

Scientific Name: *Eumops perotis californicus*

Status: California Species of Concern

Recovery Plan: This species is not currently addressed by a recovery plan.

Natural History: This is the largest native bat of the United States with a body length of 5.5 to 7.5 inches and a wingspan of over 22 inches. The wings, as in other members of the Family Molossidae, are distinctively long and narrow. The fur is dark brown with white hairs at the base. The ears are large and joined at the base and extend out over the forehead like a bonnet. Its echolocation call is audible to humans.

This bat reproduces in late winter to early spring, and gives birth to one young per year. While most young are born in early July, parturition dates vary extensively and births are not synchronous, even within colonies. Adults of both sexes can be found together throughout the year. Colony size varies from two or three individuals to several dozen. Twenty individuals is a large colony of these bats, although colonies of up to 70 are known. Just before launching themselves into flight, and during flight, the bats utter a series of loud, shrill, chattering calls that can be heard for a considerable distance.

The mastiff bat roosts in crevices in cliff faces, high buildings, trees and tunnels. This bat seeks diurnal refuge in crevices in rocks that form vertical or nearly vertical cliffs. The roost entrances typically are horizontally oriented, have moderately large openings, and face downward so they can be entered from below. When roosting in rock crevices, a vertical face is needed to drop off to take flight. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters.

The mastiff bat occurs in many semi-arid to arid habitats, including dry desert washes, flood plains, conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, montane meadows, palm oases, chaparral, desert scrub, urban, and agricultural areas (Pierson 2005); however, this bat is most commonly encountered in broad, open areas.

Observations indicate that males and females of this species remain together throughout the year, even during the period when young are produced. Normally only one young is produced per pregnancy, but occasionally a female may give birth to twins. The period of parturition probably extends from June to early July and a nursery colony may contain young ranging from newborn individuals to ones that are several weeks old. At birth the young are dull black in color.

These bats leave their day roosts late in the evening to forage. The primary prey of western mastiff bats are moths (79.9%) and crickets (16.5%). Grasshoppers, bees, dragonflies, leafbugs, beetles, and cicadas have also been reported in their diet. These bats do not use night roosts, but instead soar at great altitudes all night long so that they can feed over wide areas.

EVALUATION OF POTENTIAL FOR OCCURRENCE ON THE PROJECT SITE

There is one record of the Mastiff bat occurring approximately 1.5 miles west of the project site (CNDDDB 2010, Figure 4), and several sightings have been reported approximately 7.5 to 8.5 miles to the north of the project site. Cliff faces, which are the typical roosting habitat for this species are absent from the project site. Large trees in the immediate vicinity of the site could support roosts of this species. Mastiff bats may forage over the project site, but impacts to this species from the project are unlikely to occur. No sign of bats were observed under the existing bridge.

Common Name: San Joaquin kit fox

Scientific Name: *Vulpes macrotis mutica*

Status: Federally Endangered, California Threatened

Recovery Plan: Recovery Plan for Upland Species of the San Joaquin Valley, California 1998

Natural History: *Vulpes macrotis mutica*, or the San Joaquin kit fox, is one of the smallest canids in North America. An adult San Joaquin kit fox averages only about 20 inches long and weighs about as much as a common house cat, around 5lbs, about 25 percent smaller than the more common red fox. As the smallest subspecies of the kit fox, it has a slim body with large ears, a narrow nose, and long, bushy tail. The San Joaquin kit fox is usually a buff, tan, or yellowish-grey, although its winter coat is a silver-gray.

The San Joaquin kit fox inhabits grasslands and scrublands, including those that have been altered, such as agricultural fields and orchards and lands used for oil exploration. They are typically found in oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities. One kit fox may use more than one den, and dens may include man-made structures (i.e., pipes, culverts.) Kit fox can reproduce when they are one year old, with mating occurring between late December and March. Litters are born between February and late March.

