Non-Native Grassland

The non-native grassland general community composes approximately 11.6% (36,645.3 acres) of the Valley Region and includes three alliances: annual grasses and forbs, non-native/invasive grass, perennial grasses and forbs (Table 12). Many non-native grasses occur within this alliance including species of wild oats, various bromes, foxtail fescue, filaree, and Kentucky bluegrass. Perennial grasses such as slender meadow foxtail and tall fescue may be present with non-native forbs such as strawberry clover. Some native forbs such as southern mule-ears may be found as well. Some of these areas are currently being used for livestock pasture. Invasive species include broadleaved pepperweed (*Lepidium latifolium*), medusahead (*Elymus (Taeniatherum) caput-medusae*), puncturevine (*Tribulus terrestris*), prickly Russian thistle (*Salsola tragus*), yellow star-thistle (*Centaurea solstitialis*), and other knapweeds (*Centaurea* spp.). Non-native grasslands are not considered a sensitive biological resource (CDFG 2010).

Oak Woodlands and Forests

This general community composes approximately 0.7% (2,083.7 acres) of the Valley Region and includes four alliances: canyon live oak, coast live oak, coastal mixed hardwood, and interior mixed hardwood (Table 12). Oak woodlands and forest have oak trees as the dominant or co-dominant tree with a continuous to open canopy and a sparse to intermittent shrub canopy, and sparse or grassy ground layer. This community is considered sensitive in the County due to its limited extent and unique habitat value.

Pine Forests and Woodland

The pine forests and woodland general community composes approximately <0.1% (15.1 acres) of the Valley Region and includes two alliances: Coulter pine and mixed conifer–pine (Table 12). Coulter pine is dominated by Coulter pine and can have a chaparral understory with mountain whitethorn (*Ceanothus cordulatus*), manzanitas (*Arctostaphylo*s spp.), and chamise. In mixed conifer communities, no single conifer species is dominant; the mixture usually includes high amounts of ponderosa pine or sugar pine, with incense cedar (*Calocedrus decurrens*), bigcone Douglas-fir, white fir, and Coulter pine often also present in various combinations. None of the pine forests and woodlands alliances are considered a sensitive biological resource (CDFG 2010).

Riparian Scrub

The riparian scrub general community composes approximately 0.3% (866.6 acres) of the Valley Region and includes five alliances: baccharis (riparian), fan palm, riparian mixed shrub, willow, and willow (shrub) (Table 12). Some willow alliances are considered a sensitive biological

resource (CDFG 2010); however, this community is more widespread and regenerates quickly; therefore, is not considered a sensitive community in the County.

Riversidean Alluvial Fan Sage Scrub

The Riversidean alluvial fan sage scrub general community composes approximately 5.6% (17,708.0 acres) of the Valley Region and includes two alliances: Riversidean alluvial scrub and scalebroom (Table 12). This community is identified by a dominance of scalebroom. Co-dominants may include Eastern Mojave buckwheat, California sagebrush, white sage, *Encelia* spp., *Opuntia* spp., chaparral yucca, *Rhus* spp., and California juniper. Along the desert washes, associated species may include brittlebush, creosote bush, chaparral yucca, rabbitbrush, big sagebrush, Fremont cottonwood, and desert willow. The scalebroom alliance is considered a sensitive community (CDFG 2010) and Riversidean alluvial fan sage scrub is considered a sensitive community in the County due to its unique habitat value.

Undifferentiated Chaparral Scrub

Undifferentiated chaparral scrub general community composes approximately 4.5% (14,233.2 acres) of the Valley Region and includes six alliances: ceanothus mixed chaparral, chamise, lower montane mixed chaparral, scrub oak, soft scrub mixed chaparral and sumac shrub (Table 12). None of the undifferentiated chaparral scrub alliances are considered sensitive biological resources (CDFG 2010).

Upland Walnut Woodlands and Forests

This general community composes approximately <0.1% (284.0 acres) of the Valley Region and includes one alliance: California walnut (Table 12). This community is dominated by California black walnut (*Juglans californica*), a species endemic to the state. Walnuts are usually widely spaced and associated species include coast live oak, California bay, foothill ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), sugar sumac (*Rhus ovata*), and skunkbush (*Rhus trilobata*). Coastal sage scrub species such as California sagebrush and black sage may also occur. California walnut woodland is considered a sensitive biological resource (CDFG 2010).

Waterway

Waterways compose approximately 0.4% (1,396.6 acres) of the Valley Region and include eight various types: agriculture pond or water feature, intermittent lake or pond, intermittent stream channel, perennial lake or pond, reservoir, river/stream/canal, urban or industrial impoundment, and water (general) (Table 12). Waterways are a land cover and are not considered a sensitive

vegetation community; however, waterways often provide valuable water resources that would be considered sensitive on a case-by-case basis.

6.3.2 Special-Status Species

Within the Valley Region, the USFWS has designated critical habitat for several wildlife species and one plant species. The acreage of critical habitat is summarized in Table 13 and locations are depicted on Figure 17, Critical Habitat – Valley Region.

Table 13
Acres of Critical Habitat in the Valley Region

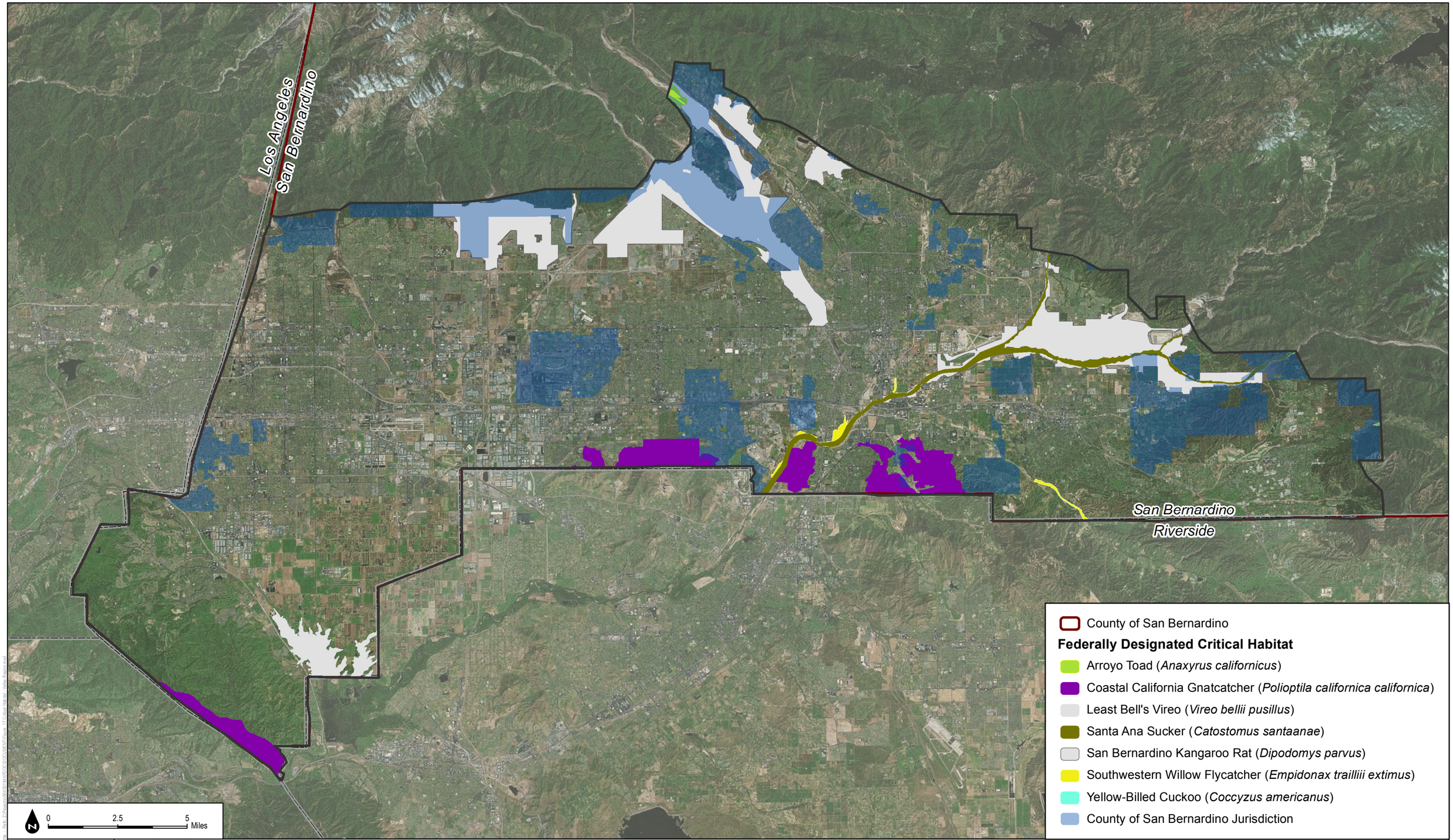
Critical Habitat Species		Total acres in Valley Region	Acres within County Jurisdiction in Valley Region
Common Name	*Scientific Name*		
arroyo toad	*Anaxyrus californicus*	192	103
Coastal California gnatcatcher	*Polioptila californica*	7,449	268
least Bell's vireo	*Vireo bellii pusillus*	2,062	0.0
Santa Ana sucker	*Catostomus santaanae*	2,114	138
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	26,489	7,509
southwestern willow flycatcher	*Empidonax traillii extimus*	2,574	27
western yellow-billed cuckoo[a]	*Coccyzus americanus occidentalis*	389	0.0
Thread-leaved brodiaea	*Brodiaea filifolia,*	61	0.0

Source: USFWS 2015a.
Note: [a] Proposed critical habitat.

Special-Status Species Occurrence Summary

Appendix C provides a summary of the 87 special-status species that have been documented in the Valley Region of San Bernardino County, and includes information on status, distribution, and habitat associations.

A total of 31 special-status plant species have been documented in the Valley Region, including 3 species that are federally and state listed as endangered or threatened. The 3 listed plant species that are known to occur in the Valley Region are Nevin's barberry (FE, SE), Santa Ana River woollystar (FE, SE), and slender-horned spineflower (FE, CE).



DUDEK

SOURCE: Bing Maps, 2016

FIGURE 17

Critical Habitat - Valley Region

San Bernardino Countywide Plan - Biological Resources

INTENTIONALLY LEFT BLANK

A total of 42 special-status animal species have been documented, including 9 species that are federally endangered or threatened, 5 that are state endangered or threatened, 1 that is a state threatened candidate, 2 that are state fully protected, and 24 that are non-listed species. The listed and fully protected wildlife species currently known to occur in the Valley Region are arroyo toad (FE), coastal California gnatcatcher (*Polioptila californica californica*) (FT), least Bell's vireo (nesting) (FE, SE), white-tailed kite (*Elanus leucurus*) (fully protected, FP), golden eagle (FP), Santa Ana sucker (FT), San Bernardino kangaroo rat (FE), Stephens' kangaroo rat (*Dipodomys stephensi*) (FE, ST), and Delhi sands flower-loving fly (FE). The tricolored blackbird is being evaluated in 2016 for candidacy under CESA, triggering a 12-month period during which CDFW will conduct a status review. As a candidate species, the tricolored blackbird receives the same legal protection afforded to an endangered or threatened species (California Fish and Game Code, Section 2085).

6.4 Habitat Linkages and Wildlife Corridors

California Essential Habitat Connectivity Project

Spencer et al. 2010 includes foothill areas of the San Gabriel and San Bernardino Mountains and associated washes as linkage areas in the Valley Region of San Bernardino County. These are included in the greater San Gabriel–San Bernardino Connection discussed in this section (see Figure 18, Habitat Connectivity – Valley Region, for locations of linkages).

South Coast Missing Linkages Project

Summaries of the corridors identified as a result of this effort are presented in this section and detailed descriptions can be found in South Coast Wildlands (2008).

San Gabriel–San Bernardino Connection. This linkage provides connectivity between two expansive areas of the Angeles and San Bernardino National Forests linkage design including three roughly parallel swaths through the Cajon Wash and Pass to accommodate diverse species and ecosystem functions. It partially occurs in the Valley Region of San Bernardino County, primarily in Cajon Wash and Lytle Creek, as well as the Etiwanda Fan (San Gabriel foothills) from the San Bernardino County line east to near I-215. This linkage provides habitat for special-status species wildlife such as San Bernardino kangaroo rat and American badger. I-15 is the major transportation route that crosses the linkage and poses the most substantial barriers to wildlife movement.

San Bernardino–San Jacinto Connection. This linkage comprises five swaths and provides a connection between the San Bernardino and San Jacinto Mountains. It occurs partially within

San Bernardino County in the Valley Region and does not intersect any major transportation corridors. Linkage areas are identified east of Yucaipa in Wildwood Canyon, Cherry Canyon, Wallace Creek, and Little San Gorgonio Creek that connect with areas in Riverside County to the south. Species expected to use this linkage include bobcat.

Puente–Chino Hills Wildlife Corridor

The Puente–Chino Hills Wildlife Corridor is approximately 31 miles long and extends from Los Angeles County Whittier Narrows areas in the west to the Cleveland National Forest in Orange County to the east. Despite its long history of use and proximity to urban development, there is still sufficient habitat for connectivity. Within San Bernardino County, this corridor occurs within the Chino Hills State Park, but also overlaps many unprotected areas. Natural vegetation communities that occur within this corridor include walnut and oak woodlands, chaparral, native grasslands, and coastal sage scrub that support habitat for species such as California gnatcatcher, cactus wren (*Campylorhynchus brunneicapillus*), mule deer, cougar, coyote (*Canis latrans*), bobcat, American badger, and gray fox.

San Bernardino County Open Space Overlay Map

Figure 19, Existing San Bernardino County Open Space Layer – Valley Region, and Table 14 show the features within the San Bernardino County open space overlay map that overlap the Valley Region within County jurisdiction.

Table 14
San Bernardino County Open Space Overlay Features
in the Valley Region that Occur within County Jurisdiction

Feature	Type	Acres	Description
Cajon Wash	Wildlife Corridor	758.8	This includes a large area along the Cajon Wash from the confluence with Lytle Creek northward to Mormon Rocks. It supports a wash with associated alluvial fan sage scrub habitat, as well as a stream and associated riparian habitat further upstream. Cajon Wash supports important processes and habitat for species such as San Bernardino kangaroo rat, Santa Ana River woollystar, slender-horned spineflower, cactus wren, and Santa Ana speckled dace. Historically, it supported populations of arroyo toad.
Dispersion Corridor	Wildlife Corridor	17.1	This wildlife corridor is located between the Pisgah Peak area and the boundary of the national forest. This area is important as an area to maintain wildlife linkages between the Pisgah Peak area and the national forest.
East Etiwanda	Wildlife Corridor	21.6	This wildlife corridor includes the southern portion of Etiwanda Canyon, north of the national forest boundary, where private inholdings exist. The canyon contains a stream and associated riparian habitat. This area should extend southward to include associated alluvial fans to maintain a connection for wildlife species, such as mule deer, between lower elevations and higher elevations found within the national forest and existing open space areas, such as the Etiwanda Preserve.

