

Southern California Edison
San Joaquin Cross Valley Loop Project A.08-05-039

DATA REQUEST SET SJXVL CPUC-ED-01

To: ENERGY DIVISION
Prepared by: Paul Yamazaki
Title: SCE Biologist
Dated: 06/17/2008

Question 36:

Biological Resources

Please provide copies of the reports related to the 11 surveys done in support of the biological resources section of the PEA from May 2005, June 2005, April 2006, May 2006, June 2006, February 2007, March 2007, November 2007, February 2008, and March, 2008. (PEA states 11 surveys, but only noted 10 dates).

Response to Question 36:

Please refer to the attached biology report CD incorporating all surveys conducted for the project. In response to the question two surveys were conducted in February 2008.

Biological Resources Study Report

San Joaquin Cross Valley Loop Transmission Line Project Southern California Edison Company Tulare County, California

Prepared by:
John C. Stebbins
SCE Contract Biologist
and
Southern California Edison
Corporate Environmental Health and Safety

June 2008

1.0 Introduction

This report describes the biological resources in the San Joaquin Cross Valley Loop Project Area. The "project" consists of the construction of a new transmission line in the company's service territory in Tulare County, California. Typically, various levels of ground disturbing activities are associated with the construction of this type of project including transmission tower construction, line pulling and access road grading. The new transmission line will loop the existing Big Creek-Springville line into the Rector Substation in Visalia. Project activities will occur in areas with the potential to support, or that are known to support, federally and/or state-listed species. The Project will incorporate appropriate avoidance and minimization measures that have been developed and tested in association with the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). Through the implementation of appropriate impact minimization measures and avoidance of resources, Project impacts to biological resources will be less than significant.

1.1 Project Description

Alternative 1 (Proposed Project)

The Alternative 1 (Proposed Project) route, is approximately 18.6 miles long and would utilize 1.1 miles of existing SCE ROW, and require the acquisition of new rights-of-way for 17.5 miles. The route roughly parallels State Highway 198 and traverses an area primarily used for agriculture. The topography is generally flat until the route reaches the foothills to the Sierra Nevada at the easternmost 0.1 mile of the route.

Alternative 2

The Alternative 2 route is approximately 23 miles long and would utilize approximately 10 miles of existing SCE ROW, and require the acquisition of new rights-of-way for approximately 12 miles. Outside of the SCE right-of-way, the route trends eastward for approximately 4 miles on

relatively flat terrain primarily used for orchards. The next 5 miles of the route is within an area of slightly hilly terrain that is primarily used for grazing. This portion of the route follows the northern base of Colvin Mountain, traverses through the community of Elderwood, and enters the foothills of the Sierra Nevada Mountains. The route is then located within the foothills for approximately 3 miles.

Alternative 3

The Alternative 3 route is approximately 24 miles long, and would utilize approximately 15 miles of existing SCE ROW and require the acquisition of new rights-of-way for approximately 10 miles. Outside of SCE right-of-way, the route would be located within the foothill area near the Friant-Kern Canal and Stokes Mountain east to the existing Big Creek 3-Springville 220 kV transmission line.

1.2 Objectives of the Biological Resources Study

1. To conduct an investigation of plant and wildlife records and available literature and relevant technical and scientific reports to obtain site and habitat data concerning plants and wildlife (including sensitive species) within the proposed project area.
2. To perform sequential field surveys to assess the biological resources that are present and overall habitat conditions in the proposed project area.
3. To anticipate construction and operational impacts (both negative and positive) that may occur to the natural habitats in the proposed project area.
4. To perform an analysis of the status and sensitivity of the described species and habitats as they relate to the proposed project in the described project area.
5. To provide recommendations for resource protection and post project enhancements for incorporation into the project design plans.
6. To provide recommendations for additional studies, surveys and monitoring to ensure that the stated goals are met within the specified project objectives.

2.0 Methodology

To identify the existing and potential biological resources present in the Project area, a focused literature search was performed and public agencies and individuals familiar with the habitats and biological resources present in the general Project area were contacted (see below and references cited). Using the California Natural Diversity Data Base (CNDDDB), occurrence records for sensitive species and habitats for the Woodlake, Ivanhoe, Exeter, Rocky Hill, Visalia, Monson, Stokes Mtn., Tucker Mtn. Kaweah, and Chicken Coop Canyon 7.5-minute U.S. Geological Survey quadrangles were reviewed.

Initial reconnaissance-level biological surveys were conducted in spring 2005 by John Stebbins, consulting biologist, and associate Russell Kokx. These individuals met with Tracey Alsobrook (Southern California Edison biologist) to obtain an overview of the Project location, access routes, and other specifics in the Project area. Aerial-reconnaissance surveys of the project routes by helicopter were performed on May 2006 for routes 2 and 3 and again in February, 2007 for route 3 by Mr. Stebbins and Mr. Kokx to assess habitat conditions present in the Project area. In addition to the aerial-reconnaissance surveys, ground based reconnaissance surveys of specific and targeted areas occurred between May 1, 2005 and June 10, 2005 on all routes with an emphasis on the preferred route from public roads; on April 20, 2006 and June 6, 2006 along route 1 where accessible from public roads; between March 26-28, 2007 of all routes where accessible from public roads; between November 15-16, 2007 of the northeastern portions of Route 3 on private property where temporarily access was granted; between February 3-8, 2008 and February 20-27, 2008 of all routes where accessible from public roads; and between March 3-9, 2008 of all routes where accessible from public roads. During several of the initial surveys Erika Wilder, SCE Environmental Coordinator, and Paul Yamazaki, SCE Biologist, also participated in the information gathering efforts in the project area. It is important to note that although most of the preferred route (Alternative 1) was accessible during the field surveys; significant portions of the other two alternatives were not accessible due to the presence of private lands along the potential routes. In the cases where access was not possible, existing data from the above-described sources were utilized to analyze habitat conditions and the potential occurrence of the targeted biological resources. The field surveys will continue during 2008 as project plans are refined and rights of entry are obtained through the California Public Utilities Commission (CPUC).

The field surveys included wildlife and botanical observations and field investigations (where accessible or from public facilities). The surveys included field observations of birds, mammals, and other wildlife; an examination of blue elderberry (*Sambucus mexicana*) shrubs for emergence holes of valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*); specific searches for vegetation capable of supporting moesta blister beetle (*Lytta moesta*) and molestan blister beetle (*Lytta molesta*); and searches for vernal pools or other wetlands that could support sensitive plants, invertebrates, or amphibians. During the field surveys, lists of vascular plant species and wildlife observed were compiled, and habitat types were identified with special emphasis placed on identifying the indicator species of sensitive or unique habitats in the Project area.

As previously mentioned, background research on sensitive plants and wildlife with the potential to occur in the Project area was conducted prior to the field surveys to evaluate specific site conditions. The CNDDDB was the primary source for this information. Other references used include the California State University, Fresno herbarium and zoology collections, the California State University, Bakersfield herbarium and zoology collections the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California, the Jepson Manual(1993), the Recovery Plan for Upland Species (Williams et al, 1998) and several published and technical references for the region, the Sequoia Riverlands Land Trust, local professionals and experts.

In addition to the potential routes (100 feet from center line), other associated areas of reasonable potential impacts along the three routes such as obvious access roads, staging areas, etc. were also surveyed at the same time. Any sensitive species potentially occurring in the region were generally in an identifiable condition at the time of the surveys although the presence or absence of suitable habitats capable of supporting such species were emphasized during the surveys.

3.0 Vegetation Communities and Associated Wildlife

The following sections describe the existing conditions of the major vegetation communities and cover types found within the existing ROW, potential routes and immediate access roads to the routes. The following sections also address the potential to support listed, sensitive, or covered species in the three different alternatives. Plant and wildlife species observed includes a list of the plant and wildlife species observed during the described surveys. Vegetation community types discussed in this report are generally based primarily on Holland's 1986 report on terrestrial natural communities of California.

Agricultural

Major portions of routes 1 and 2 are located in agricultural areas that are intensively cultivated and do not support natural vegetation or sensitive species, with the exception of a few species that have somewhat adapted to modified habitats such as San Joaquin kit fox (*Vulpes macrotis mutica*), burrowing owls (*Athene cunicularia*), and several raptors. The agricultural areas are the dominant habitat type east of the City of Visalia and west of Badger Hill in the proposed Route 1 and east of the Big Creek Lines in the proposed Route 2, although urban development is rapidly replacing significant amounts of agricultural land. Very little agricultural land is present in the Route 3 project area east of the Big Creek-Rector lines (see below), although significant amounts are present from the tie in point south to Visalia. The major agricultural crops that are present in these farmed areas are grapes, several stone fruits (peaches, plums, etc.), citrus, and other tree crops such as walnuts. Irrigated pastures for livestock are also present in these areas, which mainly support introduced Mediterranean grasses dominated by dallis grass (*Paspalum dilatatum*) and perennial ryegrass (*Lolium perrene*), and common herbaceous forb species, such as clover (*Trifolium* sp.) and filaree (*Erodium* sp.).

Many of the common urban wildlife species that occur in disturbed and developed land also occur in agricultural areas. The most common include American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and mourning dove (*Zenaida macroura*).

Blue Oak Woodland

The limited amount of blue oak woodland habitat in the Route 1 and 2 project areas is located on the eastern ends of the route near the Big Creek No. 3 and No. 4 transmission lines. Very significant amounts of this habitat occur along the Route 3 project area northeast of Stokes Mountain. This habitat occurs in small, scattered stands interspersed with nonnative grasslands in the limited portions of Routes 1 and 2 and quite extensively for several miles along the eastern portions of Route 3. The dominant plant species present in this habitat include blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizenii*), buckeye (*Aesculus californica*), coffee berry (*Rhamnus californica*), poison oak (*Toxicodendron diversilobum*), Bentham's lupine (*Lupinus*

benthamii), tarweed (*Holocarpha heermanii*), caterpillar phacelia (*Phacelia cicutaria*), fiddleneck (*Amsinckia intermedia*), and soft chess (*Bromus hordeaceus*).

