Appendix D

Habitat Suitability Criteria Methods

APPENDIX D
HABITAT SUITABILITY CRITERIA METHODS

1. SUITABLE HABITAT MODELING

This appendix describes the approach used to model suitable habitat for Covered Species in the TU MSHCP as well as the specific model input parameters used in the modeling. A wide array of literature was reviewed and used for the suitable habitat modeling process. Literature citations for the Covered Species discussed below are provided for each of the species in *Section 5* of the TU MSHCP.

1.1 COVERED SPECIES MODELED

Suitable habitat modeling was conducted for the 27 Covered Species occurring or potentially occurring on Covered Lands. *Table D-1* lists the Covered Species for which suitable habitat modeling was conducted and the Federal, state, and other status associated with these species.

Table D-1. Modeled Covered Species List

Biological Resource	Common Name	Scientific Name	Federal Status	State Status	CRPR List
Amphibian	Tehachapi slender salamander	*Batrachoseps stebbinsi*	BLM, FS	ST	None
Amphibian	Western spadefoot	*Spea [Scaphiopus] hammondii*	BLM	CSC	None
Amphibian	Yellow-blotched salamander	*Ensatina eschscholtzii croceater*	BLM	CSC	None
Bird	American peregrine falcon	*Falco peregrinus anatum*	BCC, FS	SE, FP, CDF	None
Bird	Bald eagle	*Haliaeetus leucocephalus*	None	SE, FP, CDF	None
Bird	Burrowing owl	*Athene cunicularia*	BCC, BLM	CSC	None
Bird	California Condor	*Gymnogyps californianus*	FE	SE, CDF, FP	None
Bird	Golden eagle	*Aquila chrysaetos*	BCC, BLM	CDF, FP, WL	None
Bird	Least Bell's vireo	*Vireo bellii pusillus*	FE, BCC	SE	None
Bird	Little willow flycatcher	*Empidonax traillii brewsteri*	None	SE	None
Bird	Purple martin	*Progne subis*	None	CSC	None
Bird	Southwestern willow flycatcher	*Empidonax traillii extimus*	FE	SE	None
Bird	Tricolored blackbird	*Agelaius tricolor*	BCC, BLM	CSC	None
Bird	Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	BCC, FC, FS	SE	None
Bird	White-tailed kite	*Elanus leucurus*	None	FP	None

Table D-1 (Continued)

Biological Resource	Common Name	Scientific Name	Federal Status	State Status	CRPR List
Bird	Yellow warbler	*Dendroica petechia brewsteri*	None	CSC	None
Insect	Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	None	None
Mammal	Ringtail	*Bassariscus astutus*	None	FP	None
Mammal	Tehachapi pocket mouse	*Perognathus alticolus inexpectatus*	None	CSC	None
Reptile	Coast horned lizard (*frontale* and *blainvillei* populations)	*Phrynosoma coronatum*	FS	CSC	None
Reptile	Two-striped garter snake	*Thamnophis hammondii*	BLM, FS	CSC	None
Plant	Fort Tejon woolly sunflower	*Eriophyllum lanatum* var. *hallii*	None	None	1B.1
Plant	Kusche's sandwort	*Arenaria macradenia* var. *kuschei*	None	None	1B.1
Plant	Round-leaved filaree	*California macrophylla [Erodium macrophyllum]*	None	None	1B.1
Plant	Striped adobe lily	*Fritillaria striata*	None	ST	1B.1
Plant	Tehachapi buckwheat	*Eriogonum callistum*	None	None	1B.1
Plant	Tejon poppy	*Eschscholzia lemmonii* ssp. *kernensis*	None	None	1B.1

[1]Federal Designations:

BCC	U.S. Fish and Wildlife Service Birds of Conservation Concern
BLM	Bureau of Land Management sensitive
FS	U.S. Forest Service sensitive

[2]State Designations:

CSC	California Special Concern species
FP	California Department of Fish and Game Fully Protected
WL	California Department of Fish and Game Watch List
CDF	California Department of Forestry & Fire Protection sensitive
SE	State listed as Endangered
ST	State listed as Threatened

[3]California Rare Plant Rank (CRPR) Designations:

1B	Rare or endangered in California and elsewhere
2	Rare, threatened, or endangered in California but more common elsewhere
Threat Extension .1	Seriously endangered and California (over 80% of occurrences threatened/high degree and immediacy of threat).
Threat Extension .2	Fairly endangered in California (20% to 80% occurrences threatened).
Threat Extension .3	Not very endangered in California

1.2 DATA

A comprehensive biological and physical database is available for Covered Lands and was used to generate the suitable habitat models for the Covered Species. This section describes the sources for, and limitations of, the various data layers used to develop the suitable habitat models for the plant and wildlife Covered Species listed in *Table D-1*.

1.2.1 COVERED SPECIES OCCURRENCE DATA

Covered Species occurrence data were reviewed and used to prepare various sections of the TU MSHCP that require an understanding of the general distribution and relative abundance of species covered in the TU MSHCP. Two primary sources of spatial (Geographic Information System (GIS)-based) data were used: (1) Covered Species occurrence data collected during various surveys in portions of the Covered Lands (Dudek 2007a; Dudek 2007b) and (2) California Natural Diversity Database (CNDDB) occurrence data (CDFG 2007c). Survey methods for Covered Species are included as *Appendix D1* to the TU MSHCP.

Plant and wildlife Covered Species occurrence data collected during various surveys in portions of the Covered Lands were either recorded on field maps to be digitized or recorded using a Global Positioning System (GPS) unit. The majority of the survey data was collected on the 28,253 acres of land referred to in the TU MSHCP as TMV Planning Area. The remaining 110,000 acres of Covered Lands have not been surveyed as extensively as the 28,253-acre TMV Planning Area. In either case, however, these location data are considered to be highly precise. Accuracy and validity of the identifications are considered to be high.

CNDDB occurrence data assign a location precision rating to each element datum or occurrence. There are 10 accuracy classes related to the precision of the mapping. Accuracy classes 1 and 2 are the most specific and "confidence-rich" of the features. Accuracy class 3, the non-specific bounded area, is less precise and depicts an area where the element is found "somewhere within the boundaries." These data were reviewed during preparation of the TU MSHCP in the context of their mapping precision and are considered somewhat limited when imprecise occurrence data are provided. However, the data are continually updated and will be available to the Project Biologist during implementation of the TU MSHCP.

Two non-spatial (non-GIS-based) resources related to species occurrences were also used to determine general distribution patterns, including geographic and elevation ranges, of the species covered in the TU MSHCP:

- California Native Plant Society (CNPS) online inventory (CNPS 2007) was used to assist biologists in determining general distribution patterns of the plant species covered in the TU

MSCHP. This database contains detailed information on plant species, and was used in determining suitable habitat parameters; and

- CDFG's *Life History Accounts and Range Maps—California Wildlife Habitat Relationships System* (CDFG 2007d), an online inventory of species life history accounts for California's wildlife, was consulted. For white-tailed kite, GIS data for the geographic range of the species was also used.

Additional scientific literature specific to each of the five groups of wildlife taxa were also reviewed. These resources include both online and print resources for different taxa, including:

Fish

- Range maps and descriptions provided in *Fish Species of Special Concern in California* (Moyle et al. 1995).

Reptiles/Amphibians

- *An Illustrated Exploration of the Herpetofauna of California*, including reptile and amphibian range maps (CaliforniaHerps 2007e);
- *Amphibian and Reptile Species of Special Concern in California* (Jennings and Hayes 1994);
- *Amphibian Declines: The Conservation Status of United States Species* (Lannoo 2005); and
- *Field Guide to Western Reptiles and Amphibians* (Stebbins 2003).

Birds

- Range maps and descriptions provided in *California's Wildlife*, Volume 2 (Zeiner et al. 1990b) and updated as available (CDFG 2007d);
- Descriptions of range and occurrences in *Birds of Southern California* (Garrett and Dunn 1981); and
- *Birds of North America* online references (Poole 2005).

Mammals

- *A Field Guide to the Mammals: North America, North of Mexico* (Burt and Grossenheider 1976);
- *Wild Mammals of North America: Biology, Management and Economics* (Chapman and Feldhamer 1982);

- *Mammals of the Pacific States: California, Oregon, and Washington* (Ingles 1965);
- *California Mammals* (Jameson and Peeters 1988); and
- *California's Wildlife*, Volume 3 (Zeiner et al. 1990c).