Table 14
San Bernardino County Open Space Overlay Features in the Valley Region that Occur within County Jurisdiction

Feature	Type	Acres	Description
Lytle Creek	Wildlife Corridor	220.1	This wildlife corridor follows the alignment of Lytle Creek from the Lytle Creek Gatehouse-Dam, north to the boundary of the national forest, and continuing northward to approximately Miller Narrows. It supports a wash with associated alluvial fan sage scrub habitat, as well as a stream and associated riparian habitat further upstream. Lytle Creek supports important processes and habitat for species such as San Bernardino kangaroo rat, Santa Ana River woollystar, and cactus wren.
Mill Creek	Wildlife Corridor	982.7	This wildlife corridor follows the alignment of Mill Creek from Forest Falls to its confluence with the Santa Ana River. Mill Creek supports riparian and alluvial fan habitat. Special-status species known to occur here include southwestern willow flycatcher and San Bernardino kangaroo rat.
Plunge Creek	Wildlife Corridor	0.4	This wildlife corridor follows a portion of Plunge Creek from the national forest to City Creek. Plunge Creek contains riparian and alluvial fan habitat, and provides a link from the national forest to City Creek and further to the Santa Ana River. Special-status species that occur in this area include the Santa Ana River woollystar, San Bernardino kangaroo rat, and Santa Ana speckled dace.
San Timoteo Canyon	Wildlife Corridor	481.5	This is the portion of the San Timoteo Canyon within the San Bernardino County, from the County line to where it is channelized upstream of its confluence with the Santa Ana River. San Timoteo Canyon supports riparian habitat with occurrences of least Bell's vireo and southwestern willow flycatcher documented.
Santa Ana River	Wildlife Corridor	173.1	This includes the lower portion of the Santa Ana River within San Bernardino County. The Santa Ana River, although urbanized along some portions of its length, is one of the most important habitat areas in the County. It supports primarily riparian and alluvial fan habitat. Listed species supported include Santa Ana sucker, Santa Ana River woollystar, slender-horned spineflower, San Bernardino kangaroo rat, least Bell's vireo, southwestern willow flycatcher, and California gnatcatcher, as well as a number of non-listed special-status species.
Spoor Canyon	Wildlife Corridor	322.0	This wildlife corridor describes a general area that links the Crafton Hills Open Space with national forest land.
Waterman Canyon	Wildlife Corridor	2.9	This wildlife corridor follows the alignment of Waterman Canyon northward from the city of San Bernardino into the national forest, and contains riparian habitat, as well as artesian wells that support habitat as mule deer fawning areas. Downstream, it connects with Strawberry Creek and with water from the Arrowhead Hot Springs.
Cajon Pass	Policy Area	7,523.9	This is the area generally within the Cajon Pass area near Devore. The Cajon Pass area separates the Angeles and San Bernardino national forest, and is in an area which animals must cross to travel between forests. This area also contains important riparian habitat and Cajon Wash and Lytle Creek.
Crafton Hills Grove	Policy Area	2,786.0	This area describes an area of existing citrus operations west of the proposed Crafton Hills Open Space area. This area is of value primarily as an agricultural district, although it also has scenic value as an example of the once widespread citrus operations in the San Bernardino Valley.
Crafton Hills Open Space	Policy Area	1,679.7	This is an area adjacent to Yucaipa Regional Park, described as the lands in the Crafton Hills generally above an elevation of 2,400 feet. This is an important open space resource in the urbanizing Redlands/Yucaipa area, and has significant value as a relatively undisturbed habitat area, a scenic resource, and a potential area for recreational open space use.

Table 14
San Bernardino County Open Space Overlay Features
in the Valley Region that Occur within County Jurisdiction

Feature	Type	Acres	Description
Dispersion Corridor	Policy Area	0.1	This is the portion of the Puente–Chino Hills Wildlife Corridor that occurs within San Bernardino jurisdiction. This corridor is needed to link the Chino Hills area with other open space lands in the vicinity, including the Prado Dam inundation area. It is known to support cougar and cactus wren movement.
Pisgah Peak	Policy Area	470.4	This area is centered Pisgah Peak and include portions of Sections 33, 34, 35, R1WT1S, and Sections 2, 3, 4, R1WT2S. This area consists of a small mountain range, which supports a diversity of wildlife species, including large mammals.

Riparian and Wash Corridors

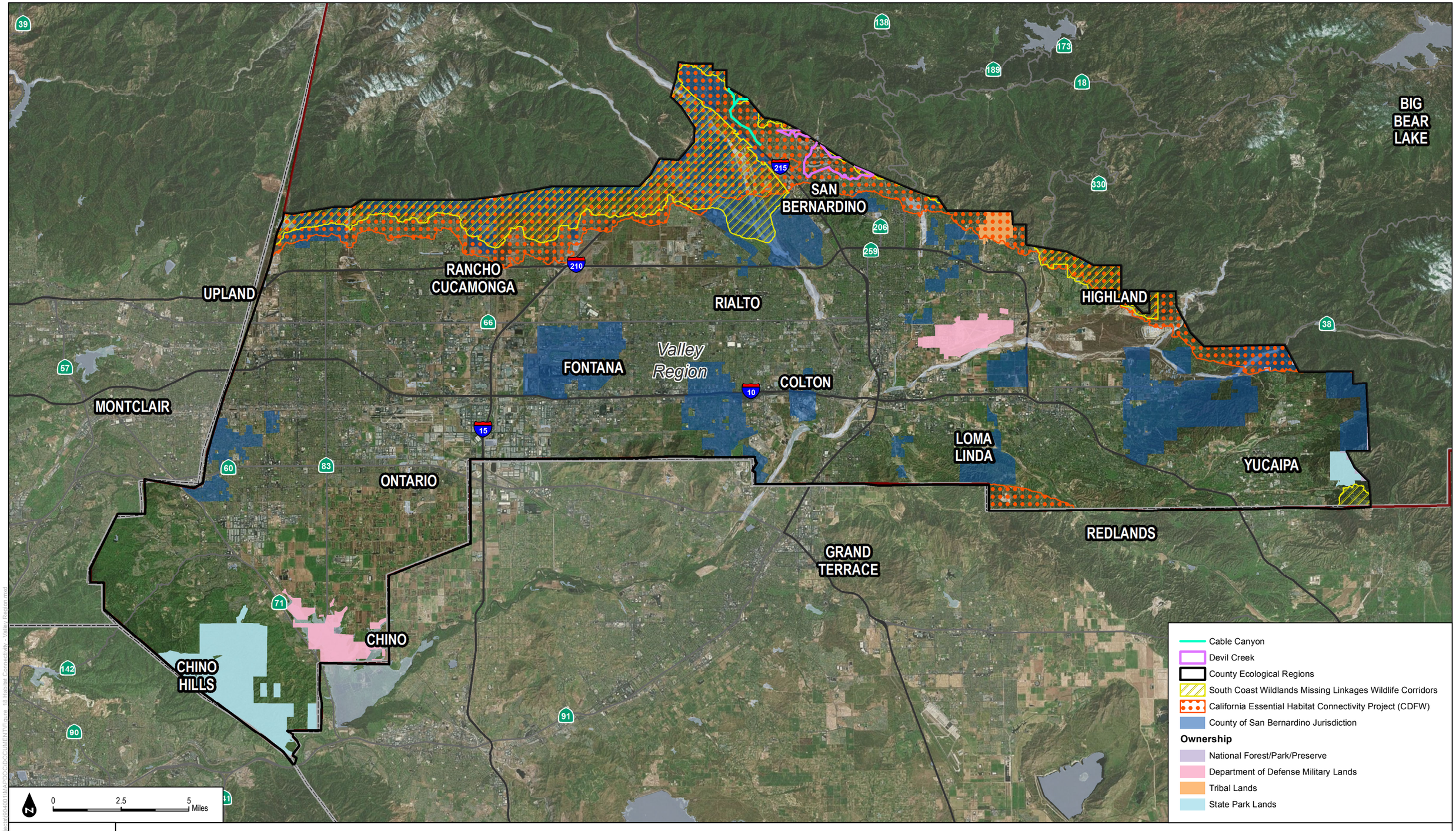
Major washes and riparian corridors within San Bernardino County not otherwise captured with the above existing layers were added to Figure 19.

Cable Creek. Cable Creek, including tributaries (Ames Canyon and Meyers Canyon) and associated springs, provides foothill areas that link to the national forest to the north and east. Its extent is from Little League Drive to the National Forest Boundary. Riparian and alluvial fan habitat are supported, as well as a number of natural springs. Species that have been documented in this area include least Bell's vireo, San Bernardino kangaroo rat, Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and mule deer (use as a fawning area).

Devil Creek. Devil Creek, including tributaries (Sycamore Canyon and Badger Canyon) and associated springs, provides foothill areas that links to the national forest to the north and east. Its extent is primarily from north of California State University at San Bernardino east to areas north of the City of San Bernardino. Riparian habitat is supported, as well as a number of natural springs. Species that have been documented in this area include California gnatcatcher and springsnails (*Pyrgulopsis* sp.).

6.5 Protected and Wilderness Areas

Protected and wilderness areas within the Valley Region are summarized in this section, and locations are shown on Figures 20A through 20D, Conservation and Open Space Areas – Valley Region.



Document Path: Z:\Projects\90400\MAPDOC\DOCUMENT\Figure_18 Habitat Connectivity - Valley Region.mxd

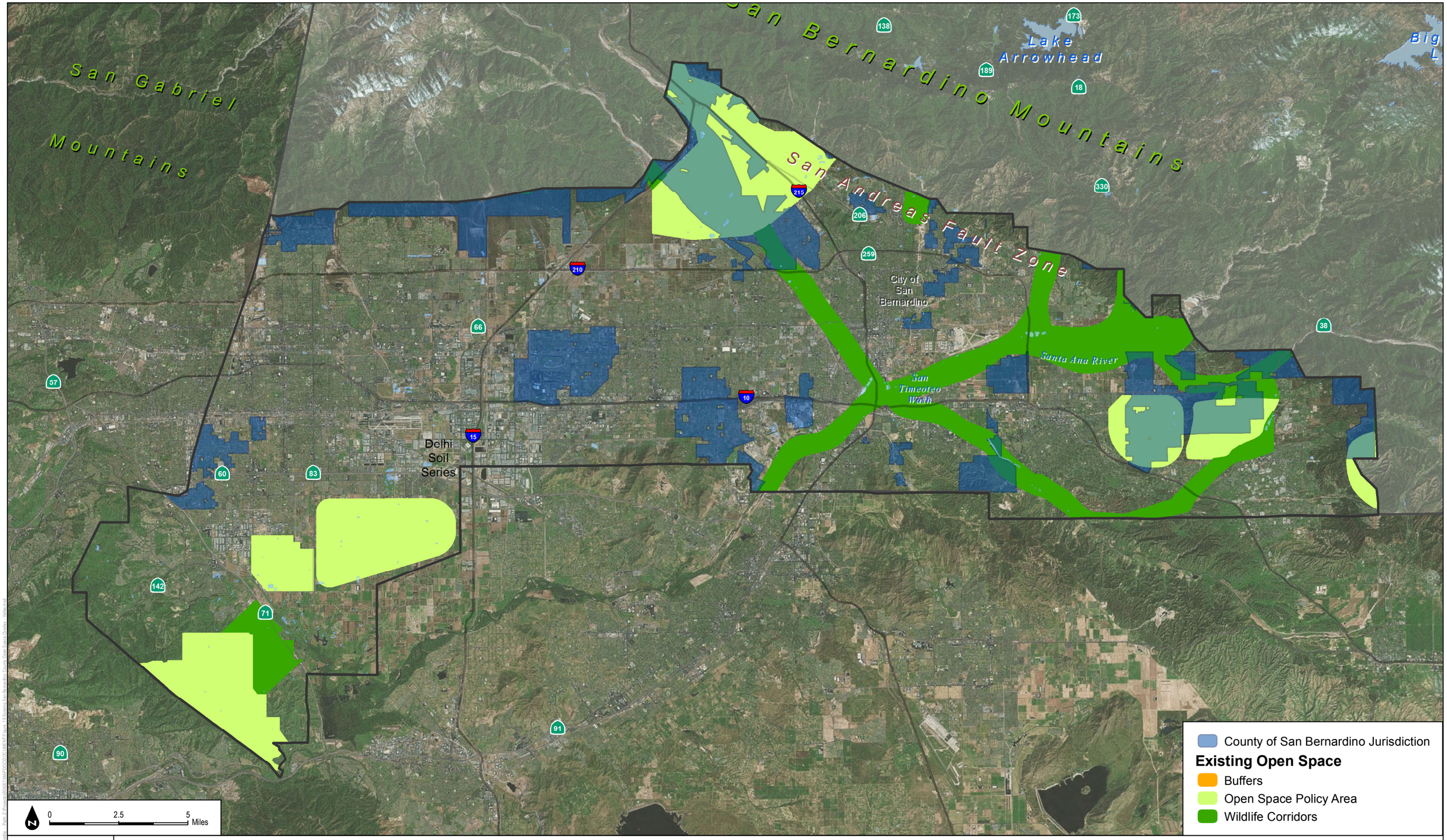
DUDEK

SOURCE: BING Maps 2016; USFWS 2016; BLM 2014; South Coast Wildlands 2012; CDFW 2010

FIGURE 18

Habitat Connectivity - Valley Region

INTENTIONALLY LEFT BLANK



SOURCE: Bing Maps, 2016

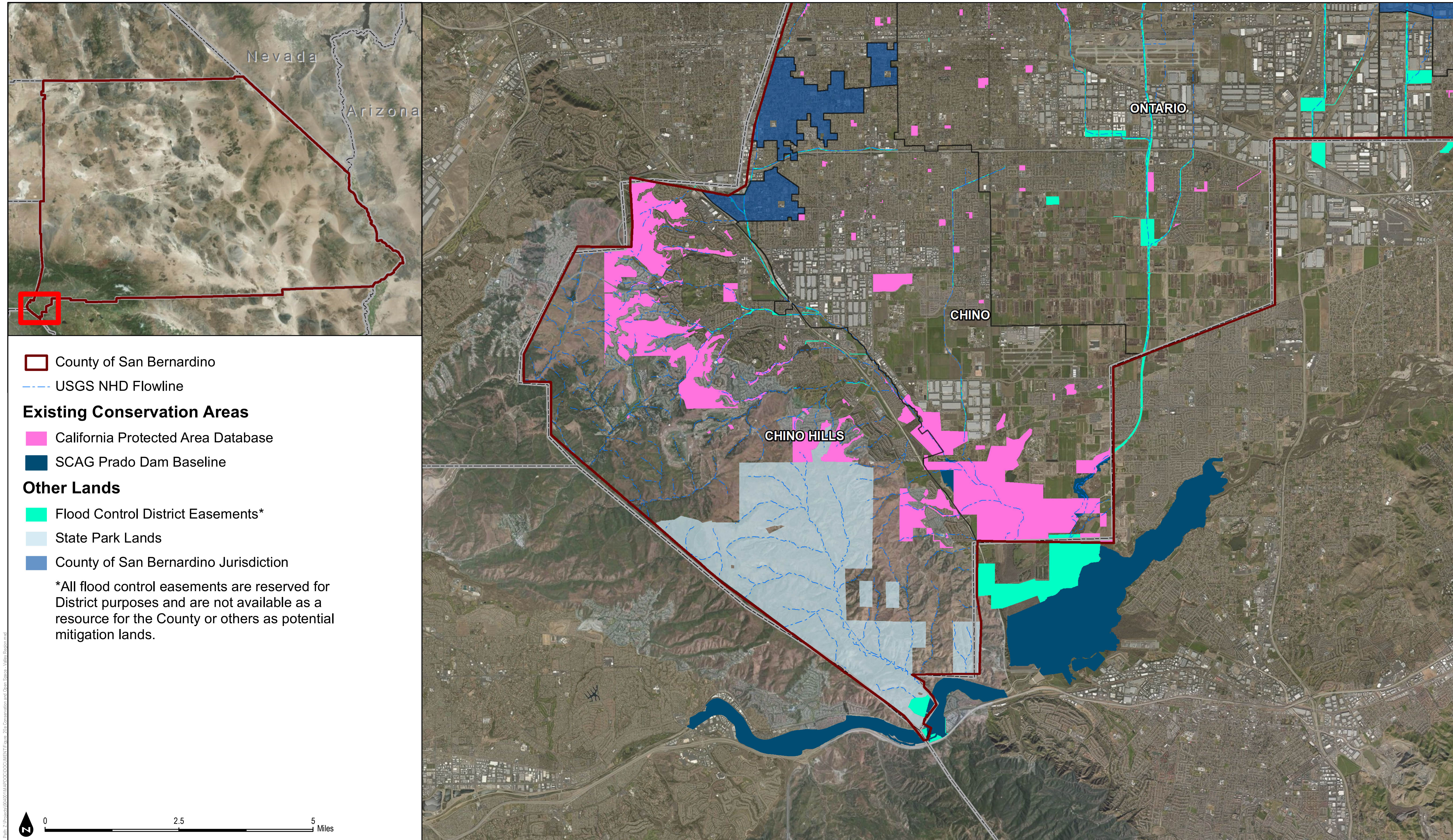
FIGURE 19

Existing San Bernardino County Open Space Layer - Valley Region

DUDEK

San Bernardino Countywide Plan - Biological Resources

INTENTIONALLY LEFT BLANK


Nevada
Arizona
ONTARIO
CHINO
CHINO HILLS
County of San Bernardino
USGS NHD Flowline
Existing Conservation Areas
California Protected Area Database
SCAG Prado Dam Baseline
Other Lands
Flood Control District Easements*
State Park Lands
County of San Bernardino Jurisdiction
*All flood control easements are reserved for District purposes and are not available as a resource for the County or others as potential mitigation lands.
0
2.5
5
Miles