Wildlife species commonly associated with the blue oak woodland habitat described above include alligator lizard (*Gerrhonotus* sp.), common king snake (*Lampropeltis getulus*), acorn woodpecker (*Melanerpes formicivorus*), American kestrel (*Falco sparverius*), barn swallow (*Hirundo rustica*), kingbird (*Tyrannus* sp.), mourning dove, tree swallow (*Tachycineta bicolor*), western bluebird (*Sialia mexicana*), California ground squirrel (*Spermophilus beecheyi*), northern raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

Emergent Marsh/Freshwater Seep

The emergent marsh/freshwater seep habitats are found on the banks of Yokohl Creek north of Highway 198 and some of the other irrigation canals and similar water-transport facilities along all the Project routes. Other examples include Deep Creek and Johnson Slough east of Farmersville, on the preferred transmission line Route 1, several stock ponds near the Route 2 Project area east of the Friant-Kern Canal near Colvin Mountain, and west of the Friant-Kern Canal on Alternative 3. These wetland habitats are sustained by winter and spring flows and agricultural water conveyance. These habitats are dominated by buttercup (*Ranunculus californicus*), cattail (*Typha latifolia*), Mediterranean barley (*Hordeum marinum gussoneanum*), rabbitfoot grass (*Polypogon monspeliensis*), sour dock (*Rumex crispus*), himalaya blackberry (*Rubus discolor*), and spikerush (*Eleocharis acicularis*). Marginal areas of this habitat type have also formed in the past as a result of the hydrological influences of flood irrigation practices in the lowest pastures near these described drainages and canals.

The most common wildlife species associated with this wetland habitat include garter snake (*Thamnophis* sp.), great blue heron (*Ardea herodias*), northern harrier (*Circus cyaneus*), red-winged blackbird (*Agelaius phoeniceus*), snowy egret (*Egretta thula*), and northern raccoon.

Valley Mixed Riparian Woodland

Valley mixed riparian woodland occurs along streams and impoundments in the San Joaquin Valley with permanent or intermittent surface water. The Kaweah River, the St. John's River, Mill Creek, Deep Creek, Yokohl Creek, Rattlesnake Creek, Cottonwood Creek and several of the canals in the three described routes support this habitat. These valley mixed riparian woodlands in these potential project areas have an overstory dominated by various tree species such as arroyo willow (*Salix lasiolepis*), California sycamore (*Plantanus racemosa*), Gooding's willow (*S. goodingii*), button-willow (*Cephalanthus occidentalis*), and Oregon ash (*Fraxinus latifolia*). Understory species include rush (*Juncus balticus*), seep monkey-flower (*Mimulus guttatus*), spikerush (*Heleocharis acicularis*), himalaya blackberry (*Rubus armeniacus*), elderberry (*Sambucus mexicanus*), wild grape (*Vitis californica*), and stinging nettle (*Urtica dioica holosericea*).

The valley mixed riparian woodland at some of these described sites has been degraded by long-term cattle grazing, trash dumping, and bank clearing (including herbicide use—especially along the irrigation canals), which have significantly reduced the vigor and reproductive output of the dominant plant species. Valley mixed riparian woodlands are known to support a very diverse assemblage of wildlife species because the diversity of plant species and growth forms provides

a variety of food and cover. This habitat also provides important wildlife corridors and connectivity to other habitats. Wildlife occurring in and around this riparian habitat include great blue heron, red-winged blackbird, tri-colored blackbird (*Agelaius tricolor*), Bullock's oriole (*Icterus bullockii*), northern harrier, great egret (*Ardea alba*), red-tailed hawk (*Buteo jamaicensis*), western scrub jay (*Aphelocoma californica*), violet-green swallow (*Tachycineta bicolor*), and many other resident and migratory species.

Nonnative Annual Grassland

Nonnative annual grassland communities actively grow during winter and spring and are mostly dormant during summer and fall. The annual grassland habitat in the three routes is mostly found at the eastern connections with the Big Creek No. 3 and No. 4 transmission lines for Alternatives 1 and 2 and in the southern side of Stokes Mountain in Alternative 3 (see vegetation habitat maps in Appendix 4). Scattered patches of this habitat are present along the route in the low hills north of Colvin Mountain in Alternative 2. The grasslands and the blue oak woodlands described above throughout the entire Project area (all routes) have been moderately impacted by long-term livestock grazing practices.

The annual grassland habitat in the Project area is dominated by nonnative annual grasses and forbs, intermixed with a variety of native forbs and grasses. The dominant grasses present include soft chess, ripgut brome (*B. diandrus*), red brome (*B. madritensis rubens*), slender wild oat (*Avena barbata*), foxtail barley (*Hordeum jubatum*), rattail fescue (*Vulpia megalura*), and annual rye (*Lolium multiflorum*). The dominant forbs are filaree (*Erodium cicutarium*), fiddleneck, purple brodiaea (*Dichelostemma pulchella*), pepperweed (*Lepidium nitidum*), blow-wives (*Achyraea mollis*), bicolor lupine (*Lupinus bicolor*), popcorn flower (*Plagiobothrys nothofulvus*), lotus (*Lotus micranthus*), and gilia (*Gilia tricolor*).

The dominant wildlife species found in the nonnative annual grassland habitat in the region include gopher snake (*Pituophis melanoleucus*), western fence lizard (*Sceloporus occidentalis*), Brewer's black bird (*Euphagus cyanocephalus*), red-tailed hawk, western scrub jay, California ground squirrel, and pocket gopher (*Thomomys* sp.).

Vernal pools and swales (described below) were also scattered throughout the annual grasslands in the region but are mostly found in the lower areas where the heavier clay soils have developed. In the project region vernal pools are found along Alternative 3 where the existing Big Creek-Rector lines go through the Stone Corral Ecological reserve (a Fish and Game conservation property and Federally designated critical habitat area), and also along scattered segments of Alternative 2 north of Colvin Mountain near Cottonwood Creek and Elderwood (See vegetation habitat maps in the Appendix 4). Existing records and all other available information indicate that it is very unlikely that any vernal pools occur along the preferred route (Alternative 1) but some of the grasslands in the eastern portion of the route have not been completely investigated yet.

Vernal pools are hardpan-floored depressions that fill with rainfall and surface runoff, forming seasonal ponds. The English word "vernal" comes from the Latin adjective "vernalis", which means belonging to spring. Water accumulates in vernal pools because the low depressions in the nearly level topography are underlain by an impervious layer that prevents infiltration of water

into the soil profile. The vernal pools in the project area are mostly underlain by iron-silicate clay hardpan soils. The frequency and duration of seasonal inundation varies among the vernal pools and is determined, in part, by the size of the basin and its watershed, soil depth to the impervious layer, and patterns and amounts of rainfall. Most of the vernal pools support distinctive plant and animal species, including many listed or endangered “sensitive” species that are closely associated with these unique habitats (see Tables 4.1 and 5.1).

The vernal pools in the project area are dominated by annual forbs and grasses intermixed in some cases with perennial forbs. Vernal pool species tolerate, or depend on, seasonal flooding or soil saturation during the growing season. The vernal pools in the project area support spiny-sealed button celery (*Eryngium spinosepalumi*), which is a sensitive plant species, loosestrife (*Lythrum hyssopifolia*), goldfields (*Lasthenia fremontii*), woolly heads (*Psilocarphus tenellus*), Hoover’s spurge (*Chamaesyce hooveri*), which is a listed threatened species, popcorn flower (*Plagiobothrys stipitatus*), seep grass (*Crypsis schoenoides*), foxtail (*Alopecurus howellii*), spikerush (*Heleocharis acicularis*), quillwort (*Isoetes* sp.) and many other native annuals.

Although vernal pools are an ephemeral aquatic habitat, many invertebrates and amphibians have adapted to this unique resource. When standing water is available, the California tiger salamander, western spadefoot toad, and Pacific tree frog may use the pools for egg-laying and for the development of young. Aquatic invertebrates, such as clam shrimp, fairy shrimp, cladocerans, and copepods, also can inhabit vernal pools. In winter and spring, water birds, such as the mallard, cinnamon teal, killdeer, great blue heron, and great egret, may use vernal pools for resting and foraging grounds. Western kingbird, black phoebe, and Say’s phoebe feed on flying insects congregating above vernal pools. No fairy shrimp or tadpole shrimp were observed in these pools, and protocol shrimp surveys were not performed due to the current schedules and access issues, although CNDDDB records have documented fairy shrimp in the described Stone Corral vernal pools in the Route 3 project area.

Vernal pools are considered “sensitive natural communities” because of their current local and regional scarcity relative to their past extent; their importance to many plant species that occur only in vernal pools, and their value to migratory water birds and other wildlife. This unique habitat is also ideally suited for studies of plant speciation, evolution, migration, and factors affecting distribution. Many of the remaining vernal pool sites in the Central Valley are threatened by habitat conversion to agricultural and urban uses. The CNDDDB designates vernal pools as a community of highest inventory priority because of their values and ongoing threats to their existence (Holland 1986).

Vernal pools in the project area certainly qualify as “jurisdictional wetlands” according to COE criteria. The extent and quality of wetlands in California are rapidly diminishing, further reinforcing the recognition of this habitat as a sensitive natural community. Vernal “swales” are narrow, characteristically linear, seasonal wetland communities found in low-lying drainage ways within hilly or mountainous terrain where surface water collects and flows down slope. They are distinguished from ephemeral or intermittent creeks because they generally lack well-defined, sparsely vegetated channels with eroding cut faces and terraces of alluvial sediment. Water usually does not form ponds at the surface of swales, but underlying soils can remain saturated for extended periods during the wet season. Most swales in the project area are also located in the

same general sites described above for the vernal pools. Most of the swales also likely qualify as jurisdictional wetlands by COE criteria.

Valley Oak Woodland

The valley oak woodlands in the Project area are essentially relatively small, remnants of the once much larger valley oak plant communities that historically were found in the eastern San Joaquin Valley areas of Tulare County. The remnant stands of valley oak (*Quercus lobata*) present along the Route 1 area east of Road 168 and south of Highway 198 represent an example of this habitat type. These valley oak stands are the southern remnants of the once extensive valley oak forests that are now concentrated in the current Kaweah Oaks Preserve to the northeast (see vegetation habitat maps in the Appendix 4) The proposed Alternative 1 route runs in an easterly direction south of the Kaweah Oaks Preserve. It also is located in degraded stands of this habitat south of Highway 198 in the general vicinity of Deep Creek and Johnson Slough east of Farmersville. Scattered valley oaks are also present in relatively small portions of Routes 2 and 3 but these limited occurrences tend to be mostly associated with the riparian habitat (described above) along Rattlesnake Creek and Cottonwood Creek.

Valley oaks, a “species of concern” to most state and federal agencies, are often found in this woodland habitat as well as in other habitats such as the nearby grasslands with shallower water tables. Most of the remaining valley oaks in this area are the historic Kaweah River floodplain are older, diseased, stressed trees that have been negatively impacted by human activities and land uses, including pasture grazing, agriculture, groundwater depletion, and nearby development-related pressures. Relatively little natural reproduction is occurring in these remaining stands due to these cumulative impacts.