Additional occurrence data or range maps were reviewed for individual species and the citations are included in the species accounts in *Sections 4* and 5 of the TU MSHCP.

1.2.2 VEGETATION COMMUNITIES

The Covered Lands vegetation map is included as *Figure 5-1* of the TU MSHCP. This map was prepared by GIS staff at Tejon Ranchcorp (TRC). and its consulting biologists. Two primary data sources were combined to form this map: (1) the Tejon Ranch–wide vegetation composite map; and (2) the vegetation map created for the Tehachapi Mountain Uplands during site-specific studies in 2007.

The Tejon Ranch-Wide Vegetation Composite

The Tejon Ranch-wide vegetation composite data layer was based on several surveys conducted on the ranch between 1980 and 1994, and subsequently updated in fall 2007 to reflect changes in the extent of mining activity in the south-central portion of the Covered Lands. Additional vegetation mapping was conducted using a 1-meter-pixel-size aerial image flown in May 2000 to fill in gaps in vegetation mapping data. The Tejon Ranch-wide vegetation composite primarily reflects the classification system outlined in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). However, some vegetation communities mapped reflect more general mapping comparable to general habitat types (e.g., riparian forest and woodland) outlined in the *List of California Terrestrial Natural Communities* (CDFG 2003).

The Tejon Ranch-wide vegetation composite is limited by the timeframe within which the data were assembled, as well as the precision of the data. The Tejon Ranch-wide vegetation composite represents conditions at the time the data were assembled, in this case 1980 to 1994, 2000, and 2007.

Vegetation Mapping Conducted in 2007

The vegetation mapping conducted in 2007 in the Tehachapi Mountain Uplands used a 2006 1-foot-pixel-size orthorectified aerial image (AirPhotoUSA 2006). Vegetation mapping followed the classification scheme outlined in the *List of California Terrestrial Natural Communities* (CDFG 2003). Minimum mapping units were established at 2.2 acres (1 hectare) for communities not

considered to be high priority for inventory in the *List of California Terrestrial Natural Communities* and 1 acre for communities that were considered high priority for inventory.

The vegetation mapping conducted in 2007 is spatially limited because it does not cover the entire extent of the Covered Lands (i.e., it only covers the Tehachapi Mountain Uplands), but TRC considers it to be more than adequate for analyzing landscape-level effects and impacts to species within the portion of the Covered Lands that is covered.

Vegetation Crosswalk

To prepare a comprehensive vegetation layer for the Covered Lands, a "crosswalk" was created between the vegetation communities used in the Tejon Ranch-wide vegetation composite and the 2007 vegetation mapping in the Tehachapi Mountain Uplands. The crosswalk was necessary because the two vegetation data layers used different classification systems and the habitat suitability analysis required a vegetation data layer consisting of a uniform classification system. The crosswalk was applied to the 2007 vegetation layer for the Tehachapi Mountain Uplands so that the vegetation classification in this area was consistent with the classification system used for the Tejon Ranch-wide vegetation composite.

Table D-2 shows the crosswalk from the Tehachapi Mountain Uplands vegetation to the Tejon Ranch–wide vegetation composite and MSHCP vegetation datasets.

Table D-2. Vegetation Crosswalk between Tehachapi Mountain Uplands and MSHCP

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
Non-Native Vegetation, Developed Areas or Unvegetated Habitat	Non-Native Vegetation	Ornamental	Ornamental	Non Vegetative	Developed
	Urban/ Developed	Developed/ Disturbed Habitat	Developed/ Disturbed Habitat	Non Vegetative	Developed
	Unvegetated Habitat	Unvegetated Areas	Unvegetated Areas	Wash	Wash
	General Agriculture	Orchard and Vineyards	Orchard and Vineyards	Agriculture	Agriculture
	Native Tree Planting	Oak Tree Planting	Oak Tree Planting	Non Vegetative	Developed

Table D-2 (Continued)

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
Scrub and Chaparral	Coastal scrub	Coastal Scrub	Coastal Scrub	Scrub	Scrub
		California Buckwheat Scrub	California Buckwheat	Scrub	Saltbush/Buckwheat Scrub
		California Buckwheat Scrub	California Buckwheat Alluvial Fan	Scrub	Alluvial Scrub
		Scalebroom Scrub	Scalebroom Scrub	Scrub	Alluvial Scrub
	NA[1]	NA	NA	Scrub	Mojavean scrub
	Great Basin Scrub	Big Sagebrush Scrub	Big Sagebrush	Scrub	Scrub
		Rubber Rabbitbrush Scrub	Rubber Rabbitbrush Scrub	Scrub	Scrub
	Chaparral with Chamise with or without other codominant shrubs	Chamise Chaparral	Chamise – Scrub Oak Chaparral[1]	Chaparral	Chaparral
		Chamise – Bigberry Manzanita Chaparral	Chamise – Bigberry Manzanita	Chaparral	Chaparral
		Chamise – Bigberry Manzanita Chaparral	Chamise – Bigberry Manzanita – Cupleaf Ceanothus	Chaparral	Chaparral
		Chamise – Bigberry Manzanita Chaparral	Chamise – Bigberry Manzanita – Wedgeleaf Ceanothus	Chaparral	Chaparral
		Chamise – Wedgeleaf Ceanothus Chaparral	Chamise – Wedgeleaf Ceanothus	Chaparral	Chaparral
	Chaparral with Ceanothus ssp. as principal indicator	Wedgeleaf Ceanothus Chaparral	Wedgeleaf Ceanothus	Chaparral	Chaparral
	Chaparral with Manzanita as principal indicator	Chaparral with Manzanita as principal indicator	Chaparral with Manzanita as principal indicator	Chaparral	Chaparral
		Bigberry Manzanita Chaparral	Bigberry Manzanita	Chaparral	Chaparral
	Chaparral with Oak as principal indicator	Interior Live Oak – Canyon Live Oak Chaparral	Interior Live Oak – Canyon Live Oak	Chaparral	Chaparral

Table D-2 (Continued)

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
		Interior Live Oak – Scrub Oak Chaparral	Interior Live Oak – Scrub Oak Chaparral	Chaparral	Chaparral
		Mixed Scrub Oak Chaparral	Scrub Oak – Bigberry Manzanita	Chaparral	Scrub Oak
		Mixed Scrub Oak Chaparral	Scrub Oak – Wedgeleaf Ceanothus	Chaparral	Scrub Oak
		Scrub Oak Chaparral	Scrub Oak/ California Buckeye	Chaparral	Scrub Oak
		Scrub Oak Chaparral	Scrub Oak	Chaparral	Scrub Oak
		Scrub Oak – Birchleaf Mountain-mahogany Chaparral	Scrub Oak – Birchleaf Mountain-Mahogany	Chaparral	Scrub Oak
		Brewer Oak Chaparral	Brewer Oak Chaparral	Chaparral	Brewer's Oak Scrub
		Canyon Live Oak Chaparral	Canyon Live Oak Shrub	Chaparral	Chaparral
		Canyon Live Oak Chaparral	Canyon Live Oak – Holly-Leaf Redberry	Chaparral	Chaparral
		Tucker Oak Scrub	Tucker Oak Scrub	Chaparral	Chaparral
		Interior Live Oak Chaparral	Interior Live Oak Chaparral	Chaparral	Chaparral
	Chaparral with Birchleaf Mountain-mahogany as principal indicator	Birchleaf Mountain-mahogany – California Buckwheat	Birchleaf Mountain-Mahogany – California Buckwheat	Chaparral	Chaparral
		Birchleaf Mountain-mahogany Woodland	Birchleaf Mountain-Mahogany	Chaparral	Chaparral
Grass and Herb – Dominated Communities	Native Grassland	Creeping Ryegrass Grassland	Creeping Ryegrass Grassland	Grassland	Native Grassland
		Purple Needlegrass	Purple Needlegrass	Grassland	Native Grassland
		One-sided Bluegrass	One-Sided Bluegrass	Grassland	Native Grassland
		Giant Wild Rye Grassland	Giant Wild Rye	Grassland	Native Grassland
		Big Squirreltail	Big Squirreltail	Grassland	Native Grassland