DUDEK

SOURCE: Bing Maps, 2016; CPAD 2014; USGS, 2012

FIGURE 20A

Conservation and Open Space Areas - Valley Region

San Bernardino Countywide Plan - Biological Resources

INTENTIONALLY LEFT BLANK

County of San Bernardino

USGS NHD Flowline

California Protected Areas

Valley

Day Canyon Preserve

Open Space Areas

Open Space Areas

North Etiwanda Preserve

BLM Resource Management Designations

Wilderness Areas

Existing Conservation Areas

Angeles National Forest

San Bernardino National Forest

California Protected Area Database

Other Lands

Flood Control District Easements*

County of San Bernardino Jurisdiction

*All flood control easements are reserved for District purposes and are not available as a resource for the County or others as potential mitigation lands.

0 2.5 5 Miles

SOURCE: Bing Maps, 2016; BLM 2014; CPAD 2014; USGS 2012

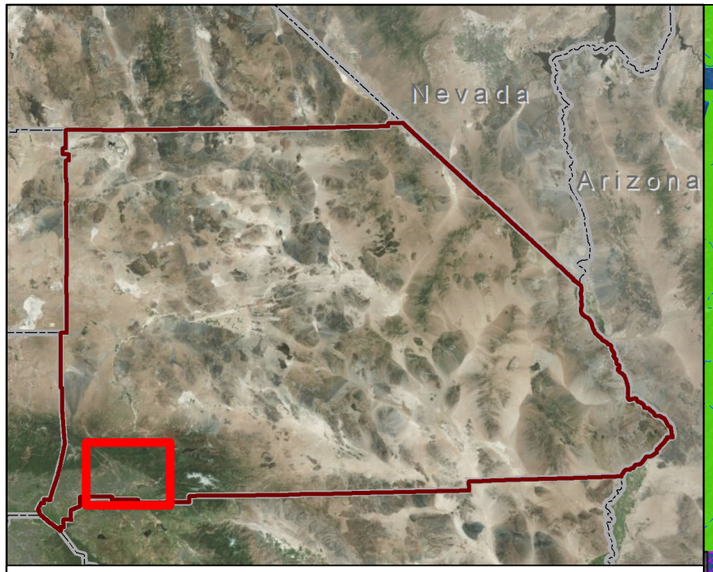
DUDEK

FIGURE 20B

Conservation and Open Space Areas - Valley Region

San Bernardino Countywide Plan - Biological Resources

INTENTIONALLY LEFT BLANK



County of San Bernardino

USGS NHD Flowline

Open Space Areas

- Colton VMC Parcels
- Lytle Creek Conservation Bank
- County Service Area Open Space 120
- County Service Area Open Space 70
- Cajon Creek Conservation Bank and Lands HCP

Existing Conservation Areas

- San Bernardino National Forest
- California Protected Area Database
- Flood Control District Easements*
- Critical Biological Areas
- County of San Bernardino Jurisdiction

*All flood control easements are reserved for District purposes and are not available as a resource for the County or others as potential mitigation lands.

0 2.5 5 Miles

SOURCE: Bing Maps, 2016; BLM 2014; CPAD 2014; USGS 2012

DUDEK

FIGURE 20C

Conservation and Open Space Areas - Valley Region

San Bernardino Countywide Plan - Biological Resources

INTENTIONALLY LEFT BLANK

County of San Bernardino
USGS NHD Flowline

Existing Conservation Areas

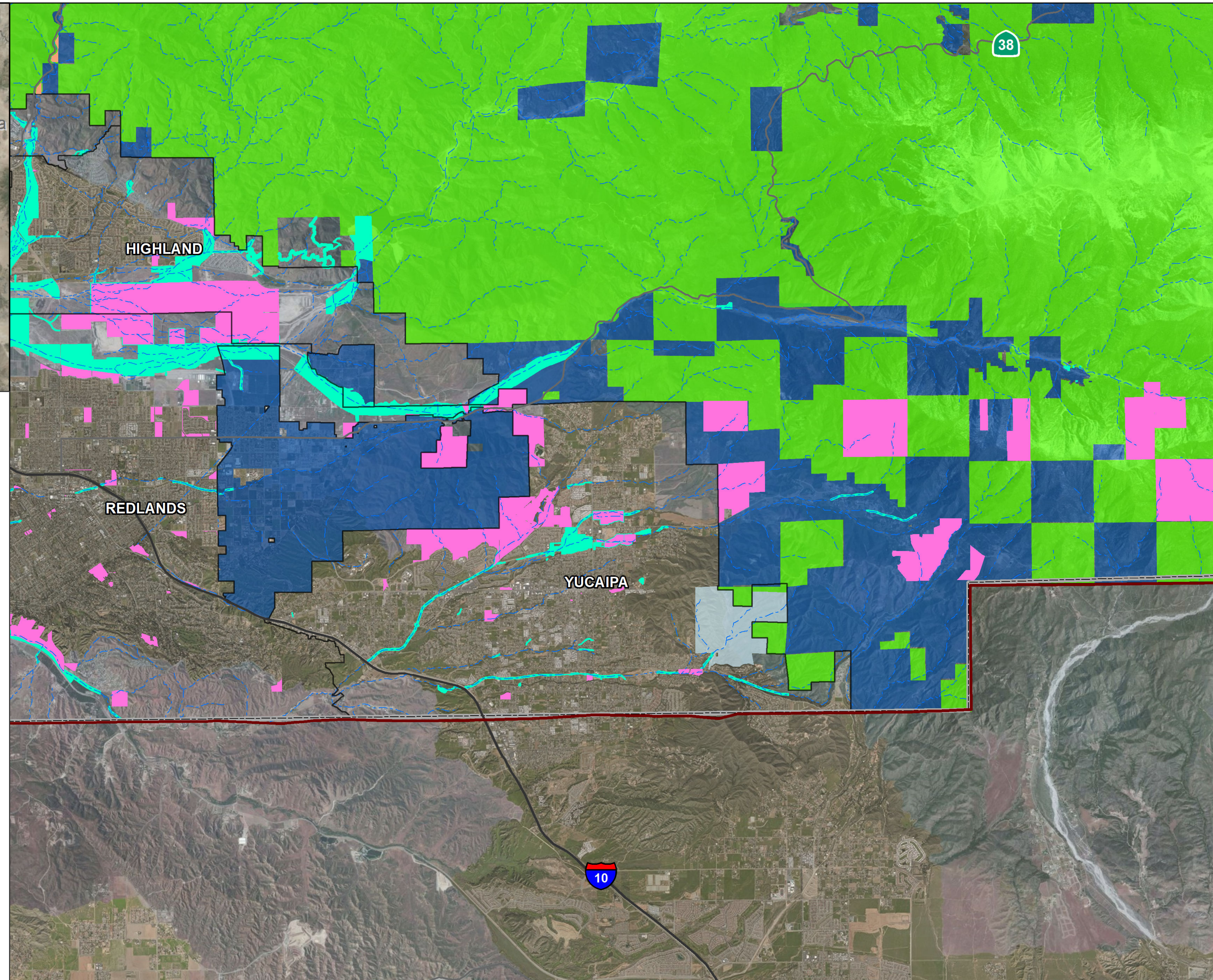
San Bernardino National Forest
California Protected Area Database
Critical Biological Areas

Other Lands

Department of Defense Military Lands
State Park Lands
Flood Control District Easements*
County of San Bernardino Jurisdiction

*All flood control easements are reserved for District purposes and are not available as a resource for the County or others as potential mitigation lands.

0 2.5 5 Miles



DUDEK

SOURCE: Bing Maps, 2016; BLM 2014; CPAD 2014; USGS 2012

FIGURE 20D

Conservation and Open Space Areas - Valley Region

INTENTIONALLY LEFT BLANK

Former Norton Air Force Base Conservation Management Plan. Approximately 54 acres in two parcels were designated Core Management Areas (CMA-1 and CMA-2), and 214 acres compose an Open Space Management Area. These areas are managed specifically for the San Bernardino kangaroo rat and Santa Ana River woollystar and are permanently protected by conservation easements.

North Etiwanda Preserve. The original preserve, formally established in 1998, was a single 763-acre parcel of Riversidean alluvial fan sage scrub set aside as mitigation for the State Route 30 (now known as State Route 210) Improvements Project. In July 2009, the preserve was expanded to include 440 acres (total of 1,203 acres) of additional land that was set aside for conservation purposes. The preserve is currently managed by the San Bernardino County Special Districts Department.

Day Canyon Preserve. A 200-acre conservation area was set aside through a conservation easement to the San Bernardino County Flood Control District as mitigation for impacts from sand and gravel operations (City of Rancho Cucamonga 2010). The easement is held by the County of San Bernardino.

Colton Dunes Conservation Bank. Vulcan Materials operates the 150-acre bank that contains Delhi sand dunes suitable for the Delhi sands flower-loving fly. The bank is conserved in perpetuity through a conservation easement held by the Riverside Land Conservancy and an endowment providing permanent habitat maintenance funded by Vulcan.

Vulcan Materials Alluvial Fan Sage Scrub Mitigation Bank. This bank is composed of a 567 acre habitat conservation management area along a 6-mile stretch of Cajon Wash and Lytle Creek. There are 24 sensitive wildlife and plant species occurring within this preserve. Species present include the coastal California gnatcatcher, San Bernardino kangaroo rat, and many wildflower species. The bank is owned and managed by Vulcan.

Lytle Creek Conservation Bank. This bank will permanently protect and preserve approximately 182 acres of suitable habitat for the conservation of San Bernardino kangaroo rat and Santa Ana River woollystar. The bank is located in the Lytle Creek wash area north of I-210 and southwest of I-215 in San Bernardino County, near the cities of Fontana and Rialto. It is managed by Wildlands.

Chino Hills State Park. This state park is an open space reserve within the Santa Ana Canyon hills near Riverside, California. This reserve is a critical link in the Puente–Chino Hills biological corridor and encompasses oaks, sycamores, and Riversidean sage scrub with continuous grassy hills nearly 31 miles long. This area stretches from the Santa Ana Mountains to Whittier Hills. Riversidean sage scrub is an important vegetation community that supports sensitive wildlife species, including the coastal California gnatcatcher.

Prado Basin Mitigation Area. A water conservation level behind Prado Dam was elevated in a 1995 agreement between Orange County Water District, ACOE, and USFWS. This allowed for nearly doubling the water to be stored behind the dam. The agreement was based upon the desire to enhance the water conservation and environmental values of Prado Basin, which is a breeding ground for the least Bell's vireo. Nearly 465 acres of constructed wetlands were created within and adjacent to the Orange County Water District property. This reserve has effectively demonstrated the ability to reduce nitrogen levels in the Santa Ana River.

Woolly Star Preserve Area. Located in the upper Santa Ana Wash, the 760-acre preserve was established by ACOE along the Santa Ana River Wash as mitigation for the Seven Oaks Dam project.

Crafton Hills Conservancy. Since 1992, the Crafton Hills Open Space Conservancy has acquired land in the Crafton Hills by donation of land and/or conservation of easements, gifts of land for exchange or sale, and purchase of land with donated funds.

Wildwood Canyon State Park. Wildwood Canyon State Park is located within the eastern foothills of the San Bernardino County near the town of Yucaipa. This park is surrounded by the San Bernardino National Forest.

Oak Glen Preserve–Wildlands. The Oak Glen Preserve, owned by the Wildlands Conservancy, is composed of 2,189 acres. It is located adjacent to the San Bernardino National Forest near Yucaipa Ridge. The goal for the preserve is to promote expansion of the San Gorgonio Wilderness while preventing exploitation of private lands.

7 REFERENCES CITED

14 CCR, Section 1.56. Lake.

14 CCR, Section 1.72. Stream (Includes Creeks and Rivers).

14 CCR, Section 720. Designation of Waters of Department Interest.

16 U.S.C. 668–668c. Bald and Golden Eagle Protection Act (BGEPA), as amended.

16 U.S.C. 1531–1544. Endangered Species Act of 1973, as amended.

40 CFR 1500–1508. "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act."

71 FR 67712–67754. Proposed rule: "Designation of Critical Habitat for *Arenaria ursina* (Bear Valley sandwort), *Castilleja cinerea* (ash-gray Indian paintbrush), and *Eriogonum kennedyi* var. *austromontanum* (southern mountain wild-buckwheat)." November 22, 2006.

Averill-Murray, R.C., C.R. Darst, N. Strout, and M. Wong. 2013. "Conserving Population Linkages for the Mojave Desert Tortoise (*Gopherus agassizii*)." *Herpetological Conservation and Biology* 8:1–15.

BLM (U.S. Bureau of Land Management). 2008. "6840 – Special Status Species Management." Release no. 6-125. December 12, 2008. http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.43545.File.dat/6840.pdf.

BLM. 2015. *Desert Renewable Energy Conservation Plan Proposed Land Use Plan Amendment and Final Environmental Impact Statement*. BLM/CA/PL-2016/03+1793+8321. Prepared by the BLM in partnership with the U.S. Fish and Wildlife Service, California Energy Commission, and California Department of Fish and Wildlife. October 2015.

Burk, J.H., C.E. Jones, W.A. Ryan, and J.A. Wheeler. 2007. "Floodplain Vegetation and Soils along the Upper Santa Ana River, San Bernardino County, California." *Madroño* 54(2): 126–137.

California Fish and Game Code, Chapter 1: General Definitions, Section 86.

California Fish and Game Code, Chapter 1.5: Endangered Species, Article 1: General Provisions, Section 2053.

California Fish and Game Code, Section 2085.

CDFG (California Department of Fish and Game). 2003. *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*. CDFG, Biogeographic Data Branch, Vegetation Classification and Mapping Program. September 2003. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp.

CDFG. 2007. *California Wildlife: Conservation Challenges (California's Wildlife Action Plan)*. Davis, California: University of California, Davis, Wildlife Health Center.