Common wildlife species associated with this remnant oak woodland habitat include gopher snake, western fence lizard, American crow, American kestrel, American robin (*Turdus migratorius*), house finch (*Carpodacus mexicanus*), great-horned owls, mourning dove, western scrub jay, and red-tailed hawk.

Disturbed and Developed

Some of the described agricultural habitat intergrades with the most heavily disturbed or “ruderal areas”, which are dominated by weedy species, such as prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), and Bermuda grass (*Cynodon dactylon*). Examples of these disturbed areas include roadsides, ditch banks, vacant lots near urban or agricultural buildings, and other similar disturbed or highly modified situations. Many urban wildlife species are present in these areas, including American crow, American robin, house sparrow, house finch, starling, mourning dove, western scrub jay, and northern mockingbird (*Mimus polyglottos*).

The urban, suburban, and developed habitats are present near the ranches, houses, agricultural, and commercial buildings and related facilities in northern and eastern Visalia, Farmersville, Exeter, Woodlake and elsewhere throughout the general Project area (especially along major roadways) in all 3 Routes.

Blue elderberry (*Sambucus mexicanus*), which provides suitable habitat for the valley elderberry longhorn beetle (VELB), is present in the general Project area on all 3 Routes. Some elderberries occur near the Kaweah and St. John's Rivers, Yokohl Creek, and Deep Creek, along some canals, in pastures, and in the remnant valley oak woodlands described above. Some of the largest elderberries observed during the field surveys contained probable VELB larvae exit holes.

A comprehensive list of all vascular plant and wildlife species observed during the field surveys and those likely to occur in the Project area is presented in the Appendix of this report.

3.1 Sensitive Vegetation Communities

Some of the described vegetation communities occurring in the Project area are considered “sensitive” or have special status due to their natural rarity and their decline as a result of development, and/or due to the number of sensitive plant or wildlife species dependent upon them. Sensitive habitats also include those regulated by the federal government under the Clean Water Act (CWA) (i.e., jurisdictional wetlands and Waters of the United States), or the Endangered Species Act (ESA) (i.e., site-specific designated critical habitat areas for federally listed wildlife species).

Wetland habitat is under U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the CWA of 1972, as amended in 1977 and 1984. Wetlands under the jurisdiction of the Corps must meet specific vegetation, hydrologic, and soil criteria. Wetlands serve many important functions, including flood and sediment control, habitat for rare and common species, corridors for wildlife movement, and control of water quality and erosion.¹

Emergent Marsh/Freshwater Seep

The emergent marsh/freshwater seep habitats described above are considered to be sensitive, as they would likely qualify as jurisdictional wetlands, and also due to the many obligate hydrophytic plant species present and their importance to dependent plant and wildlife species.

Valley Mixed Riparian Woodland

In the past, a riparian forest extended away from the major San Joaquin Valley rivers and streams as far as 3 miles on either side. Riparian forests are among the most productive of natural ecosystems. An intact riparian zone acts as a filter between streams and the adjacent environment. The riparian zone prevents agricultural fertilizer and animal wastes from seeping into streams and groundwater and reduces sedimentation in streambeds, thus protecting spawning beds and aquatic habitats. Streambank vegetation lessens erosion and controls the release of nutrients to the aquatic environment. Overhanging canopies help maintain lower water temperatures and thereby increase dissolved oxygen levels. Riparian vegetation also provides habitat for invertebrates that are a source of food for aquatic and terrestrial life. A healthy

¹ There have been several recent challenges to the authority of the U.S. Army Corps of Engineers (Corps) to regulate “isolated wetlands,” including the 2001 U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, and in 2006 in *Carabell v. United States Army Corps of Engineers* and *Rapanos v. United States*. The Corps is currently evaluating wetland regulatory jurisdiction on a case-by-case basis. It is believed that the wetlands identified in this report would be regulated by the Corps.

riparian cover is the starting point of sound watershed management. In California, many of the riparian forests have been radically narrowed or replaced by orchards or have been damaged to some extent by grazing. The rich, alluvial soils of the floodplains are ideal agricultural land. The grazing of livestock in riparian areas results in the removal of palatable plants, eating and trampling of seedlings, invasion of non-palatable weed species, and the degradation of streambanks. In central California, only 3 to 5 percent of the pre-settlement riparian forest remains, the rest having been converted primarily to farming or urban uses (Tibor, 2001). This important described habitat type occupies several relatively narrow, but very significant, range of sites within the Project areas of all three Routes. Valley mixed riparian woodland is present in a scattered zone along the main fork of the St. Johns River, in the central portion of the Project area, in a fairly continuous zone along the banks of the Kaweah River in the vicinity of Visalia Lemon Cove, and along some of the many irrigation canals in the area along Route 1. Significant stands of this described habitat are present along Rattlesnake Creek in the Route 3 area. The valley mixed riparian woodland at some of these sites has been degraded by long-term cattle grazing and other activities such as trash dumping or OHV use, which has significantly reduced the reproductive output of the native tree species (especially sycamores).

The diversity of plant species and growth forms within valley mixed riparian woodlands supports a wide assemblage of wildlife species by providing a variety of foods and cover conditions. Wildlife present in this habitat include belted kingfisher (*Ceryle alcyon*), Bullock's oriole, great blue heron, great egret, northern harrier, red-tailed hawk, red-winged blackbird, tri-colored blackbird, western scrub jay, violet-green swallows, tree swallows, and many other migratory species.

Valley mixed riparian woodland qualifies as a sensitive natural community because of its current scarcity relative to past extent and its importance to dependent plant and wildlife species. Much of this habitat type also likely qualifies as a jurisdictional wetland (Army Corps criteria), further supporting the designation as a sensitive natural community. The major rivers and creeks that are present in the three described Routes area also qualify as "Waters of the United States" under US Army Corps criteria.

Valley Oak Woodland

Forests of valley oak (often in association with California sycamore) are located in drier, outer floodplains in California. Coast live oak (*Quercus agrifolia*) is found along the coastal rivers of central and southern California, while valley oak (*Quercus lobata*) dominates this zone in the central San Joaquin Valley. Here the trees generally grow in open, park-like settings. Oak and sycamore grow best where the water table is approximately 35 feet or less below the surface, with occasional flooding. In contrast, flooding in the cottonwood (*Populus fremontii*) zone is frequent and the water table is usually 10 to 20 feet below ground level. Although many of the remaining valley oaks that are present in the described Project Routes are remnant individuals or small stands all should be considered to be sensitive under State and local guidelines (see oak protection ordinance in Appendix 3).

Vernal Pools

The vernal pool habitats that were extensively described above are considered to be extremely sensitive habitats because they are known to support an extremely diverse association of unique

plants and animals, many of which have legally protected status under State and Federal laws. It is a fact that the Alternative 3 Route has the most extensive vernal pool habitat in the Stone Corral Ecological Reserve, a CDFG managed property, followed by Alternative 2 in the Spring Gap grasslands north and northeast of Colvin Mountain where historic records of listed species occur. The preferred route (Alternative 1) has very little or no potential vernal pool habitat in the described project area and they are unlikely to be affected by proposed project..

4.0 Sensitive Plants

Special-status plant species include those species listed by the USFWS or CDFG as endangered, threatened, proposed, or candidate species, and those listed by federal land management agencies as sensitive or rare. Sensitive plant species include those occurring on the CNPS Inventory of Rare and Endangered Vascular Plants of California (2001).

The consultation and research phases of this study resulted in a list of "sensitive" plant species which are known to occur in the region. These include State (CDFG) and Federal (USFWS) listed species, candidate and proposed species, and species present on Lists of the California Native Plant Society(CNPS). These species, their occurrence potential, and observed presence in the described project area are listed in Table 4.1.

Table 4.1: Special-Status and Sensitive Plant Species Potentially Occurring in the Project Area

Common Name/ Scientific Name	Listing Status/Code ¹		Flowering/ Phenology	Potential (Low, Moderate, High) for Occurrence (Routes 1,2, 3) and Habitat Types
	Federal/ State	California Native Plant Society		
Calico monkey flower (<i>Mimulus pictus</i>)		1B.2	March to May	Low potential all routes. Cismontane woodlands, broad-leaved upland forest. Associated with granitic soils and fire disturbed areas.
Greene's tuctoria (<i>Tuctoria greenei</i>)	FE SR	1B.1	May to July (September)	Very low potential on Route 1. Low potential on Route 2 near Colvin Mtn. Moderate potential on Route 3 at Stone Corral Reserve. Has not been seen in the County for over 50 years. Large "high quality vernal pools in wetter years.
Hoover's spurge (<i>Chamaesyce hooveri</i>)	FT	1B.2	July to August	Very low potential on Route 1. Moderate potential on Route 2 near Colvin Mtn. Vernal pools. Known to occur at the Type locality of Stone Corral Reserve on Route 3.
Kaweah brodiaea (<i>Brodiaea</i>)	SE	1B.2	April to June	Moderate potential on Routes 1, 2, &3 (far eastern segments only). Cismontane blue oak woodland, valley and foothill grasslands

Common Name/ Scientific Name	Listing Status/Code ¹		Flowering/ Phenology	Potential (Low, Moderate, High) for Occurrence (Routes 1,2, 3) and Habitat Types
	Federal/ State	California Native Plant Society		
<i>insignis</i>)				associated with clay/gravel substrate. Known to occur near Kaweah Reservoir.
Keck's checker mallow (<i>Sidalcea keckii</i>)	FE	1B.1	April to May	Low potential Routes 1&2. Moderate potential Route 3 (Stokes Mtn. east). Cismontane woodland, valley and foothill grasslands associated with serpentinite clay.
Recurved larkspur (<i>Delphinium recurvatum</i>)		1B.2	March to June	Low potential Routes 1&2. Moderate potential Route 3 at Stone Corral but no records to date. Chenopod scrub, valley and foothill grasslands, often with alkaline soils.
San Joaquin adobe sunburst (<i>Pseudobahia peirsonii</i>)	FE SE	1B.1	March to April	Moderate potential Routes 1,2,&3 - Records from Rocky Hill and Wutchumna Hill near Route 1. Colvin Mt. near Route 2 and lower Stokes Mtn. near Route 3 have soil types. x Valley and lower foothill grasslands containing heavy "adobe clay soils".
San Joaquin orcutt grass (<i>Orcuttia inaequalis</i>)	FT SE	1B.1	April to September	Very low potential Route 1. Moderate potential Route 2 near Colvin Mtn. and Spring Gap (historic records). High potential Route 3 - known presence at Stone Corral Reserve. Vernal pools.
Spiny-sepaled button-celery (<i>Eryngium spinosepalum</i>)		1B.2	April to May	Low potential Route 1. High potential and known presence on Route 2 (Spring Gap) and Route 3 (Stone Corral). Vernal pools and swales, valley and foothill grasslands.
Springville clarkia (<i>Clarkia springvillensis</i>)	FT SE	1B.2	May to July	Low potential Routes 1&2. Moderate potential Route 3 (east of Stokes Mtn.) Valley and foothill grasslands, also associated with chaparral that is subject to moderate disturbance (post fire).
Striped adobe lily (<i>Fritillaria striata</i>)	ST	1B.1	February to April	Low potential all routes. No records from N. Tulare Co. Valley and foothill grasslands, clay soils.
Subtle oracle (<i>Atriplex subtilis</i>)		1B.1	June to August (as late as October)	Low potential Routes 1&2. Low to moderate potential Route 3 at Stone Corral but no records exist. Alkaline grasslands and playas.