Table D-2 (Continued)

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
		Grassland			
	Non – native Grassland	Non – native Grassland	Non-Native Grassland[1]	Grassland	Disturbed/Non-Native Grassland
	NA	NA	NA	Grassland	Grassland
	Meadows and Seeps not dominated by grasses	Rush Riparian Grassland	Rush Riparian Grassland	Wetland	Wetland
		Freshwater Seep	Freshwater Seep	Wetland	Wetland
Bog and Marsh	Marsh	Bulrush – Cattail Wetland	Bulrush – Cattail	Wetland	Wetland
		Cattail Wetland	Broad-Leafed Cattail	Wetland	Wetland
		Common Three-square	Common Three-Square	Wetland	Wetland
		California Bulrush Wetland	California Bulrush Wetland	Wetland	Wetland
		Tule	Tule	Wetland	Wetland
		Perennial Pepperweed	Perennial Pepperweed	Wetland	Wetland
Riparian and Bottomland Habitat	Riparian Forest and Woodland	Fremont Cottonwood Riparian Forests and Woodlands	Southern Cottonwood – Willow Riparian	Riparian Woodland	Riparian Woodland
		Red Willow Riparian Forests	Red Willow	Riparian Scrub	Riparian Scrub
		Red Willow Riparian Forests	Red Willow/ Arroyo Willow	Riparian Scrub	Riparian Scrub
		Mixed Willow Riparian Forests and Woodlands	Mixed Willow Riparian Forests and Woodlands	Riparian Woodland	Riparian Woodland
		Black Willow Riparian Forests and Woodlands	Black Willow Riparian Forests and Woodlands	Riparian Woodland	Riparian Woodland
		Central California Sycamore Alluvial Woodland	Central California Sycamore Alluvial Woodland	Riparian Woodland	Riparian Woodland

Table D-2 (Continued)

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
Broad Leafed Upland Tree Dominated	Oak Woodlands and Forests	Black Oak Forests and Woodland	Black Oak – Valley Oak	Woodland	Mixed Oak Woodland
		Black Oak Forests and Woodland	Canyon Live Oak – Black Oak	Woodland	Mixed Oak Woodland
		NA	NA	Savannah	Black Oak Savannah
		Black Oak Forests and Woodland	Black Oak Woodland	Woodland	Black Oak Woodland
		Black Oak Forests and Woodland	Black Oak Forest	Woodland	Black Oak Woodland
		Blue Oak Woodland[2]	Blue Oak Grass	Savannah	Blue Oak Savannah
		Blue Oak Woodland[2]	Blue Oak Grass	Woodland	Blue Oak Woodland
		Blue Oak Woodland[2]	Blue Oak Grass	Woodland	Mixed Oak Woodland
		Blue Oak Woodland	Blue Oak/ Interior Live Oak	Woodland	Blue Oak Woodland
		Blue Oak Woodland	Blue Oak/ Interior Live Oak – Wedgeleaf Ceanothus	Woodland	Blue Oak Woodland
		Blue Oak Woodland	Blue Oak/ Tucker Oak	Woodland	Blue Oak Woodland
		Blue Oak Woodland	Blue Oak/ Wedgeleaf Ceanothus	Woodland	Blue Oak Woodland
		Valley Oak Forests and Woodlands	Blue Oak – Valley Oak/ Grass	Savannah	Oak Savannah
		Valley Oak Forests and Woodlands	Blue Oak – Valley Oak/ Grass	Woodland	Oak Woodland
		Valley Oak Forests and Woodlands	Valley Oak/ Grass[1]	Savannah	Oak Savannah
		Valley Oak Forests and Woodlands	Great Valley Valley Oak Riparian	Riparian Woodland	Oak Riparian
		NA	NA	Savannah	Canyon Oak Savannah
		Canyon Live Oak Forest and Woodland	Canyon Live Oak Woodland	Woodland	Canyon Oak Woodland
		Canyon Live Oak Forest and Woodland	Canyon Live Oak Forest	Woodland	Canyon Oak Woodland
		NA	NA	Savannah	Gray Pine Savannah
		NA	NA	Woodland	Gray Pine Woodland
		NA	NA	Savannah	Interior Oak Savannah
		Interior Live Oak Woodland	Interior Live Oak Woodland	Woodland	Interior Oak Woodland

Table D-2 (Continued)

Tehachapi Mountain Uplands Vegetation				MSHCP Vegetation	
General Physiognomic Type	***General Habitat***	***Alliance***	***Vegetation Community***	***Generalized Vegetation***	***Specific Vegetation***
		Interior Live Oak Woodland	Interior Live Oak Forest	Woodland	Interior Oak Woodland
		NA	NA	Savannah	Mixed Oak Savannah
		Mixed Oak Woodland and Forest	Mixed Oak – California Buckeye	Woodland	Mixed Oak Woodland
		Mixed Oak Woodland and Forest	Mixed Oak/ Grass	Woodland	Mixed Oak Woodland
		NA	NA	Savannah	Undetermined Savannah
		NA	NA	Woodland	Undetermined Woodland
		NA	NA	Savannah	White Oak Savannah
		NA	NA	Woodland	White Oak Woodland
	California Buckeye Woodland	California Buckeye Woodland	California Buckeye Woodland	Woodland	California Buckeye Woodland
Coniferous Upland Forest and Woodland	Pine Forests and Woodlands	Singleleaf Pinyon Woodland	Singleleaf Pinyon Woodland	Woodland	Pinyon Pine Woodland
		Coulter Pine – Canyon Live Oak Woodland	Coulter Pine – Canyon Live Oak Woodland	Conifer	Conifer/Mixed Oak
	Juniper Woodlands	California Juniper Woodland and Scrub	Juniper Oak Cismontane Woodland	Conifer	Conifer/Mixed Oak
		California Juniper Woodland and Scrub	Cismontane Juniper Woodland and Scrub	Conifer	Conifer/Mixed Oak
		NA	NA	Conifer	Incense Cedar Stand
		NA	NA	Conifer	Intermixed Conifer
		NA	NA	Conifer	White Fir Stand
		NA	NA	Conifer	White Fir/Mixed Oak

Legend

[1] NA – Not Applicable because this vegetation community was not mapped in the Tehachapi Mountain uplands.

[2] The detailed vegetation mapping in the Tehachapi Mountain Uplands may include additional constituent species and cover estimate information to allow mapping to the association or sub-association levels for some communities that are not reflected in the more general categories in the table. For this reason, the Blue Oak Grass vegetation community, for example, is crosswalked to three different specific MSHCP vegetation communities.

1.2.3 CANOPY COVER

The habitat suitability models employ a canopy cover GIS layer resulting from a 1980 timber study that was conducted for the Tejon Ranch Forest Management Program and updated for conifer areas in 2001 (TRC 2001). This polygon layer was used in suitable habitat modeling for species that require open or conversely, dense habitats. The data are grouped into five categories: 0–10% canopy cover; 10%–40% canopy cover; 40%–70% canopy cover; 70%–100% canopy cover; and grass, not-a-part, and chaparral.

This data set covers approximately 80% of the Covered Lands. Portions of Covered Lands lacking canopy cover data are not included in suitable habitat acreages for the three species that include canopy cover as a component of the model: Tehachapi slender salamander, yellow-blotched salamander, and California condor. Because canopy cover data are available for the majority of Covered Lands, these species models are considered adequate for determining anticipated effects on Covered Species.

1.2.4 WATER FEATURES AND DRAINAGES

Tejon Ranch GIS staff digitized 1:24000 U.S. Geological Survey (USGS) blue line streams from USGS topographic maps (TRC 2002b). Using data from previous consultants' wetland studies and USGS quadrangle maps, TRC GIS staff further refined this data set to include "major streams" (TRC 2002a), which primarily correspond with perennial streams. Based upon wildlife surveys conducted in 2007 in the Tehachapi Mountain Uplands (Dudek 2007b), a composite perennial streams data set was created using the major streams (TRC 2002a) as a base but refined to include additional 1:24000 USGS blue line streams (TRC 2002b) that Dudek determined were perennial streams (Dudek 2007b). This data set, which generally delineates the location of perennial streams for purposes of modeling suitable habitat, is referred to in *Section 1.3* of this appendix as "perennial streams." In addition, Castac Lake, which is currently a perennial source of water, was mapped based upon the wetland delineation conducted on the Tehachapi Mountain Uplands (Impact Sciences 2008). In *Section 1.3*, this data set is referred to as "Castac Lake." The 1:24000 USGS blue line streams digitized from USGS topographic maps (TRC 2002b) is referred to in *Section 1.3* as "1:24000 USGS blue line streams."