CDFG. 2010. *List of Vegetation Alliances and Associations: Natural Communities List Arranged Alphabetically by Life Form.* September 2010. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp.

CDFG. 2012a. National Vegetation Classification Standard (NVCS)-based mapping from the Mojave Desert Ecosystem Project.

CDFG. 2012b. *Natural Communities – Background Information*. Vegetation Classification and Mapping Program. September 2010. Accessed April 2012. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_background.asp.

CDFW. 2015. California Natural Diversity Database (CNDDB). Rarefind, Version 5 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

CDFW. 2016. "California Wildlife Habitat Relationships (CWHR)" [information system]. Version 9.0. California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cwhr/.

City of Rancho Cucamonga. 2010. "Chapter 6: Resource Conservation – Wildlife Resources," in *Rancho Cucamonga General Plan.* https://www.cityofrc.us/civicax/filebank/blobdload.aspx?BlobID=6817.

CNPS (California Native Plant Society). 2015. "Inventory of Rare and Endangered Plants" (online edition, v8-01a). Sacramento, California: CNPS. http://www.rareplants.cnps.org.

Dudek and ICF. 2011. *DRECP Framework Conservation Strategy Report*. Draft. Prepared for the California Energy Commission. May 4, 2011.

Ferren, W.R., P.L. Fiedler, R.A. Leidy, K.D. Lafferty, and L.A.K. Mertes. 1996. "Wetlands of California, Part III: Key to and Catalogue of Wetlands of the Central and Southern California Coast and Coastal Watersheds." *Madroño* 43(1): 183–233. http://www.jstor.org/stable/41425130.

Google Earth. 2014. Aerial images of riparian and wash corridors [online imaging]. April 7, 2014.

Grossman, D.H., D. Faber-Langendoen, A.S. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. *International Classification of Ecological Communities: Terrestrial Vegetation of the United States*. Volume 1, *The National Vegetation Classification System: Development, Status, and Applications*. Arlington, Virginia: The Nature Conservancy. http://www.natureserve.org/library/vol1.pdf.

Harden, D.R. 2004. *California Geology*. Second edition. Pearson Prentice Hall, Upper Saddle River, New Jersey. ISBN-13: 9780131002180.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October 1986.

Krantz, T. 1987. "Island Biogeography and Preserve Design of an Insular Rare Plant Community." In *Conservation and Management of Rare and Endangered Plants: Proceedings of a California Conference on the Conservation and Management of Rare and Endangered Plants*, edited by T.J. Elias, 605–614. California Native Plant Society.

Lichvar, R., and S. McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual.* Hanover, New Hampshire: Engineer Research and Development Center. August 2008.

Miller, F.K. 1987. "Reverse-Fault System Bounding the North Side of the San Bernardino Mountains." In *Recent Reverse Faulting in the Transverse Ranges, California* (U.S. Geological Survey Professional Paper 1339), edited by D.M. Morton and R.F. Yerkes, 83–95. U.S. Geological Survey.

Nafis, G. 2016. "A Guide to the Amphibians and Reptiles of California." Accessed November 2015 and January 2016. http://www.californiaherps.com/.

NatureServe. 2015. *NatureServe Explorer: An Online Encyclopedia of Life.* Arlington, Virginia: NatureServe. Accessed May 2016. http://www.natureserve.org/explorer/index.htm.

NOAA (National Oceanic and Atmospheric Administration). 2004. "The North American Monsoon." *Reports to the Nation on Our Changing Planet*. August 2004. http://www.cpc.ncep.noaa.gov/products/outreach/Report-to-the-Nation-Monsoon_aug04.pdf.

NOAA. 2015. "Historic Weather of Big Bear Lake, California." [text dataset]. National Centers for Environmental Information. Accessed December 28, 2015. http://www.ncdc.noaa.gov/.

NOAA. 2016. "El Niño Southern Oscillation (ENSO)." U.S. Department of Commerce, NOAA, Earth System Research Laboratory, Physical Sciences Division. http://www.esrl.noaa.gov/psd/enso/.

NPS (National Park Service). 2009. "General Management Plan: Land Protection." *General Management Plans*. Accessed December 28, 2015. http://www.nps.gov/pore/learn/management/planning_gmp.htm.

Penrod, K., P. Beier, E. Garding, and C. Cabañero. 2012. *A Linkage Network for the California Deserts*. Produced for the Bureau of Land Management and the Wildlands Conservancy. Fair Oaks, California: Science and Collaboration for Connected Wildlands and Flagstaff, Arizona: Northern Arizona University. March 2012. http://www.scwildlands.org/reports/ALinkageNetworkForTheCaliforniaDeserts.pdf.

Penrod, K., C. Cabañero, P. Beier, C. Luke, W. Spencer, E. Rubin, and C. Paulman. 2008. *A Linkage Design for the Joshua Tree–Twentynine Palms Connection*. Fair Oaks, California: South Coast Wildlands.

Public Law 111-11. Omnibus Public Land Management Act of 2009. March 30, 2009.

TNC (The Nature Conservancy). 2010. *Mojave Desert Ecoregional Assessment*. Version 1.1. Prepared by J.M. Randall, S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J.B. Mackenzie, K. Klausmeyer, and S. Morrison. San Francisco, California: The Nature Conservancy. September 2010.

Redmond, K.T. 2009. "Historic Climate Variability in the Mojave Desert." In *The Mojave Desert: Ecosystem Processes and Sustainability*, edited by R.H. Webb, L.F. Fenstermaker, J.S. Heaton, D.L. Hughson, E.V. McDonald, and D.M. Miller, 11–30. Reno, Nevada: University of Nevada Press.

SANBAG (San Bernardino Associated Governments). 2011. "Existing Land Use – 2011 (Parcel Level) [GIS land-use layer]. *GIS Data – Land Use*. SANBAG website. http://www.sanbag.ca.gov/planning2/GIS-data-land-use.html.

SANBAG. 2015. *San Bernardino Associated Governments Countywide Habitat Preservation/Conservation Framework Development*. 8351 8-4. February 2015.

Sawyer, J.O., and T. Keeler-Wolf. 1995. *Manual of California Vegetation*. Sacramento, California: California Native Plant Society.

Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation.* 2nd ed. Sacramento, California: California Native Plant Society.

Shuford, W.D., and T. Gardali, eds. 2008. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*. Studies of Western Birds, No. 1. Camarillo, California: Western Field Ornithologists, and Sacramento, California: California Department of Fish and Game. February 4, 2008. http://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html. ISBN-10: 0-9790585-1-1.

South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Produced in cooperation with partners in the South Coast Missing Linkages Initiative. http://www.scwildlands.org.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California.* Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

USDA (U.S. Department of Agriculture). 2015. Web Soil Survey. USDA Natural Resources Conservation Service. http://websoilsurvey.nrcs.usda.gov.

USFS (U.S. Forest Service). 2005a. *Land Management Plan, Part 1: Southern California National Forests Vision – Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest*. R5-MB-075. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. September 2005.

USFS. 2005b. *Land Management Plan, Part 2: San Bernardino National Forest Strategy*. R5-MB-079. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. September 2005.

USFS. 2014. CALVEG [Esri personal geodatabase]. 2014. McClellan, California: U.S. Department of Agriculture, Forest Service, Pacific Southwest Region.

USFS. 2015. USFS GIS data compiled by Dudek [Database].

USFWS (U.S. Fish and Wildlife Service). 1997. *Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) Recovery Plan*. Prepared by R. Mattoni, K. Medinger, R. Rogers, and C.D. Nagano. Portland, Oregon: USFWS. September 14, 1997.

USFWS. 2009. *Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*), 5-Year Review: Summary and Evaluation*. U.S. Fish and Wildlife Service, Ventura.

USFWS. 2011. *Draft Eagle Conservation Plan Guidance*. January 2011. http://www.fws.gov/windenergy/eagle_guidance.html.

USFWS. 2015a. "Critical Habitat" and Species Occurrence Database [digital GIS data]. Accessed December 28, 2015. https://www.fws.gov/carlsbad/gis/cfwogis.html.

USFWS. 2015b. *Bear Valley Sandwort 5-Year Review: Summary and Evaluation*. Carlsbad Fish and Wildlife Office. Accessed August 31 2016. https://ecos.fws.gov/docs/five_year_review/doc4606.pdf.

USGS (U.S. Geological Survey). 2006. "Geology of the San Bernardino Mountains." USGS: science for a changing world. May 26, 2006. Accessed December 29, 2015. http://geomaps.wr.usgs.gov/archive/socal/geology/transverse_ranges/san_bernardino_mtns/.

USGS. 2012. *Geohydrology of Big Bear Valley, California: Phase 1—Geologic Framework, Recharge, and Preliminary Assessment of the Source and Age of Groundwater.* U.S. Geological Survey (USGS) Scientific Investigations Report 2012-5100. Edited by L.E. Flint and P. Martin, with contributions by J. Brandt, A.H. Christensen, A.L. Flint, L.E. Flint, J.A. Hevesi, R. Jachens, J.T. Kulongoski, P. Martin, and M. Sneed. Reston, Virginia: U.S. Department of the Interior, USGS.

VegCAMP and AIS (California Department of Fish and Wildlife (CDFW) Vegetation Classification and Mapping Program and Aerial Information Systems Inc.). 2013. *2013 California Desert Vegetation Map and Accuracy Assessment in Support of the Desert Renewable Energy Conservation Plan*. Prepared by VegCAMP and AIS for the CDFW Renewable Energy Program and the California Energy Commission. March 27, 2013.

Webb, R.H., L.F. Fenstermaker, J.S. Heaton, D.L. Hughson, E.V. McDonald, and D.M. Miller. 2009. *The Mojave Desert: Ecosystem Processes and Sustainability*. Reno, Nevada: University of Nevada Press.

WRCC (Western Regional Climate Center). 2011. "Weather data for Acton, California." [print dataset]. Western Regional Climate Center: Historical Climate Information. Accessed December 28, 2015. http://www.wrcc.dri.edu/CLIMATEDATA.html.

Zeiner et al. 1988–1990. *California's Wildlife*, Vols. 1–3: "Amphibians and Reptiles," "Birds," and "Mammals." Sacramento, California: California Department of Fish and Game.

INTENTIONALLY LEFT BLANK

APPENDIX A

Vegetation Communities and Land Covers

APPENDIX A
Vegetation Community Descriptions

The San Bernardino Countywide Plan Biological Resources Existing Conditions Report briefly describes the vegetation communities and land covers by general community. This appendix provides additional detail regarding the vegetation communities and land covers within the Desert, Valley, and Mountain Regions.

1 DESERT REGION

As described within the Existing Conditions Report, vegetation communities and land covers within the Desert Region were mapped using the 2014 Desert Renewable Energy Conservation Plan (DRECP) land cover map. The DRECP group level descriptions below were taken directly from the DRECP Baseline Biology Report (Dudek 2015).

Agriculture

Field crops account for most of the land in production, including alfalfa, Sudangrass for hay, wheat, cotton, barley, Bermuda grass, and sugar beets (UC Davis 2011a). Major vegetable crops include lettuce, cabbage, carrots, onions, broccoli, cauliflower, sweet corn, bell pepper, chili peppers, cantaloupes, mixed melons, and watermelons (UC Davis 2011a). Other crops include alfalfa, dry onions, carrots, potatoes, peaches, grapes, and nectarines.

Arid West Freshwater Emergent Marsh

Arid west freshwater emergent marsh is dominated by either common reed (*Phragmites australis*), tall bulrushes (*Schoenoplectus* spp.), or cattails (*Typha* spp.). Within the Plan Area, much of this vegetation type is mapped at the group level, but a portion is also mapped as the *Typha* (*angustifolia, domingensis, latifolia*) alliance.

Arizonan Upland Sonoran Desert Scrub

Arizonan upland Sonoran desert scrub occurs on rocky or bouldery hills and lower mountains (VegCAMP and AIS 2013). Arizonan upland Sonoran desert scrub includes the following alliance: *Viguiera parishii*. Arizonan upland Sonoran desert scrub primarily occurs along the Colorado River and in the southern portion of the Pinto Lucerne Valley and Eastern Slopes Subarea.

California Annual Grassland

California annual grassland consists of grasses and herbs adapted to Mediterranean climates. If shrubs are present they do not exceed more than 10% cover and/or are not evenly distributed (VegCAMP and AIS 2013). California annual grassland is most common along the boundary north of the San Bernardino National Forest. The California annual grassland (native component) includes Brassica nigra and other mustards, and *Bromus rubens–Schismus* (*arabicus, barbatus*).

High-quality stands of the California annual grassland (native component) are considered a locally rare occurrence (LRO). The California annual grassland macrogroup also includes some areas of Mediterranean California naturalized annual grassland, a subtype that was aggregated into this macrogroup.

California Annual Forb/Grass Vegetation

California annual forb/grass vegetation is a group within the broader California annual and perennial grassland macrogroup. Although non-native forbs and grasses may be dominant, native herbs are characteristic and evenly distributed across the herbaceous layer. Cover and composition of native species vary from year to year, but indicators are usually present in sufficient amounts to differentiate from non-native stands. Diagnostic species include fiddleneck (*Amsinckia* spp.), California poppy (*Eschscholzia* spp.), goldfields (*Lasthenia* spp.), dotseed plantain (*Plantago erecta*), and small fescue (*Festuca microstachys*) (VegCAMP and AIS 2013). California annual forb/grass vegetation occurs mainly in the West Mojave and Eastern Slopes and Mojave and Silurian Valley Subareas, although there is also a small amount in the Ord Mountains of the Pinto Lucerne Valley and Eastern Slopes Subarea. There is one alliance within the California annual forb/grass vegetation group: *Amsinckia* (*menziesii*, *tessellata*).

Californian Broadleaf Forest and Woodland

Californian broadleaf forest and woodland includes broadleaf evergreen or winter deciduous trees of the California Mediterranean climate zone. It includes mostly oak trees (*Quercus* spp.), but also includes small stands of buckeye (*Aesculus californica*) and black walnut (*Juglans californica*) (VegCAMP and AIS 2013). The Californian broadleaf forest and woodland alliances include *Quercus chrysolepis* tree and *Quercus wislizeni* tree. Californian broadleaf forest and woodland is primarily located along Horsethief Canyon north of San Bernardino National Forest.

Californian Mesic Chaparral

Californian mesic chaparral occurs on sites with mesic conditions, such as north-facing slopes, concavities, and toeslopes with well-drained soils. It is found throughout Mediterranean California, but is primarily inland from the coastal fog belt. Californian mesic chaparral occurs up to 6,000 feet in Southern California. Dominant plant species include a variety of mixed or single-species, evergreen, sclerophyllous shrubs that resprout following fire (VegCAMP and AIS 2013). Although most of this vegetation type is mapped at the coarser group level, there are four alliances: *Cercocarpus montanus*, *Prunus ilicifolia*, *Quercus berberidifolia*, and *Quercus berberidifolia–Adenostoma fasciculatum*.

Californian Montane Conifer Forest

Californian montane conifer forests are characterized by an evenly distributed presence of bigcone Douglas-fir (*Pseudotsuga macrocarpa*) in the canopy, usually with canyon live oak (*Quercus chrysolepis*) as a co-dominant with up to three times the cover of bigcone Douglas-fir. This community is restricted to sheltered sites, including areas protected from canopy fire and relatively steep and shady lower canyons and slopes (VegCAMP and AIS 2013).