Notes: California Native Plant Society (CNPS) ranks are: **1A** = plant presumed extinct in California, based on 2001 inventory; **1B.1** = plants rare and endangered in California and elsewhere/seriously threatened in California; **1B.2** = plants rare and endangered in California and elsewhere/ fairly

threatened in California, **2** = plants rare, threatened or endangered in California but more common elsewhere. California Department of Fish and Game (CDFG) ranks are: **E** = endangered; **T** = threatened; **R** = rare. U.S. Fish and Wildlife Service (USFWS) ranks are: **E** = endangered; **T** = Threatened; **PE** = proposed for endangered status; **PT** = proposed for threatened status; **C** = candidate list

4.2 Sensitive Plants - Discussion

Special-status plant species include those species listed by the USFWS or CDFG as rare, endangered, threatened, proposed, or candidate species, and those listed by federal land management agencies as sensitive or rare. Sensitive plant species include those occurring on the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor, 2001).

Special-status plant species known to occur or with the potential to occur in the Project area are listed in Table 4.1. The presence of species and habitat ratings are based on the described field surveys, research, analyses and consultations. Of the identified plants, four are listed as endangered and two are listed as threatened by the USFWS. Further, the CDFG has listed four of the plant species as endangered, one as threatened, and one as rare.

Calico Monkey Flower (*Mimulus pictus*)

This endemic annual herb of the Figwort family is readily identified by the maroon net-mosaic upon the plant's white flower petals. The plant is readily identified by its unique flowers (generally regular or actinomorphic), which are much different from other *Mimulus* species (generally irregular or zygomorphic).

Calico monkey flower occurs within granitic outcrops and soils, often associated with oak woodlands (Tibor, 2001). The species has been documented to occur in only two locations within Tulare County near Porterville, with only one location confirmed in 1983 (CNDDDB, 2006).

Greene's Tuctoria (*Tuctoria greenei*)

An annual grass with a hairy spikelet and a spreading to ascending growth form, Greene's tuctoria can be found within remnant vernal pools (Hickman, 1993). The grass is easily broken when handled, making identification more difficult.

Greene's tuctoria is a federally endangered and state rare species that only occurs in seasonal clay pan vernal pools or seasonal depressions (CNDDDB, 2006; Tibor, 2001); however not for many years in the region. The plant is historically known to have occurred in one location within Tulare County, and has not been documented in the area since the 1936 collection by Hoover (CNDDDB, 2006). That historic location is near Spring Gap which is close to the Route 2 alternative. The habitat at Stone Corral on Route 3 is suitable for this species but it has never been documented at that site.

Hoover's Spurge (*Chamaesyce hooveri*)

An annual herb with prostrate to decumbent stems and bell-shaped white flowers, this species has been found in two locations within Tulare County, with only one of the two known extant

locations being in the Stone Corral Ecological Reserve (CNDDDB, 2006). This known location is in the Route 3 Alternative.

This species is federally threatened and is known to occur only within “higher quality vernal pools” in the areas such as those described above at Stone Corral. It is unlikely to occur on the other two Routes. The plant is threatened by land conversion, agriculture, agricultural runoff, and competition from nonnative plants.

Kaweah Brodiaea (*Brodiaea insignis*)

This bulbiferous herb of the Lily family is known from approximately 30 distinct locations in Tulare County (most near Kaweah Reservoir). The very distinctive flowers are rose to pink-purple, with the defining staminodes erect and held close to stamens, which is the obvious way of identifying Kaweah brodiaea from the more common and widespread *B. elegans*. The largest number of known populations occur near Terminus Dam, Dry Creek Valley, and Kaweah Lake, a few miles east of the Route 2 Project area.

Kaweah brodiaea is a state-endangered plant that occurs within clay-granitic soils in blue oak woodland clearings and open flats. The appropriate soil types for this species are only found within portions of the eastern segments of all three Routes, although no records exist within these defined areas for this easy to identify species. The plant is threatened by development, introduced plant species, grazing, and roadside maintenance (CNDDDB, 2006). Increased land management in Kaweah brodiaea habitat/reserves, such as controlled burns, would increase species abundance, according to local experts.

Keck’s Checker Mallow (*Sidalcea keckii*)

This annual herb of the Mallow family has a slender stem with an attractive deep-pink flower at the terminal end. The leaves are large and deeply toothed, with distinctive venation throughout.

Keck’s checker mallow is a federally endangered species that was presumed extinct (Hickman, 1993) until rediscovered in Tulare County 1992 by J. Stebbins (author of this report) and K. Kirkpatrick (CNDDDB, 2006; Tibor, 2001). The plant occurs in the County on south-facing hillsides, often containing serpentine-derived clay soils within oak woodlands and grasslands near Porterville. The appropriate soil type for this species is not found within the Project area. It has been reported within similar habitat in Fresno County near Tivy Mountain (CNDDDB, 2006). The habitat may still occur in the general Porterville region; however, a large known population was recently converted into an orange grove (CNDDDB, 2006). Continued development and agriculture conversion threaten remaining populations of this rare annual species. No records exist from near any of the three Alternative Routes but it does occur in southern Fresno County near the Kings River on similar habitat. Moderately suitable habitat for the annual species is present on and near Stokes Mountain on Route 3 but well timed spring surveys will be necessary to confirm its possible presence.

Recurved Larkspur (*Delphinium recurvatum*)

A perennial species of the Ranunculaceae (buttercup) family, this species is found within poorly drained alkaline soils. The appropriate soil type and other commonly associated plant species are only found within the Stone Corral Reserve on the Route 3 alternative but it has never been

documented there. The plant is composed of a large stalk with lateral light-blue flowers, reflexed sepals, and lower white petals.

Recurved larkspur is a CNPS list 1B plant and is threatened within Tulare County. Although there are many historical occurrences (mostly in the southern portions), much of the plant's habitat has been converted to agriculture or threatened by development, with the larger populations intact near other reserve such as Pixley and Sequoia Field (CNDDDB, 2006).

San Joaquin Adobe Sunburst (*Pseudobahia peirsonii*)

This annual herb of the Aster family is a small, woolly plant endemic to Fresno, Tulare, and Kern counties (Tibor, 2001). The flowers are quite showy during the March through April blooming period (Stebbins, 1993, USFWS technical report).

San Joaquin adobe sunburst is a federal and state-endangered species, with over half of the remaining populations in very low abundance (Tibor, 2001). This species prefers heavy clay soils within eastern San Joaquin Valley grasslands that are rapidly being converted to orchards or housing complexes (CNDDDB, 2006; Tibor, 2001). The soils required by this species and records are present in the eastern portion of the Preferred Route (Alternative 1) near Exeter, Rocky Hill, Wutchumna Hill and Yokohl Creek; however, most of this historic habitat has been converted to agriculture. A small amount of the habitat is present north of Colvin Mountain on the Route 2 Alternative and the lower slopes of Stokes Mountain on the Route 3 Alternative.

San Joaquin Orcutt Grass (*Orcuttia inaequalis*)

This rather showy native annual grass is generally erect, yet can be spreading and mat-forming (Hickman, 1993). This grass has a dense spike and is brilliant green in color.

San Joaquin orcutt grass is a federally and state-endangered species that only occurs in vernal pools with a low abundance of nonnative, competing grass species, such as *Avena* spp. No vernal pools are likely present in the Route 1 Project area and the historic pools near Spring Gap in the Route 2 area are very degraded. The plant is known to occur within the Stone Corral Ecological Reserve in the Route 3 Alternative (CNDDDB, 2006), and has most likely been extirpated from other locations previously documented within Tulare County (CNDDDB, 2006). This species is threatened by land conversions, introduced weed species, development, stream modifications, and ranching.

Spiny-sepaled Button-celery (*Eryngium spinosepalum*)

An annual to perennial species of the Apiaceae (carrot) family, this species is known to occur only within saturated, higher-quality vernal pools/swales/depressions. This conspicuous plant stands out with erect, stout stems, which branch out from the water line of pools. Spiny-sepaled button-celery also contains pinnately sharply lobed leaves and flowers, which are white in color (Hickman, 1993). The inflorescence also contains spines, as the name implies.

Spiny-sepaled button-celery is a CNPS list 1B rare plant, which occurs within defined vernal pools and grasslands of the Central Valley. The species is threatened by development, water use, and grazing. The species can occur near *B. insignis* (CNDDDB, 2006). It was observed during the

surveys in the vernal pool habitats at Stone Corral Ecological Reserve (on Route 3) and Route 2 at Spring Gap east of Colvin Mountain.

Springville Clarkia (*Clarkia springvillensis*)

This species is a localized, endemic annual herb of the Onagraceae family. The plant is identifiable by its large height (less than 3.28 feet) and sparsely to densely puberulent clawed petals that are generally dark red-purple. The glabrous ovary and fruit distinguish Springville clarkia from the widespread *C. unguiculata*, which is similar in appearance and has hairy fruits.

Springville clarkia is federally and state endangered; however, the species is locally abundant within Tulare County chaparral and mildly disturbed valley and foothill grasslands/oak woodlands once seeds have developed and dropped (Hickman, 1993). Springville clarkia is known from fewer than 20 occurrences in the Tule and Kaweah river drainages. This plant is threatened by nonnative plants, overgrazing, vehicles, road maintenance, logging, and residential development. Sequoia National Forest has adopted species management guidelines, with Southern California Edison's support, near hydropower facilities in the Tule River operations territory. The closest known occurrence to the Project area is in the Three Rivers area, approximately 10 miles northeast of the Project. The most likely potential for the species in the Project Area is in the eastern segment of Route 3 northeast of Stokes Mountain near Rattlesnake Creek

Striped Adobe Lily (*Fritillaria striata*)

A bulbiferous herb of the Lily family that is composed of large, showy, nodding, white to pink flowers. This highly visible plant also has large bulb scales and alternate lanceolate leaves, and will often have a high variation in color (CNDDDB, 2006).