TRC GIS staff created a seeps and springs GIS layer, which was developed by merging two data sets: (1) a detailed seeps and springs data layer created for the ranch (Advanced Geomatics 2004) and (2) the National Hydrography Dataset (USGS 2003) that provides information on surface water features, including springs and wells. The National Hydrography Dataset is based on 1:100,000-scale data and was used for portions of Covered Lands that are located outside of the ranch. In *Section 1.3* of this appendix, these data are referred to as "seeps and springs."

The California watershed map GIS data layer representing the standardized watershed boundaries for the State of California (Teale Data Center 2004) is also used to model suitable habitat for Covered Species. Only one watershed is used to model suitable habitat for Covered Species, the Antelope-Fremont Valley watershed. In *Section 1.3* of this appendix, these data are referred to as the "Antelope-Fremont Valley watershed."

None of the water features and drainages GIS data are considered to be limited for the purposes of landscape-scale analysis.

1.2.5 TERRAIN

An important component of the physical database for the TU MSHCP is the digital terrain model developed by Intermap Technologies (Intermap Technologies 2005). The digital terrain model allows GIS analysts to develop elevation, slope, and aspect models that are used as components of the suitable habitat modeling for certain species covered in the TU MSHCP. Slope data were used to create breeding habitat models for species that require steep cliffs, defined as 50° slopes and greater (or 119% slopes and greater). Slope data were also used as a predictor for California condor foraging habitat and habitat for Tehachapi pocket mouse (see *Section 1.3* of this appendix). Aspect was a component of suitable habitat models for species that occur on north-facing (0° to 90° and 0° to 270°) slopes. Moreover, the digital terrain model provides a qualitative understanding of the Covered Lands because it allows for an analysis of topography and hillshade features as well.

Elevation is a component of suitable habitat models for species with known elevation ranges that are not fully encompassed in the elevation ranges in the Covered Lands. For example, if a species' maximum known elevation range is 3,000 feet, the suitable habitat shown for the species only includes those areas in the Covered Lands below 3,000 feet that also meet the other model parameters (e.g., vegetation and slope). The elevation data used for the habitat suitability models are categorized into 100-foot increments, such as 1,900 feet to 2,000 feet and 2,000 feet to 2,100 feet. Known elevation ranges for species (*Section 1.3* of this appendix) were rounded to the upper 100-foot increment for the highest elevation range documented for the species and were rounded down to the lower 100-foot increment for the lowest elevation range documented for the species. This approach may result in an overestimate of suitable habitat.

TRC GIS staff created a GIS layer representing the location of ridgetops, which was used to model suitable habitat for California condor (TRC 2007c). In *Section 1.3* of this appendix, these areas are referred to as "ridgetops."

The digital terrain model is not considered to be limited for the purposes of landscape-scale conservation planning and analysis as described in the TU MSHCP. It is consistent in level of detail

with the other data sets used for the TU MSHCP such as generalized vegetation and soils data and accurately represents the general topographic features within Covered Lands. During implementation of the TU MSHCP, it is possible that more precise topography and digital terrain model data will be available for certain portions of the Covered Lands. More precise topographic data may facilitate evaluation of specific Covered Activities and management and monitoring issues as they arise.

1.2.6 SOILS

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (formerly the Soil Conservation Service) soils mapping for the southeastern part of Kern County was used to understand the soils in the Covered Lands (USDA 1981). Mapping and analysis of the soils data utilized the Soil Survey Geographic (SSURGO) database, which was created by digitizing the 1981 soil survey map and is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey (USDA 1999). Digital soils data enabled quantitative analysis of soils considered to be important for determining suitable habitat and the conservation of certain plant species. The digitized soils data layer is depicted in *Figure 5-2* of the TU MSHCP.

There are 66 different soil types mapped in the Covered Lands. Of those, the following soil types have a clay component (USDA 1981) and are included in the modeling for plants requiring clay substrate. In *Section 1.3* of this appendix, these soils are collectively referred to as "clay soils."

- Anaheim Variant Very Fine Sandy Loam, 2% to 30% Slopes
- Anaverde Gravelly Loam, 30% to 50% Slopes and 50% to 75% Slopes
- Anaverde Loam, 15% to 30% Slopes
- Anaverde Rocky Loam, 30% to 50% Slopes
- Arujo Sandy Loam, 9% to 15% Slopes
- Arujo–Friant–Tunis Complex, 15% to 50% Slopes and 50% to 75% Slopes
- Ayar Clay Loam, 5% to 15% Slopes
- Chanac–Badland Complex, 30% to 50% Slopes
- Chino Loam
- Cibo Cobbly Clay, 30% to 75% Slopes
- Gorman Sandy Loam, 15% to 30% Slopes, Eroded and 30% to 50% Slopes, Eroded

- Oakdale Sandy Loam, 2% to 9% Slopes
- Pleito Sandy Clay Loam, 9% to 50% Slopes
- Pleito–Chanac Sandy Clay Loams, 15% to 30% Slopes
- Ramona Coarse Sandy Loam, 5% to 9% Slopes and 9% to 15% Slopes
- Ramona Sandy Loam, 9% to 30% Slopes, Eroded
- Rescue Variant Loam, 15% to 30% Slopes and 30% to 50% Slopes
- Tehachapi Cobbly Sandy Clay Loam, Warm, 2% to 9% Slopes
- Tunis–Walong Complex, 50% to 75% Slopes
- Vista Coarse Sandy Loam, 15% to 30% Slopes, Eroded and 30% to 50% Slopes, Eroded
- Walong Sandy Loam, 15% to 30% Slopes and 30% to 50% Slopes
- Walong–Arujo Sandy Loams, 30% to 50% Slopes and 50% to 75% Slopes
- Walong–Edmundston Association, Very Steep
- Xererts–Xerolls Complex, Steep
- Xerorthents, Very Steep
- Xerorthents–Rock Outcrop Complex, Very Steep.

The following soil types are derived from material weathered mainly from granitic rock (USDA 1981) and are included in the modeling for plants requiring granitic substrate. In *Section 1.3* of this appendix, these soils are collectively referred to as "granitic soils."

- Amargosa Rocky Coarse Sandy Loam, 9% to 55% Slopes, Eroded
- Arujo Sandy Loam, 9% to 15% Slopes
- Arujo–Friant–Tunis Complex, 15% to 50% Slopes and 50% to 75% Slopes
- Arvin Sandy Loam, 5% to 9% Slopes
- Arvin Stony Sandy Loam, 5% to 9% Slopes

- Chino Loam
- Edmundston Gravelly Sandy Loam, 30% to 50% Slopes and 50% to 75% Slopes
- Edmundston–Godde–Tollhouse Complex, 50% to 75%
- Godde–tollhouse Gravelly Sandy Loams, 30% to 75% Slopes
- Gorman Sandy Loam, 15% to 30% Slopes, Eroded and 30% to 50% Slopes, Eroded
- Greenfield Sandy Loam, 2% to 9% Slopes and 9% to 15% Slopes, Eroded
- Hanford Coarse Sandy Loam, 2% to 9% Slopes
- Hanford Gravelly Sandy Loam, 2% to 9% Slopes
- Havala Sandy Loam, 5% to 9% Slopes and 9% to 15% Slopes
- Oak Glen Gravelly Sandy Loam, 2% to 9% Slopes
- Oak Glen Loam, 0% to 2% Slopes and 2% to 9% Slopes
- Oak Glen Sandy Loam, 2% to 9% Slopes
- Oakdale Sandy Loam, 2% to 9% Slopes
- Ramona Coarse Sandy Loam, 5% to 9% Slopes and 9% to 15% Slopes
- Ramona Sandy Loam, 9% to 30% Slopes, Eroded
- Sheridan Sandy Loam, 15% to 30% Slopes; 15% to 30% Slopes, Eroded; 30% to 50% Slopes; and 30% to 50% Slopes, Eroded
- Soboba Cobbly Loamy Sand, 2% to 5% Slopes
- Steuber Sandy Loam, 2% to 5% Slopes and 5% to 9% Slopes
- Steuber Stony Sandy Loam, 5% to 9% Slopes
- Tunis–Walong Complex, 50% to 75% Slopes
- Vista Coarse Sandy Loam, 15% to 30% Slopes, Eroded and 30% to 50% Slopes, Eroded
- Walong Sandy Loam, 15% to 30% Slopes and 30% to 50% Slopes

- Walong–Arujo Sandy Loams, 30% to 50% Slopes and 50% to 75% Slopes
- Walong–Edmundston Association, Very Steep
- Walong–Rock Outcrop Complex, 30% to 75% Slopes
- Xerorthents–Rock Outcrop Complex, Very Steep.