Californian Warm Temperate Marsh/Seep

Californian warm temperate marsh/seep is dominated by artic rush (*Juncus arcticus* var. *balticus, mexicanus*) and occurs in temporarily to seasonally flooded meadow environments. Although other native and non-native herbs may be present, arctic rush is prevalent throughout the stand (Aerial Information Systems Inc. 2013). This alliance is present in the southern portion of the West Mojave and Eastern Slopes Subarea and near the Paradise Range in the Mojave and Silurian Valley Subarea.

Californian Xeric Chaparral

Californian xeric chaparral consists of a mixture of obligate seeders, facultative seeders, and resprouters that form sclerophyll shrublands dominated by one or more of the following species: chamise (*Adenostoma fasciculatum*), bigberry manzanita (*Arctostaphylos glauca*), hoaryleaf ceanothus (*Ceanothus crassifolius*), or flannelbush (*Fremontodendron* spp.). Drought-deciduous black sage (*Salvia mellifera*) may be codominant. Californian xeric chaparral typically occurs on well-drained soils with exposures that receive full sun much of the growing season, such as upper slopes, spur ridges, and convexities. Californian xeric chaparral generally occurs inland from maritime chaparral from sea level up to 6,400 feet in elevation. This vegetation type ranges from inland northern Baja California, Mexico, southern, central, and northern California through the northern end of the Great Valley and north into Oregon (VegCAMP and AIS 2013). Californian xeric chaparral occurs along the mountainous areas within the West Mojave and Eastern Slopes Subarea. There are three alliances of California xeric chaparral on site: *Adenostoma fasciculatum*, *Arctostaphylos glauca*, and *Fremontodendron californicum*. *Fremontodendron* californicum is an S2 alliance, which is considered rare.

Central and South Coastal California Seral Scrub

Stands of central and south coastal California seral scrub are typically open and have often recently been disturbed so as to reduce vegetative cover, as in a fire. The following species are dominant or co-dominant: San Joaquin snakeweed (*Gutierrezia californica*), common deerweed (*Acmispon glaber*), silver lupine (*Lupinus albifrons*), narrowleaf goldenbush (*Ericameria linearifolia*), yerba santa (*Eriodictyon* spp.), Mendocino bushmallow (*Malacothamnus fasciculatus*), longstem buckwheat (*Eriogonum elongatum*), naked buckwheat (*Eriogonum*

nudum), common sandaster (*Corethrogyne filaginifolia*), and tree poppy (*Dendromecon rigida*) (VegCAMP and AIS 2013). There are two alliances within the central and south coastal California seral scrub: *Ericameria linearifolia* and *Eriodictyon* (*crassifolium, trichocalyx*). The *Ericameria linearifolia* alliance has a state ranking of S3 and is considered rare. Central and south coastal California seral scrub is found east of the Tehachapi Mountains near Mojave and in the southern portion of the Plan Area from Mountain Top Junction east of Highway 138 east to Mojave River Forks Regional Park.

Central and South Coastal Californian Coastal Sage Scrub

Central and south coastal Californian coastal sage scrub includes Eastern Mojave buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), or bastardsage (*Eriogonum wrightii*) (VegCAMP and AIS 2013). This vegetation type occurs primarily the West Mojave and Eastern Slopes subarea. Two south coastal Californian coastal sage scrub alliances are *Eriogonum fasciculatum* and *Eriogonum wrightii*, the former being much more common than the latter. The *Eriogonum wrightii* alliance has a state ranking of S3 and is considered rare.

Developed and Disturbed Area

Developed and disturbed land includes low- to high-intensity urban development and open space associated with developed areas, including uses such as golf courses. Developed areas are concentrated in the western Mojave in the Palmdale/Lancaster area. Disturbed lands occur primarily in the western Mojave area.

Great Basin Pinyon–Juniper Woodland

Great Basin pinyon–juniper woodland is a desert conifer woodland and has three alliances: *Cercocarpus ledifolius*, *Juniperus californica*, and *Pinus monophylla*. The *Juniperus californica* within the High Desert Plains and Hills is considered an LRO of this alliance. Great Basin pinyon–juniper woodland includes more than 1% absolute cover of singleleaf pine (*Pinus monophylla*) that is evenly distributed throughout the stand and the stand may have equal or higher cover of California juniper (*Juniperus californica*), Joshua tree (*Yucca brevifolia*), and/or Tucker oak (*Quercus john-tuckeri*) (VegCamp and AIS 2013).

Intermontane Deep or Well-Drained Soil Scrub

The intermontane deep or well-drained soil scrub, Mojave and Great Basin upper bajada and toeslope, and Southern Great Basin semi-desert grassland groups are categorized within the Inter-Mountain Dry Shrubland and Grassland vegetation macrogroup. Intermontane deep or well-drained soil scrub includes stands dominated by spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), rough jointfir (*Ephedra nevadensis*), Mormon tea (*E. viridis*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), water jacket (*Lycium andersonii*), peach

thorn (*L. cooperi*), and Mexican bladdersage (*Scutellaria* (*Salazaria) mexicana*). Intermontane deep or well-drained soil scrub typically occurs on north-facing slopes at lower elevations, but also occurs in basins and on slopes above 3,500 feet. Intermontane deep or well-drained soil scrub can also be found on the medium-textured soils of basin margins and lower fans, especially in cool air drainages. Intermontane deep or well-drained soil scrub includes many similar vegetation types with subtle differences based on soil texture, chemistry, and disturbance regime. This vegetation type recovers rapidly following fire compared to Mojave and Great Basin upper bajada and toeslope (VegCAMP and AIS 2013). Intermontane deep or well-drained soil scrub is located primarily along the southern edge of the West Mojave and Eastern Slopes following northwest to the foothills of the Scodie Mountains, and from the Calico Mountains in the Mojave and Silurian Valley Subarea. The following alliances are mapped within the intermontane deep or well-drained soil scrub group: *Ephedra nevadensis*, *Ephedra viridis*, *Ericameria teretifolia*, *Grayia spinosa*, *Krascheninnikovia lanata*, *Lycium cooperi*, and *Purshia tridentata*. The *Ephedra nevadensis* alliance in the high desert plains and hills is considered an LRO. In addition, the *Krascheninnikovia lanata*, *Lycium andersonii*, *Lycium cooperi*, and *Purshia tridentata* alliances are considered rare.

Intermontane Seral Shrubland

Intermontane seral shrubland is dominated by relatively small, short-lived plants that colonize uplands following both natural and unnatural disturbance events, such as clearing or fire. Characteristic species include Acton's brittlebush (*Encelia actoni*), Virgin River brittlebush (*E. virginensis*), rubber rabbitbrush (*Ericameria nauseosa*), Cooper's goldenbush (*E. cooperi*), or snakeweed (*Gutierrezia* spp.). In addition, burrobrush (*Ambrosia salsola*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), Nevada jointfir (*Ephedra nevadensis*), turpentinebroom (*Thamnosma montana*), and horsebrush (*Tetradymia* spp.) may be present (VegCAMP and AIS 2013). Intermontane seral shrubland occurs primarily in the mountainous regions in the West Mojave and eastern slopes. The following alliances are within this group: *Encelia* (*actoni, virginensis*), *Ericameria cooperi*, *Ericameria nauseosa*, and *Gutierrezia sarothrae*. Both the *Encelia* (*actoni, virginensis*) and *Gutierrezia sarothrae* alliances are state ranked S3 and are therefore considered rare.

Inter-Mountain Dry Shrubland and Grassland

Inter-mountain dry shrubland and grassland vegetation generally consists of scrubs of the cooler (higher elevation) desert. Most of this macrogroup's diagnostic species are long-lived. Although some of the diagnostic species resprout following fire, some are extremely sensitive to fire. Inter-mountain dry shrubland and grassland is widespread in the higher elevations of the Mojave Desert, but in the western and central Mojave and Sonoran deserts, fires and clearing have resulted in many stands of transitional types that intergrade between seral scrub and more stable persistent stands (VegCAMP and AIS 2013).

Intermountain Mountain Big Sagebrush Shrubland and Steppe

Intermountain mountain big sagebrush shrubland and steppe is a sagebrush community occurring at montane elevations. Intermountain mountain big sagebrush shrubland and steppe typically occurs on flats, ridges, nearly flat ridgetops, and mountain slopes with deep to stony soil. It is composed primarily of mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and related taxa. Antelope bitterbrush (*Purshia tridentata*) may occur as a dominant or co-dominant shrub. Other shrubs include snowberry (*Symphoricarpos* spp.), serviceberry (*Amelanchier* spp.), rubber rabbitbrush (*Ericameria nauseosa*), wild crab apple (*Peraphyllum ramosissimum*), wax currant (*Ribes cereum*), and yellow rabbitbrush (*Chrysothamnus viscidiflorus*) (USNVC 2013). Intermountain mountain big sagebrush shrubland and steppe occurs in the San Bernardino Mountains. *Artemisia tridentata* is the only alliance within this group. Intermountain mountain big sagebrush shrubland and steppe also includes inter-mountain west mesic tall sagebrush shrubland and steppe, a subtype that was aggregated into this vegetation type

Lower Bajada and Fan Mojavean – Sonoran Desert Scrub

Lower bajada and fan Mojavean–Sonoran desert scrub occurs on lower slopes, fans, and small sheet flow areas, but does not occur on well-defined washes or arroyos with defined banks and channels. This vegetation type is dominated or co-dominated by the following small to moderate sized shrubs (or perennial grasses): ragweed (*Ambrosia* spp.), brittlebush (*Encelia* spp.), creosote bush (*Larrea tridentata*), senna (*Senna* spp.), paloverde (*Parkinsonia* spp.), desert ironwood (*Olneya tesota*), barrel cactus (*Ferocactus* spp.), dalea (*Psorothamnus* spp.), and ratany (*Krameria* spp.). Where yucca, Mexican bladdersage, hopsage, or Mormon tea are present, they have equal or lower cover. Winters where lower bajada and fan Mojavean–Sonoran desert scrub occurs may experience short frosts, but typically do not experience persistent freezes or snow accumulation (VegCAMP and AIS 2013). Lower bajada and fan Mojavean–Sonoran desert scrub is found throughout most of the Desert Region and includes the following alliances: *Ambrosia dumosa*, *Atriplex polycarpa*, *Encelia farinosa*, *Larrea tridentata*, *Larrea tridentata–Ambrosia dumosa*, and *Larrea tridentata–Encelia farinosa*.

Madrean Warm Semi-Desert Wash Woodland/Scrub

Madrean warm semi-desert wash woodland/scrub is mapped in defined desert washes that are distinctly different in plant composition and/or cover compared to adjacent upland vegetation types. The washes where this community is found are variable and can range from broad and many-channeled to narrow with a singular or few channels. Washes where Madrean warm semi-desert wash woodland/scrub occurs may be found in hills, across moderate sloping fans, or in relatively flat lower toeslopes or basins. Diagnostic species include jointfir (*Ephedra californica* or *E. trifurca*), California broomsage (*Lepidospartum squamatum*), Mojave rabbitbrush (*Ericameria paniculata*), burrobrush (*Ambrosia salsola*), desert almond (*Prunus fasciculata*),

woolly brickellbush (*Brickellia incana*), big sagebrush (*Artemisia tridentata* ssp. *parishii*), catclaw acacia (*Acacia greggii*), desert lavender (*Hyptis emoryi*), honey mesquite (*Prosopis glandulosa*), screwbean mesquite (*P. pubescens*), desert willow (*Chilopsis linearis*), smoketree (*Psorothamnus spinosus*), blue paloverde (*Parkinsonia florida*), and desert ironwood (*Olneya tesota*) (VegCAMP and AIS 2013).

Mojave and Great Basin Upper Bajada and Toeslope

Mojave and Great Basin upper bajada and toeslope are shrublands with shrubs attaining at least 2% cover and evenly distributed. However, indicator species for intermontane deep or well-drained soil scrub, if present, are usually less conspicuous or less dominant than coleogyne (*Coleogyne* spp.), bitterbrush (*Purshia* spp.), menodora (*Menodora* spp.), mountain mahogany (*Cercocarpus* spp.), or yucca (*Yucca* spp.) (VegCAMP and AIS 2013). Mojave and Great Basin upper bajada and toeslope is fairly common throughout much of the Plan Area except the southern portion. It is most common in the Kingston mountains and Providence and Bullion mountains in the eastern portion of the Plan Area (Figure 4-1)., There are five Mojave and Great Basin upper bajada and toeslope alliances: *Coleogyne ramosissima*, *Menodora spinescens*, *Scutellaria (Salazaria) mexicana*, *Yucca brevifolia*, and *Yucca schidigera*. The *Coleogyne ramosissima* alliance is considered an LRO in the high desert plains and hills. In addition, the *Menodora spinescens* and *Yucca brevifolia* alliances are ranked S3 and are considered rare.

Mojavean Semi-Desert Wash Scrub

Mojavean semi-desert wash scrub is one of two groups or vegetation types within the Madrean warm semi-desert wash woodland/scrub macrogroup. This community occurs in many scattered locations, but is most common in the western area, and is differentiated from the Sonoran–Coloradan semi-desert wash woodland/scrub community by specific alliance. This community is dominated, co-dominated, or contains an even distribution of shrubs including jointfir, California broomsage, Mojave rabbitbrush, burrobrush, desert almond, woolly brickellbush, big sagebrush, and sweetbush (*Bebbia juncea*) (VegCAMP and AIS 2013). The alliances include *Ambrosia salsola*, *Brickellia incana*, *Ephedra californica*, *Ericameria paniculata*, *Lepidospartum squamatum*, and *Prunus fasciculata*. All of these alliances, with the exception of *Ambrosia salsola*, are considered rare due to their state ranking.

North American Warm Desert Alkaline Scrub and Herb Playa and Wet Flat

North American warm desert alkaline scrub and herb playa and wet flat include dense herbaceous stands that are wet, flooded, or moist throughout the growing season (VegCAMP and AIS 2013). This vegetation type ranges from Edwards Air Force Base to Death Valley in the northeast to Ivanpah Valley along the eastern boundary, and southeast to the Chuckwalla Valley.

North American Warm Desert Bedrock Cliff and Outcrop

North American warm desert bedrock cliff and outcrop is characterized by areas in which vegetation is largely absent. Vegetation is not uniformly distributed across a landscape surface and generally consists of less than 5% cover. There are no evenly spaced trees or shrubs. While North American warm desert bedrock cliff and outcrop is not characterized by herbaceous species most of the time, in years of substantial precipitation, herbaceous annual species may be abundant and evenly distributed (VegCAMP and AIS 2013). North American warm desert bedrock cliff and outcrop is most prevalent in the eastern and southern portions from the Piute Valley south.

North American Warm Dunes and Sand Flats

North American warm desert dunes and sand flats include four mapped alliances: Dicoria *canescens–Abronia villosa*, *Panicum urvilleanum*, *Hilaria (Pleuraphis) rigida*, and *Prosopis glandulosa* (coppice dunes). All of the alliances within this group are considered rare given their state ranking. North American warm desert dunes and sand flats is characterized by open dunes, dune aprons, or sand flats in which vegetation is sparse to very open (less than 10% cover) except for annual blooms in favorable years (VegCAMP and AIS 2013). This community occurs throughout the Mojave Desert and lower Great Basin Desert and 4 systems in the Sonoran Desert.

Open Water

Open water accounts for areas within the wetlands the majority of which is the Salton Sea.

Playa

Playas are dry lake beds that may form shallow lakes after heavy rain events; playas are most prevalent in Ward Valley.