Striped adobe lily is known to only occur in heavy clay soils near creeks and oak woodlands in Kern and Tulare counties. The soils required by this species are present in the eastern portion of the preferred route near Exeter, Rocky Hill, and Yokohl; however, most of this historic habitat has been converted to agriculture. There are approximately 26 documented locations of the species, predominantly within Kern County and southern Tulare County. The species is highly threatened due to its palatability among grazing livestock, in addition to increased development and agriculture activities. Although the species may have historically occurred in the lower foothills near the eastern segments of Routes 1 and 2 it is unlikely to be present due to the above described factors.

Subtle Oracle (*Atriplex subtilis*)

An annual herb of the Goosefoot family, this species is known from only about 25 occurrences within California (CNDDDB, 2006). Flowers are terminal, bright yellow inflorescences atop prostrate to ascending light gray to tomentose stems. The species is not described within *The Jepson Manual* at this time, making field identification more difficult. Any suspected plants should be compared with the specimens on file at the major California herbaria (UC, CAS, JEPS).

This CNPS list 1B plant is documented to occur in seven locations in Tulare County (CNDDDB, 2006). The documented occurrences are centered within surrounding vernal pools/grasslands

with alkali clay soils, near the town of Earlimart, more than 30 miles south of the general Project area. The alkaline soils required by this species are only present within the Project area along Route 3 at Stone Corral although it has never been documented there. The plant is threatened by grazing, land conversions construction, agriculture, and oil exploration.

5.0 Sensitive Wildlife

The majority of the vegetation communities in the Project area provide habitat for one or more of the sensitive or covered species known to occur or with the potential to occur in the Project area. Based on literature searches and reconnaissance and habitat surveys, 20 wildlife species considered sensitive by the USFWS or CDFG, or that are on other “watch lists”, are known to occur or have the potential to occur in the Project area. These species, their status, documented occurrence, and the potential for their presence along the proposed alternatives are summarized in Table 5.1. The potential presence of species and habitat ratings for the three Routes are based on the described research, analyses, field surveys to date, and consultations with experts.

Four of these species are listed as endangered and three are listed as threatened by the USFWS. The CDFG has listed three of these species as endangered and three as threatened, and it considers 10 as species of special concern. One species, the golden eagle (*Aquila chrysaetos*), has the status of fully protected under the CDFG Code, Title 14 and also protection under the Federal Bald and Golden Eagle Protection Acts.

Table 5.1: Special-Status Wildlife Species Potentially Occurring in the Project Area

Common Name/ Scientific Name	Listing Status ¹	Potential for Occurrence on Routes/Comments
Invertebrates		
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	High potential on all Routes near Kaweah River floodplain . Habitat present on all Routes. Several elderberries present on Route 1, however plants are easily avoided by tower placement. Required mitigation easily achieved.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Low potential on Route 1 (Habitat not present). Low to moderate potential on Route 2 near Spring Gap (Habitat degraded). High potential and known occurrences in vernal pool habitat at Stone Corral Reserve on Route 3.
Amphibians		
California tiger salamander (<i>Ambystoma californiense</i>)	FT CSC	Low potential on Route 1 (Habitat not present). Low to moderate potential on Route 2 near Spring Gap (Habitat degraded). High potential and known occurrences in vernal pool habitat at Stone Corral Reserve on Route 3.
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSC	Low potential all routes. Habitat not present on Routes 1&2. Marginal habitat near Rattlesnake Creek on Route 3 is compromised by presence of bullfrogs.
Western spadefoot toad (<i>Scaphiopus hammondi</i>)	CSC	Low potential Route 1. Low to moderate habitat present on Route 2 near Spring Gap. Moderate to high potential at Stone Corral on Route 3 although no recent records.
Reptiles		
Blunt-nosed leopard lizard (<i>Gambelia silus</i>)	FE SE	Low potential on Routes 1 and 2. Habitat not present. Low to moderate habitat on lower Stokes Mtn. and Stone Corral on Route 3 although no records from these northern parts of Tulare County.

Northwestern pond turtle (<i>Clemmys marmorata marmorata</i>)	CSC	Moderate potential and known occurrences on all 3 Routes near Kaweah River. Moderate potential at Rattlesnake Creek on Route 3 and Cottonwood Creek on Route 2 although bullfrog presence lessens potential. Possibly present in all aquatic canals and creek areas, etc. Impacts to this species can be avoided because these areas can be spanned according to project planners.
Birds		
Black swift (<i>Cypseloides niger</i>)	CSC	Moderate potential. Habitat present in eastern portions of the Project area for all 3 Routes but species is not expected to be potentially impacted due to behavior.
Burrowing owl (<i>Athene cunicularia</i>)	CSC	Moderate potential on <u>all 3 routes</u> wherever fallow ground and burrows are present around Visalia and in several portions of the Project area. Any Route selected will require preconstruction protocol assessments for this species.
Common Name/ Scientific Name	Listing Status¹	Potential for Occurrence
California condor (<i>Gymnogyps californianus</i>)	FE SE	Low potential. Habitat present in eastern portions of the Project area on all 3 Routes near the Big Creek-Springville transmission line; however, species currently has limited range in wild.
Golden eagle (<i>Aquila chrysaetos</i>)	CSC SFP	High potential. Habitat present in eastern portions of the Project area on all 3 Routes and around Colvin Mtn. on Route 2 and Stokes Mtn. on Route 3. Species presence can be mitigated by using raptor proof guidelines for all construction and operation.
Mountain plover (<i>Charadrius montanus</i>)	CSC	Moderate potential. Habitat present in eastern portions of the Project area. Routes but species is not expected to be potentially impacted due to behavior.
Swainson's hawk (<i>Buteo swainsoni</i>)	ST	Moderate potential all 3 Routes near Kaweah River floodplain. Habitat present in river areas and valley oak forests. Species presence can be mitigated by using raptor proof guidelines for all construction and operation.
Tri-colored blackbird (<i>Agelaius tricolor</i>)	CSC	Moderate potential. Habitat present in eastern portions of Route 1 near Yokohl Creek, Route 2 near Spring gap, and Route 3 west of the Friant-Kern Canal
Mammals		
American badger (<i>Taxidea taxus</i>)	CSC	Moderate potential and habitat present in eastern portions of the Project area for Route 3 (Rattlesnake Valley). Little or no habitat on Routes 2 and 3. Any

		burrows are easily avoided if present.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE ST	Low to moderate potential on all 3 Routes. Marginal habitat present in the Visalia area. Occasional records for <u>all 3 Routes will require protocol level preconstruction surveys and specified mitigation for any selected route.</u>
Tipton kangaroo rat (<i>Dipodomys nitratooides nitratooides</i>)	FE SE	Low potential. Quality habitat not present on any Route. Species is known from southern portions of Tulare County.

Definitions

California Department of Fish and Game

- SE State listed, endangered
- ST State listed, threatened
- CSC California species of special concern
- SFP State listed, fully protected

U.S. Fish and Wildlife Service

- FE Federally listed, endangered
- FT Federally listed, threatened

5.1 Sensitive Wildlife - Discussion

In addition to the sensitive species identified in Table 5.1, several raptor species, including the red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), great-horned owl, American kestrel, and others may nest in suitable habitats (usually large trees but also man made structures) within the alternative routes. During species and habitat-assessment field surveys conducted for the Project, several raptor “stick nests” and also crow and raven nests were identified on various tower structures within the existing Big Creek right-of-way (ROW) and along the alternative routes. The preconstruction surveys for any selected route will focus on these species also.

Of the covered or sensitive, or federally or state-listed wildlife species known to occur in the vicinity of the existing ROW, 18 species are discussed in more detail in the following sections because of their state and/or federal status, importance in regional planning, resident status in the Project area, presence in critical habitat or preserve/management areas, and/or their rarity in the general region.

Invertebrates

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

VELB is currently a federally threatened species that requires blue elderberry foliage as a food source and the woody stems for the larvae to pupate within. In October 2006, the USFWS recommended delisting VELB. The adult exit holes in the stems are often the only evidence of the presence of VELB. Although elderberries are not considered to be a rare, endangered, or sensitive species, they are viewed by the state and federal agencies as significant because they provide the required habitat for the VELB and they sometimes indicate sensitive wetland habitats when they occur in abundance or near streams. For these reasons, the elderberries observed in the study area are also described in this report. Elderberry plants were found within emergent marsh, valley mixed riparian woodland, valley oak woodland, and near drainages in the vicinity of all of the alternative routes, although most elderberries occur along the preferred route (Alternative 1). Some of the documented elderberries were very large and contained the exit holes typical of the VELB. It is important to note that in most cases the shrubs can be avoided by modifying tower placement, span modifications and other measures according to the SCE planning coordinators. It is also important to note, however, that the USFWS has proposed to delist the beetle as a threatened species and its status is being reviewed by the public and other resource agencies (USFWS, public news release 10-2-06).

Vernal Pool Fairy Shrimp (*Branchinecta lynchii*)

The term branchiopod refers specifically to phyllopodous, literally “leaf-footed,” organisms of the class Branchiopoda. Although Cladocerans, such as water fleas (*Daphnia* spp.), are also branchiopods, no species in this genus are listed under the federal ESA. Therefore, only fairy shrimp, tadpole shrimp (*Lepidurus packardii*), and clam shrimp (*Eulimnadia*) are referred to as branchiopods for the purpose of this report. Clam shrimp are not federally or state listed. There are five federally listed branchiopod species, which are endemic to vernal pools in the Central Valley, Coast Ranges,

Transverse Range, and Riverside County (USFWS, 1996). Of these, the vernal pool fairy shrimp and tadpole shrimp have the potential to occur on the Project site.

The vernal pool fairy shrimp is a federally threatened species. It is known to occur along the length of the Central Valley, with the exception of Yuba, Kings, and Kern counties. An inhabitant of generally short-lived cool-water pools, which have low to moderate levels of dissolved solids, the vernal pool fairy shrimp reaches maturity quickly. Water temperatures of 10 degrees Celsius are sufficient for hatching, and length of time to maturity depends on water temperatures. Temperatures of 20 degrees Celsius are required for the vernal pool fairy shrimp to reach maturity, which can be attained in as few as 18 days. Although this adaptation enables this species to tolerate conditions in small, short-lived puddles, it can also be found in large, long-lived pools. This adaptation also allows the species to produce several offspring within a season.