This data set covers approximately 90% of the Covered Lands. The soils mapping includes roughly the 90% of the Covered Lands. Models for Covered Species that include soils as a modeling parameter were analyzed as follows: (1) in the Covered Lands where soils data are present, suitable habitat was modeled using the parameters specified in *Section 1.3* of this appendix, including soils; (2) in the Covered Lands that lack soils data, suitable habitat was modeled using the parameters specified in *Section 1.3*, except soils. Acreages of suitable habitat depicted on suitable habitat maps in the TU MSHCP for soils-restricted plants include the sum of suitable habitat described above in (1) and (2), which represents an overestimate of suitable habitat acreages. The acreages of suitable habitat reported in the TU MSHCP for soils-restricted plants are described above in (1), which represents an underestimate of suitable habitat acreages.

1.2.7 IMAGERY

Two primary image data sources were used in developing the TU MSHCP: (1) geo-referenced USGS topographic quadrangle maps; and (2) full-color aerial images for a portion of the Covered Lands. Unlike aerial image data, geo-referenced USGS topographic quadrangle maps provide place names and other qualitative information useful in analyzing the conservation of the species covered in the TU MSHCP. The detail provided in these maps can be more useful for landscape-scale planning and mapping than aerial imagery.

For the Tehachapi Mountain Uplands area, full-color aerial photographs taken in June 2006 were obtained from AirPhotoUSA (2006) and used during various surveys conducted in this portion of the Covered Lands. Pixel size of this imagery is 1 foot and the aerial image is orthorectified, which provides greater accuracy in digitizing vector data (e.g., vegetation mapping and plant and wildlife occurrence data).

The imagery database is not considered to be limited for the purposes of landscape-scale conservation planning and analysis as described in the TU MSHCP. It is consistent in level of detail with the other data sets used for the TU MSHCP such as generalized vegetation and soils data. During implementation of the TU MSHCP, it is possible that more precise imagery data will be available for certain portions of the Covered Lands. More precise imagery data may facilitate evaluation of specific Covered Activities and management and monitoring issues as they arise.

1.2.8 HABITAT SUITABILITY ANALYSIS

The data described in this section were used to generate suitable habitat models for each of the species covered in the TU MSHCP. The data use and the model input parameters used for each Covered Species varied depending on the unique habitat requirements of each species. The database for generalist species without highly specialized habitat requirements or elevation limitation may include only vegetation, whereas specialist species with very precise habitat requirements may include some combination of vegetation, elevation, soil, slope, and/or the use of buffers around drainages, for example. Biologists familiar with these species reviewed the scientific literature (see *Sections 4* and *5* of the TU MSHCP for specific literature pertaining to each species) and determined the data type and model input parameters uniquely suited to each of the Covered Species. The biology working group peer-reviewed these initial model input parameters and revisions were made where improvements or adjustments were determined to be necessary. Once the data and input parameters were finalized, the habitat models were generated in ArcGIS using the digital data sources described above. The modeled suitable habitat acreages were then used for the conservation analysis for each Covered Species.

1.3 SPECIFIC MODEL PARAMETERS FOR COVERED SPECIES

This section provides a complete list of model input parameters used for the plant and wildlife suitable habitat modeling. The habitat functions of the modeled suitable habitat are also provided for wildlife species and are referred to as "habitat type." Habitat types are defined as follows:

- Suitable Habitat: The habitat provides for all the life history needs of the species, including shelter, breeding, and foraging. If secondary suitable habitat (see definition below) is also analyzed for a species, suitable habitat is modified by the term "primary." This modifier indicates that this species uses primary habitat more often and the habitat is adequate to support the species.

- Secondary Suitable Habitat: The habitat is less frequently used by the species. In the absence of primary suitable habitat, secondary suitable habitat alone may not be adequate to support the species.

- Primary Breeding Habitat: The habitat is used almost exclusively as breeding habitat; that is, supports breeding but not foraging.

- Wintering: The habitat provides for life history needs of the species during the winter non-breeding season. This category applies only to the bald eagle, which occurs infrequently during winter on Covered Lands, and is unlikely to breed on site even though suitable breeding habitat is present.

- Breeding and Foraging: The habitat provides for breeding and foraging, but does not provide all the life history needs of the species. Migratory birds that only breed and forage on site but winter elsewhere would be an example of a species that may occur in this habitat type but not for their entire life history. If secondary breeding and foraging habitat (see definition below) is also analyzed for a species, breeding and foraging is modified by the term primary. This modifier indicates that this species uses primary habitat more often and the habitat is adequate to support the species in terms of breeding and foraging.

- Secondary Breeding and Foraging: The habitat is less frequently used by the species. In the absence of primary breeding and foraging habitat, secondary breeding and foraging habitat alone may not be adequate to support the species.

- Foraging Habitat: Habitat used exclusively by the species for foraging and does not provide for other life history needs of the species; for example, shelter and breeding. For little willow flycatcher, the habitat type refers to foraging and stopover habitat. "Stopover habitat" refers to habitat used during migration stopovers.

- Secondary Foraging Habitat: Habitat used less frequently for foraging. In the absence of primary foraging habitat, secondary foraging habitat may not be adequate to support the species.

American peregrine falcon
Falco peregrinus anatum

Federal Status: BCC, FS
State Status: SE, FP, CDF

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Foraging
GRASSLAND	ANNUAL GRASSLAND	Foraging
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Foraging
GRASSLAND	GRASSLAND	Foraging
GRASSLAND	NATIVE GRASSLAND	Foraging
LAKE	LAKE	Foraging
RIPARIAN SCRUB	RIPARIAN SCRUB	Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Foraging
WASH	WASH	Foraging
WETLAND	WETLAND	Foraging

Elevation: All

Other Parameters: A separate model was created for breeding habitat, in addition to the foraging habitat shown above. Breeding habitat included all steep cliff areas, defined as 50 degrees slopes or greater (or 119% slopes or greater).

Bald eagle
Haliaeetus leucocephalus

Federal Status: None
State Status: SE, FP, CDF

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

LAKE	LAKE	Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Wintering
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Foraging
SAVANNA	BLACK OAK SAVANNA	Wintering
SAVANNA	BLUE OAK SAVANNA	Wintering
SAVANNA	CANYON OAK SAVANNA	Wintering
SAVANNA	INTERIOR OAK SAVANNA	Wintering
SAVANNA	MIXED OAK SAVANNA	Wintering
SAVANNA	OAK SAVANNA	Wintering
SAVANNA	UNDETERMINED SAVANNA	Wintering
SAVANNA	WHITE OAK SAVANNA	Wintering
WETLAND	WETLAND	Foraging
WOODLAND	BLACK OAK WOODLAND	Wintering
WOODLAND	BLUE OAK WOODLAND	Wintering
WOODLAND	CANYON OAK WOODLAND	Wintering
WOODLAND	INTERIOR OAK WOODLAND	Wintering
WOODLAND	MIXED OAK WOODLAND	Wintering
WOODLAND	OAK WOODLAND	Wintering
WOODLAND	UNDETERMINED WOODLAND	Wintering
WOODLAND	WHITE OAK WOODLAND	Wintering

Elevation: All

Other Parameters: Suitable habitat includes only those vegetation communities listed above that were within 1 mile of Castac Lake.