Riparian

Riparian vegetation types include a riverine category and five groups: Madrean warm semi-desert wash woodland/scrub, Mojavean semi-desert wash scrub, Sonoran–Coloradan semi-desert wash woodland/scrub, Southwestern North American riparian evergreen and deciduous woodland, and Southwestern North American riparian/wash scrub.

Rural

Rural lands are primarily characterized by rural development or agricultural land uses.

Shadscale–Saltbush Cool Semi-Desert Scrub

Shadscale–saltbush cool semi-desert scrub is dominated or co-dominated by fourwing saltbush (*Atriplex canescens*), shadscale saltbush (*A. confertifolia*), or greasewood (*Sarcobatus vermiculatus*). Shadscale–saltbush cool semi-desert scrub generally occurs in dry lakebeds, low dunes adjacent to lakebeds, rocky uplands, or sandy washes (VegCAMP and AIS 2013). Shadscale-saltbush cool semi-desert scrub alliances include *Atriplex canescens* and *Atriplex confertifolia*.

Sonoran–Coloradan Semi-Desert Wash Woodland/Scrub

Sonoran–Coloradan semi-desert wash woodland/scrub is the second group or community within the Madrean warm semi-desert wash woodland/scrub macrogroup. This community occurs primarily from the Twentynine Palms area southeast to the Palo Verde Valley. Microphyll woodlands, as defined in the DRECP, consist of four alliances within this vegetation type: desert willow (*Chilopsis linearis*), mesquite (*Prosopis glandulosa*), smoke tree (*Psorothamnus spinosus*), and blue palo verde–ironwood (*Parkinsonia florida–Olneya tesota*). Sonoran–Coloradan semi-desert wash woodland/scrub is characterized by wash or wetland margin vegetation of warmer desert areas. Diagnostic species include shrubby "trees," such as mesquite (*Prosopis glandulosa* or *P. pubescens*), desert willow, smoke tree, paloverde, desert ironwood (*Olneya tesota*), or tall wash or wetland shrubs, such as arrowweed (*Pluchea sericea*) and desert lavender. Sonoran–Coloradan semi-desert wash woodland/scrub is often found at the edges of springs, river terraces, washes, and other areas that concentrate water (VegCAMP and AIS 2013). The following alliances occur within this community on site: *Acacia greggii*, *Chilopsis linearis*, *Hyptis emoryi*, *Parkinsonia florida–Olneya tesota*, *Prosopis glandulosa*, and *Psorothamnus spinosus*. Of these, *Chilopsis linearis*, *Hyptis emoryi*, *Prosopis glandulosa*, and *Psorothamnus spinosus* have state rankings of S3 and are considered rare.

Southern Great Basin Semi-Desert Grassland

Southern Great Basin semi-desert grassland is dominated by perennial grasses while shrubs are not evenly distributed (VegCAMP and AIS 2013). Southern Great Basin semi-desert grassland occurs in some scattered locations in the northern portion of the West Mojave and Eastern Slopes Subarea and in the Superior Valley in the Mojave and Silurian Valley Subarea. The following alliance occurs within this community: *Achnatherum speciosum* alliance, which is ranked as S2 and is considered rare in the Plan Area.

Southwestern North American Riparian Evergreen and Deciduous Woodland

Southwestern North American riparian evergreen and deciduous woodlands are characterized by riparian winter deciduous, broad-leaved trees, or tall shrubs, including Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), and/or willows (*Salix* spp.). This

vegetation type occurs primarily along the Mojave River. The following alliances occur within this community on site: *Platanus racemosa, Populus fremontii, Salix gooddingii, Salix laevigata,* and *Washingtonia filifera*. All of these alliances are considered rare.

Southwestern North American Riparian/Wash Scrub

Southwestern North American riparian/wash scrub is characterized by native or non-native riparian shrubs and lacks a significant cover or presence of riparian trees. Generally, native species of baccharis (*Baccharis* spp.), elderberry (*Sambucus* spp.), swampprivet (*Forestiera* spp.), narrowleaf willow (*Salix exigua*), or arroyo willow (*S. lasiolepis*) are dominant or co-dominant. There may be scattered, unevenly distributed *Populus fremontii* and other willow species (*Salix* spp.) or other riparian trees at less than 10% cover (VegCAMP and AIS 2013). Southwestern North American riparian/wash scrub also includes some areas of Southwestern North American introduced riparian scrub, a subtype that was aggregated into this group. The following alliances occur within the Southwestern North American riparian/wash scrub on site: *Baccharis salicifolia, Baccharis sergiloides, Forestiera pubescens, Salix exigua, Salix lasiolepis, Sambucus nigra,* and *Tamarix* spp. The *Baccharis sergiloides, Forestiera pubescens,* and *Sambucus nigra* alliances have state rankings of S2 or S3 and so are considered rare.

Southwestern North American Salt Basin and High Marsh

Southwestern North American salt basin and high marsh is typically restricted to alkali or salt basins, spring margins, or river terraces with salt or alkali deposits (VegCAMP and AIS 2013). Most of this vegetation type occurs in the West Mojave and Eastern Slopes Subarea. There are several alliances mapped within this group, including *Allenrolfea occidentalis, Atriplex lentiformis, Atriplex parryi, Atriplex spinifera, Distichlis spicata, Frankenia salina, Isocoma acradenia,* and *Suaeda nigra (moquinii).* The *Allenrolfea occidentalis, Atriplex parryi, Frankenia salina,* and *Isocoma acradenia* alliances are all considered rare due to their state rankings. Southwestern North American alkali marsh/seep vegetation is also included as a subtype within Southwestern North American salt basin and high marsh and is dominated by either rushes (*Juncus* spp.) or bulrushes (*Schoenoplectus* or *Bolboschoenus* spp.) (VegCAMP and AIS 2013).

Western Mojave and Western Sonoran Desert Borderland Chaparral

Western Mojave and western Sonoran Desert borderland chaparral is characterized by two-tiered shrublands. One layer includes a moderately open to intermittent cover of sclerophyll shrubs such as scrub oaks (*Quercus cornelius-mulleri* and *Quercus john-tuckeri*) and another shorter layer includes drought deciduous subshrubs with at least some presence of xerophylls, such as pricklypear (*Opuntia* spp.), cholla (*Cylindropuntia* spp.), and yucca (*Yucca* or *Hesperoyucca* spp.). Many drought-deciduous species with desert affinities, such as goldenbush (*Ericameria* spp.) and

Acton's brittlebush (*Encelia actoni*), may also be present. Species considered true Mediterranean California chaparral species, such as chamise (*Adenostoma* spp.), manzanita (*Arctostaphylos* spp.), and many ceanothus species (*Ceanothus* spp., other than *C. greggii*), are either lower in cover or absent from the stand (VegCAMP and AIS 2013). Western Mojave and western Sonoran Desert borderland chaparral occurs in scattered locations in the West Mojave and Eastern Slopes Subarea southeast to the little San Bernardino Mountains in the Pinto Lucerne Valley and Eastern Slopes Subarea. Two alliances are within Western Mojave and western Sonoran Desert borderland chaparral: *Quercus cornelius-mulleri* and *Quercus john-tuckeri*.

Wetland

The wetland vegetation includes five vegetation types: arid west freshwater emergent marsh, Californian warm temperate marsh/seep, North American warm desert alkaline scrub and herb playa and wet flat, Southwestern North American alkali marsh/seep vegetation, and Southwestern North American salt basin and high marsh.

2 MOUNTAIN AND VALLEY REGIONS

Vegetation communities and land covers within the Mountain and Valley Regions were mapped based on the Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) classification system. The community descriptions below are taken directly from the CALVEG Zone 7, "South Coast and Montane Ecological Province" (CALVEG 2009).

Agriculture (General)

Agricultural land is used primarily for the production of food and includes forest landscapes such as orchards as well as non-forested land uses such as vineyards and field crops.

Agricultural Nurseries (General)

Agricultural nursery sites occur within or outside developed or disturbed lands and include potted or sometimes rooted woody or herbaceous plants that are sold as retail or wholesale species.

Alkaline Mixed Grasses

Alkaline and hyper-saline soils occur in xeric areas in internal drainage basins that accumulate soluble salts and may have moist pockets. This alliance includes areas occupied by herbaceous species and grasses adapted to these conditions at an elevation range of about 100–3,500 feet (31–1,068 meters). These sites are adjacent to other desert species such as creosote bush (*Larrea tridentata*) and saltbush species (*Atriplex* spp.). In addition, herbaceous and graminoid species such as saltgrass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*), and bush seepweed (*Suaeda nigra (moquinii)*) may be included in this mixture.

Alpine Mixed Scrub

Alpine mixed scrub alliance occurs above 7,600 feet (2,318 meters) along ridges and slopes. The alliance includes a mixture of grasses, herbaceous plants, and often prostrate subshrubs. Rounded, low-profile xerophytic plant forms ("cushion plants") such as southern alpine buckwheat (*Eriogonum kennedyi* var. *alpigenum*) occur with other subshrubs and taller shrubs such as sulphur-flower buckwheat (*Eriogonum umbellatum*), rock spiraea (*Holodiscus microphyllus*), wax currant (*Ribes cereum*), mountain gooseberry (*Ribes montigenum*), purple mountainheath (*Phyllodoce breweri*), red elderberry (*Sambucus racemosa*), and shrub willows such as Geyer's (*Salix geyeriana*) and Lemmon's (*Salix lemmonii*). Perennials such as *Draba corrugata*, silky raillardella (*Raillardella argentea*), campion (*Silene parishii*), pussypaws (*Calyptridium monospermum*), alpine shooting star (*Dodecatheon alpinum*), buttercup (*Ranunculus eschscholtzii var. oxynotus*), pumice Alpinegold (*Hulsea vestita*) as well as grasses and graminoid species such as needlegrass (*Achnatherum occidentale*), squirreltail (*Elymus elymoides*), rushes (*Juncus* spp.), and sedges (*Carex* spp.) may also occur.

Agriculture Pond or Water Feature

This class includes artificially constructed water features on otherwise agricultural sites on farms, ranches, etc., are large enough to map and document. These sites include stock ponds, small reservoirs, large ditches and other utilitarian or recreational water features.

Annual Grasses and Forbs

Many non-native grasses are occur within this alliance, including species of wild oats (*Avena* spp.), various bromes (*Bromus* spp.), foxtail fescue (*Vulpia myuros*), filaree (Erodium spp.), and Kentucky bluegrass (*Poa pratensis*). In addition, the alliance may also include natives species such as various sedges (*Carex* spp.), melic grass (*Melica* spp.), and checker bloom (*Sidalcea malviflora*). This alliance occurs on sites up to 4,600 feet (1,402 meters) in the Coast Section, up to about 7,800 feet (2,379 meters) in the Mountains Section and on low-gradient sites up to about 6,200 feet (1,890 meters) in the High Desert Plains of the Mojave Section.

Baccharis (Riparian)

This riparian or dry wash alliance is dominated by any species of *Baccharis* occupying wet habitats, including the most common, mulefat (*B. salicifolia*), desert baccharis (*B. sergiloides*), shortleaf baccharis (*B. brachyphylla*), marsh baccharis (*B. douglasii*), broom baccharis (*B. sarothroides*), and willow baccharis (*B. salicina (emoryi)*). Tree willows (Salix spp.), California sycamore (*Platanus racemosa*), Fremont cottonwood (Populus fremontii), and coast live oak (*Quercus agrifolia*) are some associated hardwoods in this alliance. This alliance occurs within the elevation range 200–4,400 feet (60–1,340 meters) on low-gradient slopes.

Barren

Barren lands include landscapes that are generally devoid of vegetation and may include exposed bedrock, cliffs, interior sandy or gypsum areas. Barren lands may include quarries and mine sites.

Basin Sagebrush

Big sagebrush (*Artemisia tridentata*) is identified mainly by the dominance of *Artemisia tridentata* ssp. *tridentata* and/or *A. t*. ssp. *vaseyana*. These sites occur within a range of 1,800–9,200 feet (548–2,806 meters) and in habitats containing low-gradient slopes and coarse, often deep, and well drained soils. Typical sites are dry alluvial fans or washes. Associated species include conifers such as Jeffrey pine (*Pinus jeffreyi*) and singleleaf pinyon (*Pinus monophylla*); dryland and low-elevation chaparral shrubs such as California juniper (*Juniperus californica*), rabbitbrush (*Chrysothamnus* spp.), Tucker's or Muller's oaks (*Quercus john-tuckeri*, *Q. cornelius-mulleri*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), redshank (*Adenostoma sparsifolium*), chamise (*A. fasciculatum*), and manzanitas (*Arctostaphylos* spp.); and grasses such as *Bromus* spp.

Bigcone Douglas-Fir

Bigcone Douglas-fir (*Pseudotsuga macrocarpa*) alliance is defined by the clear dominance of this species interspersed with other conifers and occurs up to about 7,000 feet (2,135 meters) in the mountains. Canyon live oak (*Quercus chrysolepis*) can co-occur on protected mesic canyon slopes at lower elevations within its range. This alliance is typically north facing at lower elevations and south-facing or located on steeper slopes in higher elevations. Associated shrub species include *Ceanothus*, birchleaf mountain mahogany (*Cercocarpus betuloides*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), chamise, and shrub forms of oak (*Quercus* spp.).

Bitterbrush–Sagebrush

Bitterbrush–sagebrush alliance occurs on dry, inland areas at elevations around 7,200 feet (2,196 meters). Both bitterbrush (*Purshia tridentata* var. *glandulosa* and *P. Mexicana* var. *stansburyana*) and big sagebrush (*Artemisia tridentata*) dominate this alliance.

Birchleaf Mountain Mahogany

Birchleaf mountain mahogany (*Cercocarpus betuloides*) alliance is associated with the conifers bigcone Douglas-fir (*Pseudotsuga macrocarpa*) and singleleaf pinyon (*Pinus monophylla*), the hardwoods canyon live oak (*Quercus chrysolepis*), and shrubs such as chamise (*Adenostoma fasciculatum*), species of ceanothus and manzanita (*Arctostaphylos spp*.), various scrub or

shrubby oaks (Quercus spp.), and flannelbush (*Fremontodendron californicum* ssp. c*alifornicum*). This alliance occurs mainly below 8,000 feet (2,440 meters) on steep and often south-facing slopes.

Black Cottonwood

Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) is the dominant tree in the canopy and occurs within Owens Valley Subsection (Mojave) at elevations generally between 5,100 and 5,300 feet (1,556 and 1,617 meters) and also within the Upper San Gorgonio Mountains at elevations up to 8,000 feet (2,440 meters). Fremont cottonwood (*P. fremontii*) replaces it in Southern California at lower elevations and/or warmer sites. Associated species include coast live oak (*Quercus agrifolia*), California sagebrush and (*Artemisia californica*).

Black Oak

California black oak (*Quercus kelloggii*), is very common in mixed conifer and hardwood stands in association with Jeffrey, Ponderosa, and Coulter pines (*Pinus jeffreyi*, *P. ponderosa*, *P. coulteri*), white fir (*Abies concolor*), and bigcone Douglas-fir (*Pseudotsuga macrocarpa*). California black oak alliance occurs on mesic slopes at elevations from about 3,200 to 7,600 feet (976 to 2,318 meters). These stands often develop as a result of intensive fires or other disturbance such as logging of conifers, varying greatly in canopy closure from very dense to savanna-like. Canyon live oak (*Q. chrysolepis*) is the main hardwood associate in pure stands and with this oak in the montane mixed hardwood alliance.