Vernal pool fairy shrimp also inhabit pools with a variety of conditions, including grassy and muddy bottom substrates, with various levels of disturbance, as well as manmade sites, such as ditches, ponding basins, and roadside ditches, which are near areas of natural habitat such as vernal pools. The vernal pool fairy shrimp is known to co-occur with *B. conservatio*, *B. lindahli*, *B. longiantenna*, *B. mackini*, *B. mesovallensis*, *Linderiella occidentalis*, and *L. santarosae*. Several of these species are known to occur in the Stone Corral Ecological Reserve on Route 3 and low to moderate habitat (although degraded) is present along Route 2 near Spring Gap.

Amphibians

California Tiger Salamander (*Ambystoma tigrinum californiense*)

The California tiger salamander is considered an endangered species within Santa Barbara and Sonoma counties, a federally threatened, and a California species of special concern within the Central Valley. This species is a large (6 to 8.5 inches), terrestrial salamander with several white or pale yellow spots or bars on a jet-black field. Undersurfaces are highly variable in pattern, ranging from nearly uniform white or pale yellow to variegated white or pale yellow and black. The relatively small, protruding eyes have black irises. This salamander engages in nocturnal breeding migrations over distances of 3,281 feet or more that are likely highly stereotyped. Movement occurs from subterranean refuge sites (small-mammal burrows) to breeding sites (relatively long-lasting rain pools) following relatively warm late winter and spring rains. Some evidence exists to indicate that males precede females during the breeding migration. Eggs are deposited singly or in small groups of two to four, submerged in the relatively shallow water of rain pools. A minimum of approximately 10 weeks is required to complete development through metamorphosis. The Stone Corral Ecological reserve on Route 3 is known to support this species and the have been documented there several times during the past decade. Marginal habitat is present in the degraded vernal pools on Route 2 near Spring Gap north of Colvin Mountain although no recent records exist from that region in the CNDDDB or elsewhere on the route.

Foothill Yellow-legged Frog (*Rana boylei*)

Foothill yellow-legged frog is a moderate-sized frog (1.5 to 3.2 inches snout to vent length) with highly variable coloration, but usually dark to light gray, brown, green, or

yellow with a somewhat mottled appearance, often with considerable amounts of brick or reddish pigmentation, and rough, tubercled skin. Populations of the foothill yellow-legged frog are declining in most areas mainly due to development and fouling of water supplies necessary for breeding. Foothill yellow-legged frogs require shallow, flowing water, apparently preferentially in small- to moderate-sized streams with at least some cobble-sized substrate. Foothill yellow-legged frog is endangered in central and southern California south of the Salinas River in Monterey County. Foothill yellow-legged frogs have not been observed in or south of the Transverse Ranges since before 1978. Poorly timed water releases from dams on larger tributaries are a major cause for population drops due to eggs drying or being washed downstream, depending on flow regime. Marginal habitat is present along the Rattlesnake Creek drainage on Route 3 but the presence of bullfrogs greatly reduces the chance species presence.

Western Spadefoot Toad (*Scaphiopus hammondi*)

The western spadefoot toad, a state species of special concern, typically occurs in lowlands and valleys from the northern Sacramento Valley southward through the San Joaquin Valley and the Coast Ranges to northwestern Baja California Norte, Mexico. Western spadefoot toads have been found at a few scattered localities on the floor of the southeastern San Joaquin Valley and foothills of the Tehachapi Mountains.

Spadefoot toads emerge from subterranean retreats immediately following relatively warm, late fall to late winter/early spring rains and enter water only to breed in vernal pools, ponds, roadside ditches, still pools in intermittent watercourses, and stock ponds. Eggs hatch in fewer than six days after being deposited. Larvae develop between 3 and 11 weeks, depending on food supply and water temperature. Metamorphosing tadpoles have been found from March through June. Pools need to persist at least five weeks after breeding takes place in order to support successful metamorphosis in western spadefoot toad larvae. During the breeding season, spadefoot toads may occupy shallow daytime burrows. During the dry season, they construct much deeper burrows in soft substrates at some distance from the margin of the breeding pool, but they are also known to occupy small-mammal burrows, especially California ground squirrel burrows in the vicinity of the pools. Good habitat and species presence has been documented at Stone Corral on Route 3.

Reptiles

Blunt-nosed Leopard Lizard (*Gambelia silus*)

The blunt-nosed leopard lizard is a federally and state-listed endangered species. This lizard is a relatively large, predatory member of the family Iguanidae and is endemic to the San Joaquin Valley. The lizard's currently occupied range consists of scattered parcels of undeveloped habitat on the valley floor and in the foothills of the Coastal Range, below approximately 2,600 feet in elevation. Habitat includes open, sparsely vegetated areas of low relief in grassland, saltbush scrub, and alkali sink habitats. Declines within the Project area are primarily attributed to the conversion of native habitats to agricultural and other development sites although few historical records exist for the northern part of Tulare County. It is not expected to occur on any of the three Routes.

Northwestern Pond Turtle (*Clemmys marmorata marmorata*)

The northwestern pond turtle is a federal candidate species and state species of special concern. Historically, northwestern pond turtles occurred along most of the watercourses throughout central and southern California. They are now limited to smaller streams and small, isolated impounded water habitats. Mating typically occurs in late April or early May and most egg laying occurs during May and June. Typical pond turtle habitat includes slow-moving or stagnant aquatic habitat that forms large, deep pools, with overhanging bank cover. Pond turtles are uncommon in high-gradient streams. A critical habitat feature for this turtle is suitable aquatic basking sites, such as mats of emergent vegetation, exposed logs, rocks, or mud banks.

The largest and geographically most extensive populations of this species (over three million individuals) probably occurred in the historic lakes and associated freshwater marshes of the southern San Joaquin Valley (Buena Vista, Tulare, and Kern lakes). These populations have been all but extirpated. Historic localities have been noted for northwestern pond turtles from several drainages along the valley foothills of the Tehachapi Mountains. However, most of these populations have apparently been extirpated, and the remaining populations show little or no evidence of recruitment. The Kaweah River floodplain and its associated tributaries should all be considered to be turtle habitat although many of these drainages are very degraded. Perhaps the best habitat is present along Route 3 near Rattlesnake Creek however the widespread presence of bullfrogs is a negative factor for the species.

Birds

Black Swift (*Cypseloides niger*)

The black swift, a species of special concern, breeds very locally in four regions of California: the central and southern Sierra; the coastal cliffs and mountains of San Mateo, Santa Cruz, and Monterey counties; the San Gabriel, San Bernardino, and San Jacinto mountains of southern California; and a limited area in the Cascade Range. Nests have been found only on cliffs behind or adjacent to waterfalls or steep coastal cliffs.

Black swifts are known to occur north of Sinaloa, Mexico. In most regions where it occurs it is rather uncommon and local, but in its British Columbia breeding range, flocks of several thousands have been seen during the breeding season and during migration. A more likely broad-scale threat is from decreases in aerial insect abundance from habitat loss and use of pesticides on breeding and wintering grounds. Birds may also be ingesting pesticides directly and bioaccumulating them in tissues, which may cause decreases in reproductive output and increases in adult mortality, especially under extreme weather conditions. Although this migratory species has been observed in the eastern portions of all 3 Routes it would not be impacted by the project due to its temporary occurrence in the region.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl, a state species of concern, is found throughout much of California in open habitat, including annual and perennial grasslands, deserts, arid scrublands, and

agriculture fields. A key feature of potential habitat is that the canopy cover, as well as the height of the vegetation, is low. Burrowing owls nest in burrows typically dug by fossorial mammals, such as California ground squirrels. Manmade structures, such as cement culverts and debris piles, may also be used. Burrowing owls exhibit high site fidelity, reusing the same burrows year after year. Destruction of California ground squirrel colonies, especially by poisoning and conversion of pastureland to agricultural and urban development, has been the major source of decline for burrowing owls. This species has been documented periodically throughout Tulare County and could occur on all 3 Routes. Any selected route will require the standard 30 day preconstruction surveys and mitigation (described later in this report) as part of the project plans.

California Condor (*Gymogyps californianus*)

The California condor, a federally and state-listed endangered species, nests in deep canyons with cliffs and rock walls. The species is recovering slowly as a result of captive breeding and reintroduction by federal and private agencies. California condors were nearly extinct due to over hunting and secondary poisonings. Habitat requirements exist near the Project site and they have been recently observed on several occasions flying across the Tehachapi Ridge immediately south of the Project vicinity. They are unlikely to utilize the Project area for nesting or foraging except possibly in the eastern most segments of all 3 Routes if they recolonize Tulare County in the future. Yokohl Valley near the Route 1 Alternative has long been considered to be “good condor habitat” by experienced local biologists and agency professionals.

Golden Eagle (*Aquila chrysaetos*)

A state species of concern, a California fully protected species and also protected under the federal Eagle Protection Act, golden eagles hunt over open country or in woodland habitats. Nesting for the species occurs in riparian and oak woodlands or scrub/meadows, and also sometimes nesting along transmission line towers (that are raptor safe). These raptors are residents in the Central Valley, and actively hunt within urban-rural zones containing a prey population (e.g., California ground squirrels, jack rabbits, etc.). All of the potential Routes can support golden eagles and preconstruction surveys will be necessary for the selected alternative. Surveys for this species can be performed in conjunction with the general wildlife surveys that will be performed along the selected route. If any nesting birds are observed in the potential impact areas further studies and consultation with the CDFG will occur.

Mountain Plover (*Charadrius montanus*)

The mountain plover is a federally proposed threatened and California species of special concern. The range has been described as the west side of the Central Valley from the vicinity of Woodland in Yolo County to Wheeler Ridge in Kern County, Carrizo Plain in San Luis Obispo County; and locally, in broad agricultural valleys and coastal plains in southern California, including the Imperial Valley. In 1973, remnant winter concentrations were known to occur in the vicinity of Woodland, Pacheco Pass in Merced County, western San Joaquin Valley, Carrizo Plain, and the Imperial and Antelope valleys. Although they are occasionally seen in Tulare County they are not expected to be impacted by any of the potential routes because of their temporary presence.