Burrowing owl
Athene cunicularia

Federal Status: BCC, BLM
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Secondary Breeding and Foraging
GRASSLAND	ANNUAL GRASSLAND	Primary Breeding and Foraging
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Primary Breeding and Foraging
GRASSLAND	GRASSLAND	Primary Breeding and Foraging
GRASSLAND	NATIVE GRASSLAND	Primary Breeding and Foraging
SCRUB	ALLUVIAL SCRUB	Secondary Breeding and Foraging
SCRUB	MOJAVEAN SCRUB	Secondary Breeding and Foraging
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Secondary Breeding and Foraging
SCRUB	SCRUB	Secondary Breeding and Foraging

Elevation: All

Other Parameters: None

California condor
Gymnogyps californianus

Federal Status: FE
State Status: SE, CDF

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Foraging Habitat
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Foraging Habitat
GRASSLAND	GRASSLAND	Foraging Habitat
GRASSLAND	NATIVE GRASSLAND	Foraging Habitat
SAVANNA	BLACK OAK SAVANNA	Foraging Habitat
SAVANNA	BLUE OAK SAVANNA	Foraging Habitat
SAVANNA	CANYON OAK SAVANNA	Foraging Habitat
SAVANNA	GRAY PINE SAVANNA	Foraging Habitat
SAVANNA	INTERIOR OAK SAVANNA	Foraging Habitat
SAVANNA	MIXED OAK SAVANNA	Foraging Habitat
SAVANNA	OAK SAVANNA	Foraging Habitat
SAVANNA	UNDETERMINED SAVANNA	Foraging Habitat
SAVANNA	WHITE OAK SAVANNA	Foraging Habitat
SCRUB	ALLUVIAL SCRUB	Foraging Habitat
SCRUB	MOJAVEAN SCRUB	Foraging Habitat
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Foraging Habitat
SCRUB	SCRUB	Foraging Habitat

Elevation: All

Other Parameters: Included vegetation communities listed above and that meet the canopy cover parameters (described below) only where these communities occur on ridgetops (i.e., within 100 feet of the centerline of the mapped ridgetops within Covered Lands) or on slopes equal to or greater than 17 degrees (or equal to or greater than 30% slopes). In addition, only vegetation communities that also have 0–10% canopy cover or 10%–40% canopy cover or grass, not-a-part, and chaparral were included in the final model due to the need for condor to forage in open habitats.

Coast horned lizard (*frontale* and *blainvilii* populations)

Phrynosoma coronatum

Federal Status: FS
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CONIFER	CONIFER/MIXED OAK	Primary Breeding/Foraging Habitat
CONIFER	INCENSE CEDAR STAND	Primary Breeding/Foraging Habitat
CONIFER	INTERMIXED CONIFER	Primary Breeding/Foraging Habitat
CONIFER	WHITE FIR STAND	Primary Breeding/Foraging Habitat
CONIFER	WHITE FIR/MIXED OAK	Primary Breeding/Foraging Habitat
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Primary Breeding/Foraging Habitat
GRASSLAND	GRASSLAND	Primary Breeding/Foraging Habitat
GRASSLAND	NATIVE GRASSLAND	Primary Breeding/Foraging Habitat
RIPARIAN SCRUB	RIPARIAN SCRUB	Secondary Breeding/Foraging habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Secondary Breeding/Foraging habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Secondary Breeding/Foraging habitat
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Secondary Breeding/Foraging habitat
SCRUB	ALLUVIAL SCRUB	Primary Breeding/Foraging Habitat
SCRUB	MOJAVEAN SCRUB	Primary Breeding/Foraging Habitat
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Primary Breeding/Foraging Habitat
SCRUB	SCRUB	Primary Breeding/Foraging Habitat
WASH	DESERT WASH/RIPARIAN/SEEPS	Primary Breeding/Foraging Habitat
WASH	WASH	Primary Breeding/Foraging Habitat
WOODLAND	BLACK OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	BLUE OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	CANYON OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	GRAY PINE WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	INTERIOR OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	MIXED OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	OAK WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	PINYON PINE WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	UNDETERMINED WOODLAND	Primary Breeding/Foraging Habitat
WOODLAND	WHITE OAK WOODLAND	Primary Breeding/Foraging Habitat

Elevation: All

Other Parameters: 70% or less canopy cover for coast horned lizard suitable habitat, both primary and secondary.

Fort Tejon woolly sunflower
Eriophyllum lanatum var. *hallii*

Federal Status: None
State Status: None
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CHAPARRAL	BREWERS OAK SCRUB	Suitable Habitat
CHAPARRAL	CHAPARRAL	Suitable Habitat
CHAPARRAL	SCRUB OAK	Suitable Habitat
CHAPARRAL	UNDETERMINED CHAPARRAL	Suitable Habitat
CONIFER	CONIFER/MIXED OAK	Suitable Habitat
CONIFER	INCENSE CEDAR STAND	Suitable Habitat
CONIFER	INTERMIXED CONIFER	Suitable Habitat
CONIFER	WHITE FIR STAND	Suitable Habitat
CONIFER	WHITE FIR/MIXED OAK	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	GRAY PINE SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat
SCRUB	SCRUB	Suitable Habitat
WOODLAND	BLACK OAK WOODLAND	Suitable Habitat
WOODLAND	BLUE OAK WOODLAND	Suitable Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Suitable Habitat
WOODLAND	CANYON OAK WOODLAND	Suitable Habitat
WOODLAND	GRAY PINE WOODLAND	Suitable Habitat
WOODLAND	INTERIOR OAK WOODLAND	Suitable Habitat
WOODLAND	MIXED OAK WOODLAND	Suitable Habitat
WOODLAND	OAK WOODLAND	Suitable Habitat
WOODLAND	PINYON PINE WOODLAND	Suitable Habitat
WOODLAND	UNDETERMINED WOODLAND	Suitable Habitat
WOODLAND	WHITE OAK WOODLAND	Suitable Habitat

Elevation: 3,400–5,000 feet

Other Parameters: None

Golden eagle
Aquila chrysaetos

Federal Status: BCC, BLM
State Status: CDF, FP, WL

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Foraging
GRASSLAND	ANNUAL GRASSLAND	Foraging
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Foraging
GRASSLAND	GRASSLAND	Foraging
GRASSLAND	NATIVE GRASSLAND	Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Primary Breeding
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Foraging
SAVANNA	BLACK OAK SAVANNA	Breeding and Foraging
SAVANNA	BLUE OAK SAVANNA	Breeding and Foraging
SAVANNA	CANYON OAK SAVANNA	Breeding and Foraging
SAVANNA	INTERIOR OAK SAVANNA	Breeding and Foraging
SAVANNA	MIXED OAK SAVANNA	Breeding and Foraging
SAVANNA	OAK SAVANNA	Breeding and Foraging
SAVANNA	UNDETERMINED SAVANNA	Breeding and Foraging
SAVANNA	WHITE OAK SAVANNA	Breeding and Foraging
SCRUB	ALLUVIAL SCRUB	Foraging
SCRUB	MOJAVEAN SCRUB	Foraging
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Foraging
SCRUB	SCRUB	Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Foraging
WASH	WASH	Foraging
WOODLAND	BLACK OAK WOODLAND	Primary Breeding
WOODLAND	BLUE OAK WOODLAND	Primary Breeding
WOODLAND	CANYON OAK WOODLAND	Primary Breeding
WOODLAND	INTERIOR OAK WOODLAND	Primary Breeding
WOODLAND	MIXED OAK WOODLAND	Primary Breeding
WOODLAND	OAK WOODLAND	Primary Breeding
WOODLAND	UNDETERMINED WOODLAND	Primary Breeding
WOODLAND	WHITE OAK WOODLAND	Primary Breeding

Elevation: All

Other Parameters: None

Kusche's sandwort
Arenaria macradenia var. *kuschei*

Federal Status: None
State Status: None
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CHAPARRAL	BREWERS OAK SCRUB	Suitable Habitat
CHAPARRAL	CHAPARRAL	Suitable Habitat
CHAPARRAL	SCRUB OAK	Suitable Habitat
CHAPARRAL	UNDETERMINED CHAPARRAL	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat
WOODLAND	BLACK OAK WOODLAND	Suitable Habitat
WOODLAND	BLUE OAK WOODLAND	Suitable Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Suitable Habitat
WOODLAND	CANYON OAK WOODLAND	Suitable Habitat
WOODLAND	INTERIOR OAK WOODLAND	Suitable Habitat
WOODLAND	MIXED OAK WOODLAND	Suitable Habitat
WOODLAND	OAK WOODLAND	Suitable Habitat
WOODLAND	UNDETERMINED WOODLAND	Suitable Habitat
WOODLAND	WHITE OAK WOODLAND	Suitable Habitat