Blackbrush

Blackbrush (*Coleogyne ramosissima*) alliance occurs on non-alkaline soils within the Mojave and occasionally the Colorado Desert. This alliance typically occurs at elevation ranges of about 2,200–6,000 feet (671–1,828 meters) on alluvial or rocky slopes having shallow soils. Associated species include singleleaf (*Pinus monophylla*), California and Utah junipers (*Juniperus californica*, *J. osteosperma*), Joshua tree (*Yucca brevifolia*), Muller oak (*Quercus cornelius-mulleri*), big sagebrush, and brittlebush.

Buckwheat

This alliance is a combination of Eastern Mojave buckwheat (*Eriogonum fasciculatum*) with or without the presence of white sage (*Salvia apiana*) and occurs at elevations up to about 7,000 feet (2,135 meters). Chaparral yucca (*Yucca whipplei*), *Encelia* spp., cholla (*Cylindropuntia* spp.), pricklypear (*Opuntia* spp.), sumacs (*Rhus* and *Malosma* species), and common deerweed (*Acmispon glaber*) are often associated species. This alliance is usually sparsely vegetated. The degradation of chamise or mixed chaparral sites from disturbance likely initiates and expands buckwheat communities.

California Bay

California bay (*Umbellularia californica*) alliance occurs at elevations below about 5,000 feet (1,524 meters). Associated hardwood species include coast live oak (*Quercus agrifolia*) and canyon live oak (*Q. chrysolepis*) as well as shrub species including chamise (*Adenostoma fasciculatum),* species of *Ceanothus,* and interior live oak shrubs (*Q. chrysolepis* var. *nana, Q. wislizenii* var. *frutescens*).

California Sagebrush

This alliance occurs at elevations below about 3,000 feet (915 meters) and usually has a high density of California sagebrush (*Artemisia californica*) as well as various mixtures of other shrubs, subshrubs, and perennials. Associated species include black or purple Sage (*Salvia mellifera, Salvia leucophylla*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), coyote brush (*Baccharis pilularis*), California encelia (*Encelia californica*), minor amounts of chamise (*Adenostoma fasciculatum*), common deerweed (*Acmispon glaber*), and grasses. Annual grasses and forbs as well as coast live oak (*Quercus agrifolia*) are commonly found in close proximity to this alliance.

California Juniper (shrub)

California Juniper (*Juniperus californica*) alliance is common in the Little San Bernardino–Bighorn Mountains and desert slopes. This alliance occurs at low to low montane elevations. Singleleaf pinyon (*Pinus monophylla*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), Muller oak (*Quercus cornelius-mulleri*), creosote bush (*Larrea tridentata*), and blackbrush (*Coleogyne ramosissima*), along with many others, may be found as associates in this alliance.

California Sycamore

California sycamore (*Platanus racemosa*) has been identified to occur at elevations up to about 4,500 feet (1,373 meters). Common associates include Fremont cottonwood (*Populus fremontii*), willows (*Salix* spp.), black walnut (*Juglans californica*), white alder (*Alnus rhombifolia*), and coast live oak (*Quercus agrifolia*). California sycamore alliance occasionally occurs on lower floodplains of more xeric areas and may be adjacent to the Riversidean alluvial scrub alliance in those areas.

California Walnut

California Black Walnut (*Juglans californica*), a species endemic to the state, historically occurred in a restricted range of southern California at elevations from 500 to 2,500 feet (152 to 762 meters) and occur on usually mesic to moist soils on north slopes, creek beds, seeps,

canyon bottoms, and alluvial terraces with deep soils. Walnuts are usually widely spaced and associate species include coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), foothill ash (*Fraxinus dipetala*), Mexican elderberry (*Sambucus mexicana*), sugar sumac (*Rhus ovata*), and skunkbush (*Rhus trilobata*). Coastal sage scrub species such as California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*) may also occur.

Canyon Live Oak

Canyon live oak (*Quercus chrysolepis*) is the most widely distributed California oak. This alliance occurs at elevations up to about 8,500 feet (2,593 meters) and sparsely occurs up to approximately 4,400 feet (1,342 meters). There is a wide range of associated species including bigcone Douglas-fir (*Pseudotsuga macrocarpa*) in canyon bottoms and with coulter pine (*Pinus coulteri*) on gentle slopes. Xeric sites include associations with singleleaf pinyon (*P. monophylla*). Other conifer associates include knobcone, Ponderosa, Jeffrey, or gray pines (*P. attenuata, P. ponderosa, P. jeffreyi, P. sabiniana*), and white fir (*Abies concolor*). This alliance is often associated with coast live (*Q. agrifolia*) and blue (*Q. douglasii*) oaks. Common shrubs include deerbrush (*Ceanothus integerrimus*), chaparral whitethorn ceanothus (*C. leucodermis*), birchleaf mountain mahogany (*Cercocarpus betuloides*), poison oak (*Toxicodendron diversilobum*), and manzanita (*Arctostaphylos* spp.).

Catclaw Acacia

Catclaw acacia (*Acacia greggii*) alliance occurs in sandy washes and canyons below 6,000 feet (1,830 meters). Associated species include boxthorn (*Lycium* spp.), burrobush (*Ambrosia salsola* var. *salsola*), creosote bush, brittlebush, cholla (*Cylindropuntia* spp.), and paloverde (*Parkinsonia* spp.).

Ceanothus Mixed Chaparral

This alliance occurs on moderate to high-gradient slopes within the high desert plains and hills subsection, below 5,400 feet (1,646 meters). Ceanothus is the dominant shrub and can include a mixture of desert ceanothus (*Ceanothus greggii* var. *vestitus*), deerbrush (C *integerrimus*), hoaryleaf ceanothus (*C. crassifolius*), mountain whitethorn (*C. cordulatus*), and chaparral whitethorn (*C. leucodermis*). Other minor shrub components include chamise (*Adenostoma fasciculatum*) and sugar sumac (*Rhus ovata*).

Chamise

Chamise (*Adenostoma fasciculatum*), is a dominant shrub identifying this alliance and often develops in harsher environments with shallow soils, recent fire disturbance, xeric or sunnier environments (e.g., south facing slopes) compared to the lower montane mixed chaparral alliance. The elevation range is typically below about 4,800 feet (1,464 meters). It usually

grades with the Eastern Mojave buckwheat (*Eriogonum fasciculatum*) and annual grasses and forbs alliances. Although there are very little additional species found within this alliance, chaparral yucca (*Yucca whipplei*) often occurs on more open sites while coast live oak (*Quercus agrifolia*) can be present in the immediate vicinity.

Coast Live Oak

Coast live oak (*Quercus agrifolia*) alliance occurs at elevations from near sea level to about 5,000 feet (1, 524 meters). This alliance varies in density depending on site conditions such as climate, lithology, and slope angle. This hardwood may be present with species in the California sagebrush and lower montane mixed chaparral alliances such as California sagebrush (*Artemisia californica*), sages (*Salvia* spp.), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), and species of *Rhus, Malosma*, etc.

Coastal Cactus

Coastal cactus alliance occurs on drier areas up to about 1,800 feet (548 meters). This alliance can be dominated by a combination of *Opuntia* species including coastal or chaparral pricklypear (*Opuntia littoralis*, *O. oricola*) and coastal and snake cholla (*Cylindropuntia prolifera*, *C. californica*). Other associated species include California sagebrush (*Artemisia californica*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), sumac (*Rhus* spp.), California encelia (*Encelia californica*), black sage (*Salvia mellifera*), bush monkeyflower (*Mimulus aurantiacus*), and grasses.

Coastal Mixed Hardwood

Coastal mixed hardwood alliance does not have a single dominant species, but has a high cover of coast live oak (*Quercus agrifolia*) in the canopy. This alliance often includes black walnut (Juglans californica) individuals in addition to minor proportions of other oaks. Lower elevation shrubs such as California sagebrush (*Artemisia californica*) lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and chaparral species including *Ceanothus*, toyon (*Heteromeles arbutifolia*), and chamise (*Adenostoma fasciculatum*) may also be present. This alliance occurs at elevations generally less than 3,600 feet (1,098 meters).

Coulter Pine

Coulter pine (*Pinus coulteri*) occurs at elevations generally from 1,000 – 7,000 feet (305 – 2,134 meters). This alliance is dominated by Coulter pine and can have a chaparral understory with mountain whitethorn (*Ceanothus cordulatus*), manzanita (*Arctostaphylo*s spp.), and chamise (*Adenostoma fasciculatum*). Canyon live oaks (*Quercus wislizenii* var. *frutescens*, *Q. chrysolepis* var. *nana*) and associated conifers including ponderosa pine (*P. ponderosa*), bigcone Douglas-fir, and Jeffrey pine (*P. jeffreyi*) may also be present.

Creosote Bush

Creosote bush (*Larrea tridentata*) characterizes much of the desert landscapes in San Bernardino County. This alliance typically occurs up to about 5,200 feet (1,584 meters) and on most slope gradients and aspects. The highest quality habitat however consists of well drained soils with low alkalinity. White bursage (*Ambrosia dumosa*) is the most commonly associated species on these sites. Other associated species include upland desert and semi desert shrubs such as California juniper (*Juniperus californica*), brittlebush (*Encelia farinosa*), species of yucca, cacti (*Opuntia* spp.) as well as desert wash shrub species such as indigo bush (*Psorothamnus schottii*), desert lavender (*Hyptis emoryi*), and bush seepweed (*Suaeda nigra (moquinii)*) may also be found in minor amounts on these sites.

Curlleaf Mountain Mahogany

Curlleaf mountain mahogany (*Cercocarpus ledifolius*) alliance occurs within the elevations of about 4,600–9400 feet (1,402–2,867 meters). Associated species include conifers such as singleleaf pinyon (*Pinus monophylla*) and Jeffrey pine (*Pinus jeffreyi*) and shrubs of semiarid environments such as Big Sagebrush (*Artemisia tridentata*), rubber rabbitbrush (*Chrysothamnus nauseosus*) and Mojave ceanothus (*C. greggii* var. *vestitus*).

Curlleaf Mountain Mahogany (tree)

The tree form of curlleaf mountain mahogany (*Cercocarpus ledifolius*) is the dominant tree in the canopy and occurs on dry and rocky sites at elevations generally between 6,400 and 9,200 feet (1,952 and 2,806 meters). This alliance has been mapped within the San Gorgonio Mountains. Other species present include singleleaf pinyon (*Pinus monophylla*) and Jeffrey pine (*P. jeffreyi*).

Desert Buckwheat

Desert buckwheat alliance is found along most slopes and aspects within the desert as opposed to the buckwheat alliance, which is found within the coastal or chaparral areas. This alliance occurs at elevations from about 1,800 to 6,980 feet (549 to 2,074 meters) and includes Eastern Mojave buckwheat (*Eriogonum fasciculatum*) and other buckwheats such as bastardsage (*Eriogonum wrightii*) and desert trumpet (*E. inflatum*) as the dominant shrubs. Other associated species include white bursage (*Ambrosia dumosa*), big sagebrush (*Artemisia tridentata*), California juniper (*Juniperus californica*), and chamise (*Adenostoma fasciculatum*).

Desert Mixed Shrub

Desert mixed shrub alliance can include a combination of desert shrub species such as cholla (*Cylindropuntia* spp.) or pricklypear (*Opuntia* spp.), Joshua tree, chaparral yucca, Mojave

yucca (*Yucca schidigera*), creosote bush, white bursage, catclaw acacia, species of saltbush (*Atriplex* spp.), ocotillo (*Fouquieria splendens*), brittlebush, hop-sage (*Grayia spinosa*), agave (Agave spp.), Mormon tea (*Ephedra* spp.), barrel cactus (*Ferocactus* spp.), boxthorn (*Lycium* spp.), and blackbrush. Creosote bush and California juniper may also be present. This alliance occurs at elevations up to 6,600 feet (2,012 meters) within the dry margins of the Colorado and Mojave Deserts.

Douglas-Fir–Pine Alliance

This alliance includes a combination of bigcone Douglas-fir (*Pseudotsuga macrocarpa*) and ponderosa pine (*Pinus ponderosa*) that usually occurs on moderately steep slopes at elevation ranges generally from 3,600 to 7,000 feet (1,098 to 2,135 meters). Canyon live oak (*Quercus chrysolepis*) is the most common hardwood associate in mixed stands.

Eastside Pine

Jeffrey pine (*Pinus jeffreyi*) identifies this alliance occurring on the transmontane side of the San Bernardino and San Gabriel Mountains. The alliance has also been mapped in the Northern Transverse Ranges and Upper San Gorgonio Mountains. This alliance occurs at elevations generally from 4,400 to 9,400 feet (1,342 to 2,864 meters), while stands mixed with a hardwood understory are slightly lower, commonly up to 7,800 feet (2,378 meters). Black and canyon live oaks (*Quercus kelloggii*, *Q. chrysolepis*) are the most common hardwood associates. Associated species of semi-arid environments include big sagebrush (*Artemisia tridentata*) and rabbitbrush (*Chrysothamnus* spp.).

Encelia Scrub

Encelia scrub alliance is identified by brittlebush (*Encelia farinosa*) and/or Acton's brittlebush (*E. actoni*), which are found in more arid environments of the desert. This alliance occurs on mid- to high-gradient slopes at elevations up to about 5,000 feet (1,524 meters). Other associated species include creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and California juniper (*Juniperus californica*).

Eucalyptus

Eucalyptus alliance includes multiple species of *Eucalyptus*—blue gum (*Eucalyptus globulus*), red gum (*E. camaldulensis*), silver gum (*Eucalyptus polyanthemos*), and forest red gum (*Eucalyptus tereticornis*)—and can be established in dense, pure stands at lower elevations, below about 3,000 feet (915 meters). Naturalization has occurred in disturbed areas, augmented by the ability of this genus to resprout after disturbance. Eucalyptus alliances are typically adjacent to urban areas and annual, usually non-native, grasses.

Fan Palm

Fan palm (*Washingtonia filifera*) occurs naturally within oases maintained by seeps, springs, or watercourses in the Colorado Desert. It has also been widely planted and some limited degree of naturalization has occurred. Active faulting processes induced some or all of these sites. As a dominant hardwood of this alliance, fan palm occurs at elevations below about 2,600 feet (792 meters). Other species associated with the fan palm alliance include willows (*Salix* spp.) and Fremont cottonwood (*Populus fremontii*).

Fremont Cottonwood

Fremont cottonwood (*Populus fremontii*) is a relatively long-lived, deciduous riparian tree which germinates best on newly exposed moist alluvium such as stream gravel beds. As a hardwood dominating this alliance, it has been mapped in scattered sites within twenty-one subsections of both sections in the Transverse and Peninsular Ranges at elevations below about 5,600 feet (1,706 meters). Along with other associated trees such as California sycamore (*Platanus racemosa*), white alder (*Alnus rhombifolia*), coast live oak (*Quercus agrifolia*), and willows (*Salix* spp.), Fremont cottonwood becomes a major component of the riparian mixed hardwood alliance.

Great Basin–Desert Mixed Scrub

Great Basin–desert mixed scrub alliance is a transitional alliance that occurs on desert-facing slopes of interior mountains at elevation ranges from about 2,400 to 6,200 feet (732 to 1,890 meters). Great Basin species such as big sagebrush, bitterbrush, and curlleaf mountain mahogany and more southerly Mojave Desert species such as saltbush (*Atriplex* spp.), Mormon tea (*Ephedra nevadensis, E. viridis*), creosote bush, and horsebrush (*Tetradymia glabrata, T. stenolepis*), singleleaf pinyon (*Pinus monophylla*), Tucker's oak, Muller's oak, California juniper, and shrubs in the desert mixed scrub alliance identify this alliance.