A nocturnal hunter, the kit fox preys on rabbits and kangaroo rats that thrive in untouched saltbush and brome grass habitat. It also eats insects, mice, voles, birds, and cactus fruits. Its varied diet gives the kit fox all the moisture it requires, freeing it from the need to find a source of drinking water; an important adaptation to its desert home (Grambo, 1995).

A decline in population has been attributed to the loss and degradation of habitat, primarily due to a conversion of land for agricultural, industrial, and urban use. However, other factors such as predation, human-caused fatalities, starvation, flooding and drought have also contributed to the decline in population since the 1930s.

EVALUATION OF POTENTIAL FOR OCCURRENCE ON THE PROJECT SITE

No CNDDDB records indicate the presence of San Joaquin kit fox within five miles of the project site, and no signs of this species were observed during the June 2011 survey.

Avian

Common Name: Swainson's Hawk

Scientific Name: *Buteo swainsoni*

Status: California Species of Concern

Recovery Plan: This species is not currently addressed by a recovery plan

Natural History: Swainson's hawk is a medium-sized buteo that nests and roosts in large trees in flat, open grassland or agricultural landscapes. In comparison with other buteos, they are typically smaller and thinner, although their wings are as long or longer.

In the southern part of the Central Valley, Swainson's hawks arrive from early March to early April. The breeding season extends through mid-to-late August, when most young have fledged and breeding territories are no longer defended. The fall migration begins in early- to mid-September, with few Swainson's hawks remaining by early October.

Swainson's hawks typically inhabit the same nest from year to year, and remain with the same partner for life. They lay one to four eggs in mid- to late-April. The young hatch by mid-May, and remain in the nest for 38 to 42 days, until they fledge. Fewer young successfully fledge in the Central Valley than elsewhere in the species' range, which may be due to a lack of prey to meet their dietary needs. After fledging, young remain near the nest and are dependent on the adults for about four weeks, after which they permanently leave the breeding territory (Anderson *et al.* in progress).

Swainson's hawks forage over a larger area than most buteos, but home ranges are dependent on prey abundance. They prefer to range over low-growing crops, such as alfalfa and grains, or fallow fields and dry pastures (Estep 1989, Woodbridge 1991, Babcock 1995). However, if agricultural lands include vineyards or orchards, home ranges will be larger.

Throughout much of its range, both in North and South America, the Swainson's hawk inhabits grasslands, prairies, shrub-steppes, and agricultural landscapes—including dry and irrigated row crops, alfalfa and hay fields, pastures, and rangelands. They nest in trees most often in riparian woodlands and farm shelterbelts (England *et al.* 1997), as well as in urban/suburban areas with large trees adjacent to suitable foraging habitat (England *et al.* 1995, James 1992). Suitable nest trees are usually deciduous and tall (up to 30.48 m [100 feet]); but in suburban/urban areas, most nest trees are conifers (England *et al.* 1997, England *et al.* 1995)(Yolo Natural Heritage Program 2009).

In the Central Valley, Swainson's hawks usually nest in large native trees such as valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), walnut (*Juglans hindsii*), and willow (*Salix* spp.), and occasionally in nonnative trees, such as eucalyptus (*Eucalyptus* spp.). Nests occur in riparian woodlands, roadside trees, trees along field borders, isolated trees, small groves, and on the edges of remnant oak woodlands. Nests are usually constructed as high as possible in the tree, providing protection to the nest as well as visibility from it.

EVALUATION OF POTENTIAL FOR OCCURRENCE ON THE PROJECT SITE

One CNDDDB record indicates the presence of Swainson's hawk within five miles of the project site. Three other records of Swainson's hawk indicate it is found north of the project area, in Fresno County. Swainson's hawks are particularly sensitive to disturbances and noise in close proximity to the nest, although they have been known to remain in the area when human activity occurs during active nesting season. The Corridor includes a number of large eucalyptus trees, which could provide marginally nesting habitat. Non-urbanized areas are planted in vineyards, with few grains or low-growing crops. The presence of some fallow fields and graded areas provide marginal habitat for small burrowing mammals on which the Swainson's hawk prey. It is therefore possible that Swainson's hawk could visit or inhabit the project area.