Elevation: 3,800–5,600 feet
Other Parameters: Granitic soils

Least Bell's vireo
Vireo bellii pusillus

Federal Status: FE, BCC
State Status: SE

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Breeding and Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Breeding and Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Breeding and Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Breeding and Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Breeding and Foraging

Elevation: 1,900–4,100 feet

Other Parameters: None

Little willow flycatcher
Empidonax traillii brewsteri

Federal Status: None
State Status: SE

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Foraging and Stopover
RIPARIAN WOODLAND	OAK RIPARIAN	Foraging and Stopover
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Foraging and Stopover
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Foraging and Stopover
WASH	DESERT WASH/RIPARIAN/SEEPS	Foraging and Stopover

Elevation: All

Other Parameters: None

Purple martin
Progne subis

Federal Status: None
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CONIFER	CONIFER/MIXED OAK	Breeding and Foraging
CONIFER	INCENSE CEDAR STAND	Breeding and Foraging
CONIFER	INTERMIXED CONIFER	Breeding and Foraging
CONIFER	WHITE FIR STAND	Breeding and Foraging
CONIFER	WHITE FIR/MIXED OAK	Breeding and Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Breeding and Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Breeding and Foraging
SAVANNA	BLACK OAK SAVANNA	Breeding and Foraging
SAVANNA	BLUE OAK SAVANNA	Breeding and Foraging
SAVANNA	CANYON OAK SAVANNA	Breeding and Foraging
SAVANNA	GRAY PINE SAVANNA	Breeding and Foraging
SAVANNA	INTERIOR OAK SAVANNA	Breeding and Foraging
SAVANNA	MIXED OAK SAVANNA	Breeding and Foraging
SAVANNA	OAK SAVANNA	Breeding and Foraging
SAVANNA	UNDETERMINED SAVANNA	Breeding and Foraging
SAVANNA	WHITE OAK SAVANNA	Breeding and Foraging
WOODLAND	BLACK OAK WOODLAND	Breeding and Foraging
WOODLAND	BLUE OAK WOODLAND	Breeding and Foraging
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Breeding and Foraging
WOODLAND	CANYON OAK WOODLAND	Breeding and Foraging
WOODLAND	GRAY PINE WOODLAND	Breeding and Foraging
WOODLAND	INTERIOR OAK WOODLAND	Breeding and Foraging
WOODLAND	MIXED OAK WOODLAND	Breeding and Foraging
WOODLAND	OAK WOODLAND	Breeding and Foraging
WOODLAND	PINYON PINE WOODLAND	Breeding and Foraging
WOODLAND	UNDETERMINED WOODLAND	Breeding and Foraging
WOODLAND	WHITE OAK WOODLAND	Breeding and Foraging

Elevation: All

Other Parameters: None

Ringtail
Bassariscus astutus

Federal Status: None
State Status: FP

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

LAKE	LAKE	Suitable Habitat
RIPARIAN SCRUB	RIPARIAN SCRUB	Suitable Habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Suitable Habitat
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Suitable Habitat
WASH	DESERT WASH/RIPARIAN/SEEPS	Suitable Habitat
WETLAND	WETLAND	Suitable Habitat

Elevation: All

Other Parameters: Includes the vegetation communities listed above, seeps and springs, and perennial steams. These areas were buffered by 1 kilometer (3,281 feet) and suitable habitat includes all areas within that 1 kilometer-buffered area.

Round-leaved filaree
California macrophylla [Erodium macrophyllum]

Federal Status: None
State Status: None
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CHAPARRAL	SCRUB OAK	Suitable Habitat
CONIFER	CONIFER/MIXED OAK	Suitable Habitat
CONIFER	INCENSE CEDAR STAND	Suitable Habitat
CONIFER	INTERMIXED CONIFER	Suitable Habitat
CONIFER	WHITE FIR STAND	Suitable Habitat
CONIFER	WHITE FIR/MIXED OAK	Suitable Habitat
GRASSLAND	ANNUAL GRASSLAND	Suitable Habitat
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Suitable Habitat
GRASSLAND	GRASSLAND	Suitable Habitat
GRASSLAND	NATIVE GRASSLAND	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	GRAY PINE SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat
SCRUB	SCRUB	Suitable Habitat
WOODLAND	BLACK OAK WOODLAND	Suitable Habitat
WOODLAND	BLUE OAK WOODLAND	Suitable Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Suitable Habitat
WOODLAND	CANYON OAK WOODLAND	Suitable Habitat
WOODLAND	GRAY PINE WOODLAND	Suitable Habitat
WOODLAND	INTERIOR OAK WOODLAND	Suitable Habitat
WOODLAND	MIXED OAK WOODLAND	Suitable Habitat
WOODLAND	OAK WOODLAND	Suitable Habitat
WOODLAND	PINYON PINE WOODLAND	Suitable Habitat
WOODLAND	UNDETERMINED WOODLAND	Suitable Habitat
WOODLAND	WHITE OAK WOODLAND	Suitable Habitat

Elevation: 1,900–4,600 feet

Other Parameters: Clay soils

Southwestern willow flycatcher
Empidonax traillii extimus

Federal Status: FE
State Status: SE

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Breeding and Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Breeding and Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Breeding and Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Breeding and Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Breeding and Foraging

Elevation: All

Other Parameters: None

Striped adobe-lily
Fritillaria striata

Federal Status: None
State Status: ST
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

GRASSLAND	ANNUAL GRASSLAND	Suitable Habitat
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Suitable Habitat
GRASSLAND	GRASSLAND	Suitable Habitat
GRASSLAND	NATIVE GRASSLAND	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat

Elevation: 1,900–4,800 feet

Other Parameters: Clay soils

Tehachapi buckwheat
Eriogonum callistum

Federal Status: None
State Status: None
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CHAPARRAL	BREWERS OAK SCRUB	Suitable Habitat
CHAPARRAL	CHAPARRAL	Suitable Habitat
CHAPARRAL	SCRUB OAK	Suitable Habitat
CHAPARRAL	UNDETERMINED CHAPARRAL	Suitable Habitat
WOODLAND	PINYON PINE WOODLAND	Suitable Habitat

Elevation: 4,400–5,500 feet

Other Parameters: Include vegetation communities listed above that were also within the following soil types, which are the soil types on which the species has been documented: Anaverde Gravelly Loam, 50% to 75% Slopes; or Xerorthents-Rock Outcrop Complex, Very Steep or Lebec Rocky Loam, 15% to 50% Percent Slopes.

Tehachapi pocket mouse
Perognathus alticolus inexpectatus

Federal Status: None
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CONIFER	CONIFER/MIXED OAK	Suitable Habitat
CONIFER	INCENSE CEDAR STAND	Suitable Habitat
CONIFER	INTERMIXED CONIFER	Suitable Habitat
CONIFER	WHITE FIR STAND	Suitable Habitat
CONIFER	WHITE FIR/MIXED OAK	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	GRAY PINE SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat
SCRUB	ALLUVIAL SCRUB	Suitable Habitat
SCRUB	MOJAVEAN SCRUB	Suitable Habitat
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Suitable Habitat
SCRUB	SCRUB	Suitable Habitat
WOODLAND	GRAY PINE WOODLAND	Suitable Habitat
WOODLAND	PINYON PINE WOODLAND	Suitable Habitat

Elevation: 3,500–6,000 feet
Other Parameters: Suitable habitat included vegetation communities that also meet both of the following criteria: (1) is located within the Antelope-Fremont Valley watershed and (2) is equal to or less than 9 degrees (or equal to or less than 15% slope).