Swainson's Hawk (*Buteo swainsoni*)

The Swainson's hawk is a state-listed threatened species. It is a large, broad-winged raptor of open country. Pastures and open fields are the primary foraging areas, where major prey species include rodents (e.g., California ground squirrels), birds (e.g., mourning doves), and insects. Nesting occurs in large trees adjacent to, or within easy flying distance of, foraging habitat. In the Central Valley, more than 85 percent of the known nest sites occur in riparian systems although isolated and roadside trees are also used.

Although a 10-mile radius has been found to be a typical flight distance between active (and successful) nest sites and suitable foraging areas, Swainson's hawks may range up to 18 miles from the nest in search of prey. Swainson's hawks migrate in the fall to South America, returning to North America to establish nesting territories in early March.

Historically, the Swainson's hawk was abundant and one of the most common raptors in California. Since the turn of the century, the breeding population has experienced an estimated 91 percent decline, primarily due to a decrease in nesting and foraging habitat, as well as pesticide use. A 1993 study estimated that approximately 80 percent of the statewide breeding population of 550 pairs is found in the Central Valley, concentrating in Yolo, Sacramento, and San Joaquin counties. While some losses occur in wintering areas south of the United States, these are not considered significant because breeding populations outside of California appear to be stable. This species has been regularly documented in the San Joaquin Valley and could occur on any of the three alternative Routes, although most of the records are from southern Tulare County where winter and spring grain fields provide the best habitat. They are much less common in the Visalia area and northern Tulare County. Seasonal preconstruction surveys will be performed along with the general wildlife surveys that will be performed along the selected route. If any nesting birds are observed in the potential impact areas further studies and consultation with the CDFG will occur.

Tri-colored Blackbird (*Agelaius tricolor*)

The tri-colored blackbird is a federal and state species of concern. It is a colonial nester in freshwater marshes and along streams. Preferred nesting habitat is dense bulrush (*Scirpus* sp.) and cattails (*Typha* sp.), although nesting can occur in blackberry thickets (*Rubus* sp.), willows, mustard (*Brassica* sp.), thistles, nettles, and grasses. Foraging occurs in wet meadows, pastures, grass fields, and rangelands.

Historically, the tri-colored blackbird ranged from northwestern Baja California to south central Oregon, through the interior and coastal valleys of California and along the Modoc Plateau east of the Sierra Nevada range. Currently the range is similar, but the population size has declined by an estimated 50 percent or more in the last 60 years.

This species is regularly seen in Tulare County and all three Routes contain at least some of the preferred habitat although the highest potential is in The Spring Gap area on Route 2 and the marsh area west of the Friant-Kern Canal on Route 3.

Mammals

American Badger (*Taxidea taxus*)

The American badger is a state species of concern. It is a relatively large, fossorial mammal with morphological adaptations highly specialized for digging. Badgers are active primarily in the later afternoon and evening, although they may also be active aboveground during the day. Food consists primarily of small mammals, including ground squirrels and gophers. Badgers have a relatively broad geographic range and occupy deserts, valleys, foothills and mountain meadows. Although badgers could occur on all three routes they are highly unlikely to be present on Routes 1 and 2 due to the widespread agricultural land conversions and overall human impacts. The most likely potential occurrence for this species is the natural rangelands and oak woodlands east of Stokes Mountain on Route 3.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

San Joaquin kit fox (SJKF) is a federally listed endangered species and state-listed threatened species. Current literature suggests that the range of the species currently extends from southern Kern County north to Alameda, Contra Costa, San Joaquin, and Stanislaus counties. The largest extant population occurs in western Kern County (Elk Hills and Buena Vista Valley) and in the Carrizo Plain Natural Area. SJKF occupy a variety of habitats in the valley floor and foothills. They typically occupy native sink, scrub, and grassland habitats, but are also known to occupy habitats extensively modified by humans, such as active oil fields, irrigated and non-irrigated pasture, vineyards, and orchards. SJKF are not only transient in these disturbed areas, but they forage and den there as well. Loss, degradation, and fragmentation of habitat are considered to be the major contributors to the decline of the species, along with direct mortalities from roads, flooding, disease, trapping, poisoning, and shooting. SJKF are occasionally seen in the Visalia area and around the County. Therefore they could occur on all three routes and the preconstruction surveys described later in this report will be required for the selected route.

Tipton Kangaroo Rat (*Dipodomys nitratoides nitratoides*)

The Tipton kangaroo rat is a federally and state-listed endangered species, listed since 1988. Adult Tipton kangaroo rats weigh approximately 1 to 1.3 ounces. This subspecies originally occupied a range that included the Tulare Lake Basin in portions of Fresno, Kings, Tulare, and Kern counties. This geographic range encompassed about 1.7 million acres, until the draining of the Tulare Lake Basin for southern California expansion. An estimate of historic population levels based on today's density data and the estimated extent of former range is around 17.2 million individuals. Currently, approximately 190,200 individuals, or about 1 percent of the original population, remains. Tipton kangaroo rats are limited to arid land communities of the valley floor within the Tulare Basin, on level to nearly level terrain at an elevation of 200 to 300 feet. Habitat is composed of sparsely scattered woody shrubs, such as spiny saltbush (*Atriplex* sp.), iodine bush (*Allenrolfea occidentalis*), and mesquite (*Prosopis glandulosa*), with scant to moderate ground cover of grasses and forbs. Soils are typically fine-textured and alkaline.

The conversion of native habitat to agricultural, residential and commercial developments, and flooding remain the principal threats to this species. This species is not likely to occur on any of the potential 3 Alternative Routes.

5.2 Summary and Analysis

The research, field surveys to date, and analysis phases of the study resulted in some of the above-described “sensitive species” as being known to occur or having the potential to occur in the general Cross Valley Project area. The sensitive plant species are closely associated with specific habitats, such as vernal pools and swales, alkaline playas, saltbush scrub, natural grasslands, serpentine soils, and heavy adobe-clay soils. The relatively limited on-site field surveys to date performed in the Project area to assess occurrence of the species or suitable critical habitats capable of supporting them was positive for some of the plant species. Suitable habitats for some of the potentially occurring sensitive plant species are present; however, the habitats present within the proposed project corridor are mostly low or marginal and can likely be avoided or mitigated during the construction and operation of the Project.

Sensitive animal species are also present and potentially present in the general Project area. Blue elderberry (required habitat for the VELB, a federally-listed insect), burrowing owls, and several species of protected raptors (including hawks and golden eagles) are regularly observed in the overall Project area. Impacts to these species can be minimized or eliminated through the use of avoidance, preconstruction surveys, construction monitoring, and the standard mitigation techniques employed on similar projects in the region and explained in detail later. Although the SJKF (a listed species) is known to use agricultural and other open space areas on the east side of the San Joaquin Valley, no obvious field signs (dens, scat, tracks, prey remains, etc.) were observed in or near the 3 Project Routes during the limited field surveys performed to date. The many established San Joaquin Kit Fox (SJKF) and other mitigation measures will be discussed in further detail in a later section of this report and will be implemented on any selected route.

5.3 Critical Habitat

Under the federal ESA, the USFWS, to the extent prudent and determinable, is required to designate critical habitat for endangered and threatened species (16 United States Code §1533 (a)(3)). “Critical habitat” describes the areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter.

Designated critical habitats require special management and protection of existing resources, such as water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat designation delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

A critical habitat designation affects projects subject to federal action. Under projects subject to federal action, potential impacts to designated or proposed critical habitat will be evaluated by the USFWS under Section 7 of the ESA. Based upon these definitions and the available information to date, the following areas in or near to the currently defined alternate routes are considered to be critical habitat:

Alternative 1 (Proposed Project)

Designated critical habitat is not present along Alternative 1.

Alternative 2

Vernal pools and swales near Colvin Mountain and Spring Gap

This area supports historic vernal pool and swale habitats that have been degraded somewhat by nearby agriculture and associated land uses but historic records of endangered plant species are from this area. Federally designated critical habitat for the San Joaquin orcutt grass and Hoover's spurge has been established for this area.

Alternative 3

Stone Corral Ecological Reserve

The Stone Corral Ecological Reserve is a State Fish and Game Habitat Preserve that is managed for the preservation of several sensitive, threatened and endangered plant and wildlife species associated with vernal pool habitats. Federally designated critical habitat has been established for vernal pools species in this area.

Stokes Mountain

Federally designated critical habitat for the San Joaquin orcutt grass has been established in the area around Stokes Mountain.

5.4 Wildlife Movement Corridors and other Sensitive Habitats

Many existing features within the existing Big Creek-Rector ROW and in the existing project area facilitate wildlife movement throughout the region. In addition, the linear nature of a transmission line project promotes wildlife movement. Animals tend to travel along natural paths and away from developed or disturbed areas. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban clearings and other open space, allowing wildlife to travel unhindered through otherwise developed areas.

The presence of several bodies of water in the vicinity of the existing ROW, including the Kaweah River, St. John's River, Rattlesnake Creek, Cottonwood Creek, Yokohl Creek, and several other drainages attract migratory bird species as part of the Pacific Flyway. These water bodies and associated riparian habitat provide rest and forage areas for numerous birds during the migratory seasons. The riparian habitats associated with the Kaweah River and some of its tributaries are within the ROW for Routes 2 and 3 and near to Route 1. The historic floodplain associated with the "pre-dam" river is crossed by all three alternatives at various points on the respective routes. All riparian habitats are