Appendix D

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

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

Document Number: 110617054756

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

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

Fish

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

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)
- Rana draytonii*
California red-legged frog (T)

Reptiles

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

Mammals

- Dipodomys nitratooides exilis*
Fresno kangaroo rat (E)
- Dipodomys nitratooides nitratooides*
Tipton kangaroo rat (E)
- Vulpes macrotis mutica*

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

6/17/2011

San Joaquin kit fox (E)

Plants

Castilleja campestris ssp. *succulenta*

Critical habitat, succulent (=fleshy) owl's-clover (X)

succulent (=fleshy) owl's-clover (T)

Caulanthus californicus

California jewelflower (E)

Chamaesyce hooveri

Critical habitat, Hoover's spurge (X)

Orcuttia inaequalis

Critical habitat, San Joaquin Valley Orcutt grass (X)

San Joaquin Valley Orcutt grass (T)

Pseudobahia peirsonii

San Joaquin adobe sunburst (T)

Sidalcea keckii

Critical habitat, Keck's checker-mallow (X)

Keck's checker-mallow (=checkerbloom) (E)

Tuctoria greenei

Greene's tuctoria (=Orcutt grass) (E)

Quads Containing Listed, Proposed or Candidate Species:

TRAYER (334B)

BURRIS PARK (335A)

LATON (335B)

WAHTOKE (356B)

REEDLEY (356C)

SANGER (357A)

MALAGA (357B)

CONEJO (357C)

SELMA (357D)

FRESNO SOUTH (358A)

CARUTHERS (358D)

PIEDRA (377C)

CLOVIS (378C)

ROUND MOUNTAIN (378D)

FRESNO NORTH (379D)

County Lists

Fresno County

Listed Species

Invertebrates

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

6/17/2011

valley elderberry longhorn beetle (T)

Lepidurus packardii

Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

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

Oncorhynchus (=Salmo) clarki seleniris
Palute cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Amphibians

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

Rana draytonii
California red-legged frog (T)

Reptiles

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

Thamnophis gigas
giant garter snake (T)

Birds

Gymnogyps californianus
California condor (E)

Mammals

Dipodomys ingens
giant kangaroo rat (E)

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

Dipodomys nitratooides nitratooides
Tipton kangaroo rat (E)

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

6/17/2011

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

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Calyptridium pulchellum
Mariposa pussy-paws (T)

Camissonia benitensis
San Benito evening-primrose (T)

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

Caulanthus californicus
California jewelflower (E)

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

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

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

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)

Pseudobahia bahiifolia
Hartweg's golden sunburst (E)

Pseudobahia peirsonii
San Joaquin adobe sunburst (T)

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

Candidate Species

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

6/17/2011

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Key:

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

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

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

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

Plants

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

Surveying

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

6/17/2011

Lepidurus packardii	vernal pool tadpole shrimp	G3	S2S3		19990908
Lepidurus packardii	vernal pool tadpole shrimp	G3	S2S3		19990908
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	G2	S2.1	1B.1	20100728
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	G2	S2.1	1B.1	20080626
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110428
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110429
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110429
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110429
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110429
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20110429
Pseudobahia peirsonii	San Joaquin adobe sunburst	G2	S2.1	1B.1	20090515
Sidalcea keckii	Keck's checkerbloom	G1	S1.1	1B.1	20090422
Tuctoria greenei	Greene's tuctoria	G2	S2.2	1B.1	19950719
Tuctoria greenei	Greene's tuctoria	G2	S2.2	1B.1	20080617
Tuctoria greenei	Greene's tuctoria	G2	S2.2	1B.1	19950719
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20040503
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070117
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070117
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070117
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070117
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070823
Vulpes macrotis mutica	San Joaquin kit fox	G4T2T3	S2S3		20070823