Tehachapi slender salamander
Batrachoseps stebbinsi

Federal Status: BLM, FS
State Status: ST

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CHAPARRAL	CHAPARRAL	Suitable Habitat
CHAPARRAL	SCRUB OAK	Suitable Habitat
CONIFER	CONIFER/MIXED OAK	Suitable Habitat
CONIFER	INTERMIXED CONIFER	Suitable Habitat
CONIFER	WHITE FIR/MIXED OAK	Suitable Habitat
CONIFER	INCENSE CEDAR STAND	Suitable Habitat
SAVANNA	BLACK OAK SAVANNA	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNAH	Suitable Habitat
SCRUB	SCRUB	Suitable Habitat
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Suitable Habitat
SCRUB	ALLUVIAL SCRUB	Suitable Habitat
SCRUB	MOJAVEAN SCRUB	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Suitable Habitat
WOODLAND	BLACK OAK WOODLAND	Suitable Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Suitable Habitat
WOODLAND	CANYON OAK WOODLAND	Suitable Habitat
WOODLAND	MIXED OAK WOODLAND	Suitable Habitat
WOODLAND	OAK WOODLAND	Suitable Habitat
WOODLAND	UNDETERMINED WOODLAND	Suitable Habitat
WOODLAND	WHITE OAK WOODLAND	Suitable Habitat
WOODLAND	BLUE OAK WOODLAND	Suitable Habitat
WOODLAND	PINYON PINE WOODLAND	Suitable Habitat

Elevation: 1,900–5,000 feet

Other Parameters: Suitable habitat areas included the vegetation communities listed above (40% to 70% canopy cover; or 70% to 100% canopy cover) that are within 300 feet (150 feet each side) of 1:24000 USGS blue line streams and on north-facing slopes (0° to 90° and 0° to 270°).

Tejon poppy
Eschscholzia lemmonii ssp. *kernensis*

Federal Status: None
State Status: None
CRPR: 1B.1

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

GRASSLAND	ANNUAL GRASSLAND	Suitable Habitat
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Suitable Habitat
GRASSLAND	GRASSLAND	Suitable Habitat
GRASSLAND	NATIVE GRASSLAND	Suitable Habitat
SCRUB	ALLUVIAL SCRUB	Suitable Habitat
SCRUB	SALTBUSH/BUCKWHEAT SCRUB	Suitable Habitat
SCRUB	SCRUB	Suitable Habitat

Elevation: 1,900–3,300 feet

Other Parameters: None

Tricolored blackbird
Agelaius tricolor

Federal Status: BCC, BLM
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Foraging
GRASSLAND	ANNUAL GRASSLAND	Foraging
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Foraging
GRASSLAND	GRASSLAND	Foraging
GRASSLAND	NATIVE GRASSLAND	Foraging
RIPARIAN SCRUB	RIPARIAN SCRUB	Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Breeding
WASH	DESERT WASH/RIPARIAN/SEEPS	Foraging
WETLAND	WETLAND	Breeding

Elevation: 1,900–4,000 feet

Other Parameters: None

Two-striped garter snake
Thamnophis hammondii

Federal Status: BLM, FS
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Suitable Habitat
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Suitable Habitat
WASH	DESERT WASH/RIPARIAN/SEEPS	Suitable Habitat
WASH	WASH	Suitable Habitat
WETLAND	WETLAND	Suitable Habitat

Elevation: All

Other Parameters: Vegetation communities listed above, perennial streams (with a 200-foot buffer/100 feet per side), and seeps and springs (with a 200-foot buffer/100 feet per side) within the Western Transverse Range only.

Valley elderberry longhorn beetle
Desmocerus californicus dimorphus

Federal Status: FT
State Status: None

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CONIFER	INTERMIXED CONIFER	Suitable Habitat
SAVANNA	BLUE OAK SAVANNA	Suitable Habitat
SAVANNA	CANYON OAK SAVANNA	Suitable Habitat
SAVANNA	INTERIOR OAK SAVANNA	Suitable Habitat
SAVANNA	MIXED OAK SAVANNA	Suitable Habitat
SAVANNA	OAK SAVANNA	Suitable Habitat
SAVANNA	UNDETERMINED SAVANNA	Suitable Habitat
SAVANNA	WHITE OAK SAVANNA	Suitable Habitat
WOODLAND	BLACK OAK WOODLAND	Suitable Habitat
WOODLAND	BLUE OAK WOODLAND	Suitable Habitat
WOODLAND	CALIFORNIA BUCKEYE WOODLAND	Suitable Habitat
WOODLAND	CANYON OAK WOODLAND	Suitable Habitat
WOODLAND	INTERIOR OAK WOODLAND	Suitable Habitat
WOODLAND	MIXED OAK WOODLAND	Suitable Habitat
WOODLAND	OAK WOODLAND	Suitable Habitat
WOODLAND	WHITE OAK WOODLAND	Suitable Habitat

Elevation: 1,900–3,000 feet

Other Parameters: Vegetation included in model only if listed above and if the vegetation lies within 300 feet (150 feet on either side) of a 1:24000 USGS blue line stream.

Western spadefoot
Spea [Scaphiopus] hammondii

Federal Status: BLM
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Suitable Habitat
RIPARIAN WOODLAND	OAK RIPARIAN	Suitable Habitat
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Suitable Habitat
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Suitable Habitat
WASH	DESERT WASH/RIPARIAN/SEEPS	Suitable Habitat
WASH	WASH	Suitable Habitat
WETLAND	WETLAND	Suitable Habitat

Elevation: 1,900–4,500 feet

Other Parameters: Included all vegetation communities listed above and seeps and springs buffered by 5 feet on each side (10 feet total).

Western yellow-billed cuckoo
Coccyzus americanus occidentalis

Federal Status: BCC, FC, FS
State Status: SE

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

RIPARIAN SCRUB	RIPARIAN SCRUB	Breeding and Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Breeding and Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Breeding and Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Breeding and Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Breeding and Foraging

Elevation: All

Other Parameters: None

White-tailed kite
Elanus leucurus

Federal Status: None
State Status: FP

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

AGRICULTURE	AGRICULTURE	Foraging
GRASSLAND	ANNUAL GRASSLAND	Foraging
GRASSLAND	DISTURBED/NON-NATIVE GRASSLAND	Foraging
GRASSLAND	GRASSLAND	Foraging
GRASSLAND	NATIVE GRASSLAND	Foraging
WETLAND	WETLAND	Foraging

Elevation: Determined by the year-round range map for the species provided by California Wildlife Habitat Relationships System (CDFG 2007d), generally coastal and valley lowlands.

Other Parameters: Included all vegetation communities listed above within 1 kilometer (3,281 feet) on each side (2 kilometers (6,562 feet) total) of perennial streams and Castac Lake.

Yellow warbler
Dendroica petechia brewsteri

Federal Status: None
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

CONIFER	CONIFER/MIXED OAK	Secondary Foraging
CONIFER	INTERMIXED CONIFER	Secondary Foraging
CONIFER	WHITE FIR/MIXED OAK	Secondary Foraging
RIPARIAN SCRUB	RIPARIAN SCRUB	Breeding and Foraging
RIPARIAN WOODLAND	OAK RIPARIAN	Breeding and Foraging
RIPARIAN WOODLAND	RIPARIAN WOODLAND	Breeding and Foraging
RIPARIAN/WETLAND	RIPARIAN/WETLAND	Breeding and Foraging
WASH	DESERT WASH/RIPARIAN/SEEPS	Breeding and Foraging
WOODLAND	BLACK OAK WOODLAND	Secondary Foraging
WOODLAND	BLUE OAK WOODLAND	Secondary Foraging
WOODLAND	CANYON OAK WOODLAND	Secondary Foraging
WOODLAND	GRAY PINE WOODLAND	Secondary Foraging
WOODLAND	INTERIOR OAK WOODLAND	Secondary Foraging
WOODLAND	MIXED OAK WOODLAND	Secondary Foraging
WOODLAND	OAK WOODLAND	Secondary Foraging
WOODLAND	UNDETERMINED WOODLAND	Secondary Foraging
WOODLAND	WHITE OAK WOODLAND	Secondary Foraging

Elevation: All

Other Parameters: None

Yellow-blotched salamander
Ensatina eschscholtzi croceator

Federal Status: BLM
State Status: CSC

Standard Vegetation Input Parameters (including general and specific vegetation community) and Habitat Type

None selected for this species. See other parameters below.

Elevation: All

Other Parameters: Suitable habitat includes all vegetation communities on Covered Lands on north-facing slopes (0° to 90° and 0° to 270°) and with a canopy cover of 40% and greater (i.e., 40% to 70% canopy cover; or 70% to100% canopy cover).