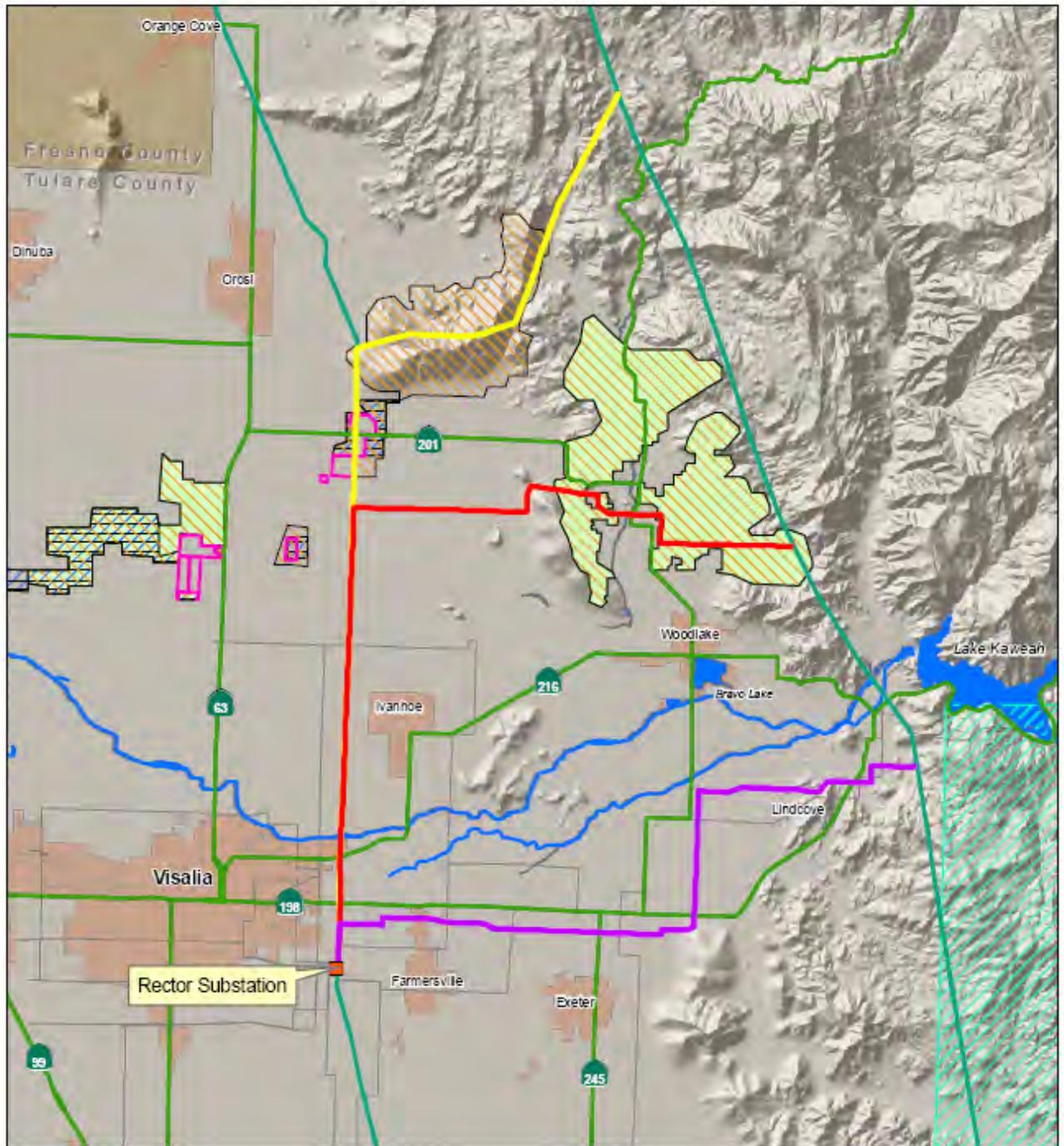
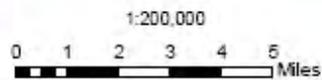


Figure 1: Critical Habitat Areas

- Rector Substation
 - Alternative 1
 - Alternative 2
 - Alternative 3
 - Existing 220kV transmission line
 - Highways
 - Streams
- State Canal Ecological Reserve
 - USFWS Critical Habitat
 - California Condor
 - Hoover's Scaup
 - Vernal Pool Fairy Shrimp
 - Vernal Pool Tadpole Shrimp
 - San Joaquin Grass
 - Water Bodies
 - Cities



considered to be sensitive communities because they support a very diverse association of resident and nesting wildlife and native plant species.

Terrestrial wildlife species tend to travel along natural drainages that provide protective cover from predators, as well as a source of forage. There are several natural and man made drainage features such as canals, ditches, ranch and farm routes, etc. within the general project area that may facilitate wildlife movement through the overall region.

With implementation of Applicant Proposed Measures (APM's) and Mitigation Measures, discussed below, project construction and operation are not expected to have a significant effect on biological resources in the area, either directly or through habitat modifications based on the standards listed above. This analysis is based upon the described information obtained to date for the preferred alternative where the surveys and existing data is more comprehensive. In addition, SCE operates under a strict set of environmental practices established to protect biological resources according to the Federal and State endangered species acts and the state's Natural Community Conservation Planning Act. The proposed project (preferred alternative) is not expected to conflict with any state or local policies or ordinances protecting biological resources included as part of applicable city, community, or general use plans, or with the provisions of an adopted HCP, MSHCP, or other approved local, regional, or state plan. A Habitat Conservation Plan HCP/ Natural Communities Conservation Plan (NCCP) is currently being planned by the Kaweah Delta Water Conservation District in the project area. SCE's environmental compliance standards require consistency with other applicable plans to the maximum extent feasible. SCE will coordinate with the Kaweah Delta Water Conservation District and the resource agencies as their plan is developed and finalized.

6.0 Significance Criteria

Potential impacts to biological resources are separated into those likely to occur from construction (both short- and long-term impacts) and those that could occur as a result of power line operation and maintenance.

Standards of impact significance were derived from Appendix G of the CEQA Guidelines. Under these guidelines the project could have a potentially significant impact if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP

Permanent habitat loss is not considered a significant impact to sensitive species (other than for listed or candidate species under the state and federal endangered species acts) unless extensive areas of suitable habitat are degraded or somehow made unsuitable, or areas supporting a large proportion of the species population are substantially and adversely impacted.

6.1 Construction

Impacts to sensitive species and their respective habitats will be minimized by the implementation of the Applicant Proposed Measures detailed below. In particular, biologists will conduct pre-activity surveys that evaluate the scope and nature of potential impacts in advance of construction. Should these pre-activity surveys identify sensitive, threatened or endangered species, reports will be submitted to the USFWS and the CDFG to initiate consultation regarding potential impacts and feasible avoidance, minimization, and/or mitigation measures

Sensitive Vegetation Communities

Implementation of the Project Protocols will reduce potential habitat impacts to less than significant.

Sensitive Plant Species

Several sensitive plant species, which include, but are not limited to are known to occur in the vicinity of SCE's existing ROW, and/or to have the potential to occur within the existing ROW or potential alternative routes. The potential presence of these plant species is based on their known or recorded occurrence within the region and/or their association with the vegetation communities that occur in the vicinity of the project area. SCE will implement the Applicant Proposed Measures (APM's) to protect sensitive plant species. With the implementation of these protocols and adherence to applicable mitigation measures in SCE's project plans, impacts to sensitive plants are expected to be less than significant.

Sensitive Wildlife Species

Raptors and Other Nesting Bird Species

Construction activities could potentially impact migratory, nesting raptors, passerines, and other sensitive bird species, if present. Potential impacts to raptor species will be considered significant due to their protection under the MBTA, and will need to be avoided. Active raptor nests are present on the existing lines or in trees or structures associated with the potential routes and large stick nests were observed on several towers during the species and habitat assessment surveys conducted for this project. SCE will comply with the MBTA, and implement protective measures and mitigation in to protect breeding and nesting raptors and other avian species and will implement Applicant Proposed Measures (see APM's). With implementation of these measures, impacts to migratory, breeding and nesting birds are expected to be less than significant.

Trimming or Removal of Nest Trees

Preconstruction surveys will be conducted for tree trimming activities that occur during the nesting season to determine presence of nests and nesting activities that will potentially be affected by the project. SCE will implement Applicant Proposed Measures (see APMs). With implementation of these measures, impacts to breeding and nesting birds in or near to trees are expected to be less than significant.

Indirect Noise Impacts from Construction

Construction noise may cause potential short-term indirect impacts to nesting bird species, if present, including the described raptors. Increased ambient noise levels during temporary short-term construction activities may mask the breeding songs used by sensitive riparian and upland birds. Additionally, intermittent loud noises from short-term construction activities may also cause nesting birds to become startled and abandon their nest. These potential temporary short-term impacts may be considered a take of listed species. Indirect noise impacts to these species could potentially be considered significant if construction-related noise levels cause abandonment of nests.

SCE will continue to conduct focused surveys in suitable habitat along the existing ROW and in the immediate vicinity of the potential routes when access is obtained to determine the presence or absence of these noise-sensitive bird species. If sensitive bird species are present, SCE will consult with the USFWS or CDFG to determine if any additional Project Protocols or mitigation measures will be appropriate for construction of the project, and to minimize temporary, short-term construction noise impacts. Existing guidelines require adherence with any additional restoration, habitat enhancement, or mitigation measures developed during federal or state consultation. Indirect temporary short-term construction noise impacts will not be considered significant if the additional mitigation measures developed during federal consultation are followed. Therefore, the project's potential indirect noise impact to nesting bird species will likely be less than significant.

6.2 Operation

Upon completion of the proposed transmission line SCE anticipates annual inspections of each tower, as required by the California Public Utilities Commission. During annual inspections workers will remain on the access roads constructed for the transmission line project as well as when they are conducting operations and maintenance activities. Should mechanized equipment be necessary for maintenance activities the applicable Applicant Proposed Measures and Biological Mitigation Measures, described below, will be implemented to reduce impacts to less than significant levels.

Sensitive Species

Routine operational and maintenance activities, such as road grading, tree trimming, and structure installation, replacement and repairs, could potentially impact sensitive, listed, and covered species if present in the project area. However, potential impacts from SCE's standard operation and maintenance activities will be minimized through the implementation of SCE's environmental review process, Applicant Proposed Measures and Mitigation Measures described in this document. With incorporation of environmental reviews for operations and maintenance activities, the potential impact to sensitive species is expected to be less than significant.

Wildlife Movement Corridors

Much of the existing SCE overhead Big Creek-Rector transmission corridor, including the ROW associated with this project, acts as potential wildlife movement corridors or intersects with existing wildlife corridors. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban clearings and other open space, allowing wildlife to travel unhindered through otherwise developed areas. In addition, wildlife movement through the region is facilitated by the presence of natural drainages and large bodies of water and also the presence of utility rights-of-way. The existing ROW crosses several drainages (Kaweah River, etc.). The new steel and wood poles to be installed and reconductoring activities on existing lines will occur within SCE's existing ROW and, like the existing tower and pole support structures, will span existing drainages. Placement of new steel support structures for the new overhead transmission line immediately adjacent to an existing structure within the ROW will allow sufficiently wide natural areas to remain within the project ROW to permit the continued movement of wildlife species. The majority of the new portions of the project will be in highly developed and urbanized or agricultural areas and will not further restrict wildlife movement with the described mitigation measures employed.

Predation

Transmission lines and support structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife by raptors. In areas where current perching sites are few or rare, the construction of a new transmission line increases the potential for raptor perching and hence, predation opportunities in the area. Because this project is partially located in SCE's existing ROW, installation of new structures and the upgrading of existing structures will not significantly increase perching