CNPS: Conejo	COM_NAME	CNPS_LIST	CAENDEMIC	SRANK	GRANK	STATE_STAT	FED_STAT
SCINAME							
Atriplex depressa	brittiescale	List 1B.2	1 S2.2	G2Q			
Atriplex erecticulis	Earlham orache	List 1B.2	1 S2.2	G2			
Atriplex minuscule	lesser saltscale	List 1B.1	1 S1.1	G1			
Castilleja campestris ssp. succulenta	succulent owl's-clover	List 1B.2	1 S2.2	G47T2	Endangered	Threatened	
Caulanthus californicus	California jowel-flower	List 1B.1	1 S1.1	G1	Endangered	Endangered	
Eryngium spinosepalum	spiky-sepaled burton-celery	List 1B.2	1 S2.2	G2			
Imperata brevifolia	California satintail	List 2.1	0 S2.1	G2			
Lepidium jaredii ssp. album	Paroche pepper-grass	List 1B.2	1 S1.2	G1T1			
Leptosiphon serrulatus	Madera leptosiphon	List 1B.2	1 S1?	G1?			
Mimulus acridens	Kings River monkeyflower	List 3	1 S2?	G27Q			
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	List 1B.1	1 S2.1	G2	Endangered	Threatened	
Pseudobahia peirsonii	San Joaquin adobe sunburst	List 1B.1	1 S2.1	G2	Endangered	Threatened	
Sagittaria sanfordii	Sanford's arrowhead	List 1B.2	1 S3	G3			
Schizymenium shevockii	Shevock's copper moss	List 1B.2	1 S1	G1			
Sidalcea leckii	Keck's checkerbloom	List 1B.1	1 S1.1	G1			Endangered
Tropidocarpum cappardium	capier-fruited tropidocarpum	List 1B.1	1 S1.1	G1			
Tuctoria greenii	Greene's tuctoria	List 1B.1	1 S2.2	G2	Rare	Endangered	

Appendix E

Standardized Recommendations for the Protection of the San Joaquin Kit Fox

**U.S. FISH AND WILDLIFE SERVICE
STANDARDIZED RECOMMENDATIONS
FOR PROTECTION OF THE SAN JOAQUIN KIT FOX
PRIOR TO OR DURING GROUND DISTURBANCE**

Prepared by the Sacramento Fish and Wildlife Office
June 1999

INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act). Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Formal authorization for the project may be required under either section 7 or section 10 of the Act. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). Such protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

All surveys, den destructions, and monitoring described in this document must be conducted by a qualified biologist. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, biologist(s) must be able to identify coyote, red fox, gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount.

SMALL PROJECTS

Small projects are considered to be those projects with small foot prints such as an individual in-fill oil well, communication tower, or bridge repair. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a

future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features, and make recommendations on situating the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then preconstruction surveys should be conducted.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, and assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol).

Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping dens (active or inactive). Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project, and those requirements supersede any requirements found in this document.

EXCLUSION ZONES

The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances. The following radii are minimums, and if they cannot be followed the Service must be contacted:

Potential den	50 feet
Known den	100 feet
Natal/pupping den (occupied <u>and</u> unoccupied)	Service must be contacted
Atypical den	50 feet

Known den: To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

Potential and Atypical dens: Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Construction and other project activities should be prohibited or greatly restricted within these exclusion zones. Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited within the exclusion zones.

DESTRUCTION OF DENS

Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible. Protection provided by kit fox dens for use as shelter, escape, cover, and reproduction is vital to the survival of the species. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities. The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgement of the biologist, the animal has escaped from the partially destroyed den.

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then destruction shall cease and the Service shall be notified immediately.

CONSTRUCTION AND OPERATIONAL REQUIREMENTS

Habitat subject to permanent and temporary construction disturbances and other types of project-related disturbance should be minimized. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting project goals to be achieved. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be

included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 13 of this section must be followed.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on project sites.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control

must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following: a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for advice.
12. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or biologist.
13. The Sacramento Fish and Wildlife Office and CDFG will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during

project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers given below. The CDFG contact is Mr. Ron Schlorff at 1416 9th Street, Sacramento, California 95814, (916) 654-4262.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means "... to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.