Great Basin–Mixed Chaparral Transition

This mixed chaparral to semiarid transitional type is indicated by combinations of dryland shrubs such as big sagebrush (*Artemisia tridentata*), Tucker's or Muller's oaks (*Quercus john-tuckeri*, Q. *cornelius-mulleri*), rabbitbrush (*Chrysothamnus* spp.), coupled with more mesic chaparral species such as mountain whitethorn (*Ceanothus cordulatus*), and manzanitas (*Arctostaphylos* spp.). Minor amounts of Jeffrey pine and singleleaf pinyon may also be found in this alliance. It occurs principally in the transmontane areas of the San Gabriel Mountains and Northern Transverse Ranges Subsections of the Mountain Section, as well as occasionally in 10 other subsections. Slopes are generally desert or south facing, with moderately steep to steep gradients. Most sites fall within elevations from about 1,800 to 8,800 feet (548 to 2,684 meters).

Great Basin Mixed Scrub

Great basin mixed scrub alliance is identified by any combination of species characteristic of the Great Basin and Mojave Desert and can include big sagebrush, bitterbrush (*Purshia tridentata*), Tucker's oak, Muller's scrub oak, curlleaf mountain mahogany (*Cercocarpus ledifolius*), rabbitbrush (*Chrysothamnus* spp.), and interior buckwheats (*Eriogonum* spp.). This alliance occurs at elevations between 2,800 and 7,800 feet (854 and 2,379 meters).

High Desert Mixed Scrub

High desert mixed scrub alliance occurs at elevation ranges from 3,100 – 6,500 feet (946 – 1,983 meters). This alliance is identified by blackbrush, Mormon tea, hopsage, Anderson boxthorn (*Lycium andersonii*), spiny menodora (*Menodora spinescens*), white bursage, and cactus species (*Opuntia* spp.) Creosote bush is generally absent from this alliance.

Interior Live Oak

Interior Live Oak (*Quercus wislizenii*) alliance forms pure stands infrequently at low to intermediate elevations, especially in the San Bernardino Mountains from about 2000 to 6,000 feet (610 to 1,828 meters) with a preference for sites with north-facing slopes. Associated species include chaparral whitethorn (*Ceanothus leucodermis*), chamise (*Adenostoma fasciculatum*), scrub oaks (*Quercus* spp.), and honeysuckle (*Lonicera* spp.).

Interior Mixed Hardwood

Interior mixed hardwood includes a combination of species with no single species being dominant. This alliance occurs within mountains at elevations up to about 6,000 feet (1,830 meters). Mixtures include canyon and interior live oaks (*Quercus chrysolepis, Q. wislizenii*), and valley oak (*Q. lobata*), with minor amounts of black oak (*Q. kelloggii*), blue oak (*Q. douglasii*), and/or Engelmann oak (*Q. engelmannii*). Coast live oak (*Q. agrifolia*), bigleaf maple (*Acer macrophyllum*), and/or California bay (*Umbellularia californica*) are sometimes associated in moist riparian environments. Within the mountains, conifers such as bigcone Douglas-fir (Pseudotsuga macrocarpa) and Coulter pine (Pinus coulteri) may be present.

Intermittent Lake or Pond

Intermittent lake or pond is not described by CALVEG (2009), but includes lakes or ponds that hold water for only parts of the year, typically during the winter or spring months.

Intermittent Stream Channel

Intermittent stream channel is not described by CALVEG (2009), but includes well-defined channels that contain water for only part of the year, typically during the winter or spring months.

Jeffrey Pine

Jeffrey Pine (*Pinus jeffreyi*) stands occur at elevations generally between 3,600 and 9,800 feet (1,096 and 2,986 meters), although most common in the range 4,000–9,000 feet (1,220–2,742 meters). Ponderosa Pine (*P. ponderosa*) may hybridize with Jeffrey pine where the ranges overlap. The most common associated hardwood species is black oak (*Quercus kelloggii*), occurring within the elevation range 4,000 – 7,600 feet (1,220 – 2,316 meters) on low gradient slopes. Canyon live oak (*Quercus chrysolepis*) is also a common hardwood component of these stands, but more often on moderate to steep slopes. Associated shrubs include manzanita species (*Arctostaphylos* spp.), mountain whitethorn (*Ceanothus cordulatus*), deerbrush (*Ceanothus integerrimus*), and bush chinquapin (*Chrysolepis sempervirens*).

Joshua Tree

Joshua tree (*Yucca brevifolia*) alliance is widespread and very characteristic of the Mojave Desert. This alliance has been mapped abundantly in the Little San Bernardino–Bighorn Mountains and occurs within the elevation range of 3,200–5,800 feet (974–1,768 meters) on low-gradient and often north-facing slopes and alluvial fans. Associated species within the Joshua tree alliance include singleleaf pinyon (*Pinus monophylla*), California and Utah junipers (*Juniperus californica, Juniperus osteosperma*), teddybear cholla (*Opuntia bigelovii*), creosote bush (*Larrea tridentata*), muller oak (*Quercus cornelius-mulleri*), boxthorn (*Lycium* spp.), cottonthorn (*Tetradymia* spp.), and Mormon tea (*Ephedra* spp.).

Knobcone Pine

Knobcone pine (*Pinus attenuata*) alliance occurs in San Gorgonio Mountains within the 2,400–5,400 feet (732–1,646 meters) range. It also is known to occur on shallow or coarse granitic soils in the San Bernardino Mountains. This closed-cone conifer is occasionally found with a canyon live oak (*Quercus chrysolepis*) hardwood associate, with conifers such as bigcone Douglas-fir (*Pseudotsuga macrocarpa*) or Coulter pine (*P. coulteri*) and with shrubs such as ceanothus spp., Eastwood manzanita (*Arctostaphylos glandulosa*), chamise (*Adenostoma fasciculatum*), and shrubby oaks (*Quercus* spp.).

Limber Pine

Limber pine (*Pinus flexilis*), a high montane conifer of often remote locations and occurs in scattered open stands or as individual trees above the white fir (*Abies concolor*) range in southern California. It seldom occurs below 8,000 feet (2,438 meters) including higher areas of the San Gabriel and San Bernardino Mountains, such as on Mount Baden-Powell and San Gorgonio Mountain. The trees rarely grow over 30 feet (10 meters) tall and form very scattered and wind-warped forms at the timberline. Slopes are typically high gradient and north facing. Associated conifers within in this alliance include lodgepole pine (*Pinus*

contorta ssp. *murrayana*) and white fir intermixed with limber pine. The understory is very bare, but can include mountain whitethorn (*Ceanothus cordulatus*) or species of manzanita (*Arctostaphylos* spp.).

Lodgepole Pine

This alliance occurs very sparsely at high elevations in the San Bernardino Mountains and has patchy occurrences in the San Jacinto Mountains. Most often found on low-gradient slopes, especially those adjacent to mountain meadows, sites dominated by lodgepole pine (*Pinus contorta* ssp. *murrayana*) have been mapped in the elevation range 8,400–9,200 feet (2,562–2,806 meters). Sites are often east and north facing and have minor components of white fir (*Abies concolor*) or sugar pine (*Pinus lambertiana*). On high windswept peaks, lodgepole pine associates with limber pine (*Pinus flexilis*) in the subalpine conifers alliance.

Lower Montane Mixed Chaparral

Lower montane mixed chaparral alliance occurs mainly on north and east facing slopes within the elevation range of 2,600–5,600 feet (792–1,708 meters). This alliance is highly variable and no single shrub species is dominant. The mixture usually includes any combination of ceanothus, especially desert ceanothus (*C. greggii* ssp. *vestitus*); scrub oak species of manzanita (*Arctostaphylos* spp.); sugar sumac (*Rhus ovata*); and chamise (*Adenostoma fasciculatum*).

Manzanita Chaparral

Manzanita chaparral alliance elevation range is known to occur generally between 2,600 and 7,400 feet (792 and 2,256 meters) in the South Coast and Montane Calveg zones and at elevations between 4,400 and 5,600 feet (1,341 and 1,646 meters) in the Mojave Desert. This alliance is dominated by single or multiple species of Manzanita (*Arctostaphylos* spp.) and can include greenleaf (*Arctostaphylos patula*), bigberry (*A. glauca*), Eastwood (*A. glandulosa*), Mexican (*A. pungens*), and pink-bract manzanitas (*A. pringlei* spp. *drupacea*). Other minor trees and shrubs that may be present include Tucker oak (*Quercus john-tuckeri*), singleleaf pinyon (*Pinus monophylla*) and other dryland species.

Mixed Conifer–Fir

This alliance occurs on mainly north facing, steep slopes at elevation ranges generally from about 5,400 to 9,400 feet (1,646 to 2,864 meters). True fir, usually white fir (*Abies concolor*), comprises a prominent portion of the conifer canopy cover. Jeffrey pine (*Pinus jeffreyi*) is generally present, but may be replaced by lodgepole pine (*Pinus contorta* ssp. *murrayana*) in some areas. Other associated species may include sugar pine (*Pinus lambertiana*), Coulter pine (*Pinus coulteri*), incense cedar (*Calocedrus decurrens*), black oak (*Quercus kelloggii*), and

canyon live oak (*Quercus chrysolepis*). White alder (*Alnus rhombifolia*) and species of willow (*Salix* spp.) may occasionally occur in moist sites of this alliance.

Mixed Conifer–Pine

This alliance occurs on mid to high montane sites, commonly within the elevation range 4,000–8,800 feet (1,220–2,684 meters). Mixed-conifer–pine alliance generally occurs on north facing and steep slopes in stands lacking a prominent hardwood species. No single conifer species is dominant, the mixture usually including high amounts of ponderosa pine (*Pinus ponderosa*) or sugar pine (*P. lambertiana*). Incense cedar (*Calocedrus decurrens*), bigcone Douglas-fir (*Pseudotsuga macrocarpa*), white fir (*Abies concolor*), and Coulter pine (*P. coulteri*) often are present in various combinations. Jeffrey pine (*P. jeffreyi*) and lodgepole pine (*P. contorta* ssp. *murrayana*) are generally absent. Black oak (*Quercus kelloggii*) or canyon live oak (*Q. chrysolepis*) occurs frequently in mixed stands, canyon live oak having a slightly wider elevation range in this alliance. Other minor hardwood components include bigleaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), and willow (*Salix* spp.) on moist sites.

Non-Native/Invasive Forb/Grass

This alliance includes perennial peppergrass (*Lepidium latifolium*), medusahead grass (*Taeniatherum (Elymus) caput-medusae*), puncturevine (*Tribulus terrestris*), prickly Russian thistle (*Salsola tragus*), yellow star-thistle (*Centaurea solstitialis*), and many other knapweeds (*Centaurea* spp.).

Non-Native/Ornamental Conifer

Planted conifers comprise this alliance, including species such as Canary or Norfolk Island pines (*Araucaria* spp.), Deodar and Atlas cedars (*Cedrus deodar*, *Cedrus atlantica*), Redwood (*Sequoia sempervirens*), Scotch pine (*Pinus sylvestris*), etc. Other non-native hardwoods, shrubs, and grasses may be associated in minor amounts. Mapped areas of this alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

Non-Native/Ornamental Conifer/Hardwood

A mixture of ornamental or non-native conifer and hardwood species comprise the dominant species of this alliance. Small amounts of non-native pure stands of hardwood, conifer, shrubs, and grasses may be also associated with this alliance. Mapped areas of this alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

Non-Native/Ornamental Grass

Ornamental or non-native planted grass species define this alliance, although other non-native conifers, hardwoods, and shrubs may be associated as minor elements. Mapped areas of this alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

Non-Native/Ornamental Hardwood

Ornamental or non-native hardwood species dominate this alliance, although other non-native conifers, shrubs, and grasses may be present. Mapped areas of this alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

Non-Native/Ornamental Shrub

Ornamental or non-native shrub species dominate this alliance. Other non-native conifers, hardwoods, and grasses may be present in this alliance. Mapped areas of this alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

Orchard Agriculture

Orchard agriculture includes evergreen or deciduous small trees producing fruit or nut crops, usually planted in rows with or without irrigation channels. Apples, citrus fruits, avocados, almonds, walnuts, peaches, olives and other familiar crops are common within this land cover.

Pastures and Crop Agriculture

Irrigated or dry crop agriculture is usually harvested in rows as edible herbaceous products such as cereals (wheat, sorghum, oats, millet, corn, rye, etc.) and "vegetables" (squash, celery, beans, peas, etc.) for livestock and human uses. Agricultural crop fields are also occasionally planted for both animal forage and to improve nitrogen levels, as with legumes such as alfalfa and sweet clovers. Certain crops are grown for other multiple uses, such as flax and cotton for their seed oils (that is, linseed and cottonseed oils), fibers and medicinal uses, etc.

Perennial Grasses and Forbs

Perennial grasses and forbs occurs at elevations generally below 5,200 feet (1,586 meters) on seasonally moist, low-gradient slopes. Native perennial grasses such as needlegrass (*Achnatherum* spp.), (*Sporobolus* spp.), squirreltail (*Elymus elymoides*), and wildrye (*Leymus* spp.) may occur. Introduced perennials such as foxtail (*Alopecurus myosuroides*) and tall fescue (*Festuca arundinacea*) may be present with non-native forbs such as strawberry clover

(*Trifolium fragiferum*) and non-native annual grasses such as foxtail chess (*Bromus madritensis*) and ripgut grass (*Bromus diandrus*). Some native forbs such as southern mules ears (*Wyethia ovata*) may be found as well. Some of these areas are currently being used for livestock pasture where the type intergrades with the Annual Grasses and Forbs alliance.

Perennial Lake or Pond

Perennial lake or pond is not described by CALVEG (2009), but includes lakes or ponds that hold water year round during years of normal precipitation levels.

Ponderosa Pine

Ponderosa pine (*Pinus ponderosa*) alliance occurs at elevations generally from 3,400 to 7,000 feet (1,036 to 2,134 meters), and is most common between about 4,400 and 6,400 feet (1,340 and 1,950 meters). The alliance intergrades with the mixed conifer–pine alliance on more productive sites, especially at its upper elevations. California black and canyon live oaks (*Quercus kelloggii, Q. chrysolepis*) commonly occur within this alliance. Ponderosa pine may hybridize with Jeffrey pine (*Pinus jeffreyi*) in the upper part of its elevation range where the two ranges overlap to form individuals with intermediate diagnostic characteristics.

Rabbitbrush

Rubber rabbitbrush and stickyleaf rabbitbrush (*Chrysothamnus nauseosus, C. viscidiflorus*) is dominated by either, both, or other species in this genus. It occurs on dry slopes and flats within a wide elevation range of about 2,600–8,800 feet (792–2,684 meters). In semiarid areas, associated species of this alliance include (but are not limited to) singleleaf pinyon (*Pinus monophylla*), California juniper (*Juniperus californica*), bitterbrush (*Purshia tridentata* var. *glandulosa*), big sagebrush (*Artemisia tridentata*), flannel bush (*Fremontodendron californicum* ssp. *californicum*), and desert almond (*Prunus fasciculata*).

Reservoir

Reservoir is not described by CALVEG (2009). Reservoirs may be natural or artificial source of water supply and commonly uses a dam or lock to store water.

Riparian Mixed Hardwood

Riparian mixed hardwood alliance typically occurs below 6,000 feet (1,830 meters). The species mixture includes any combination of native obligate or facultative riparian hardwoods such as white alder (*Alnus rhombifolia*), willow (*Salix* spp.), California sycamore (*Platanus racemosa*), Fremont or black cottonwood (*Populus fremontii, P. balsamifera* ssp. *trichocarpa*), bigleaf maple (*Acer macrophyllum*), coast live oak (*Quercus agrifolia*), California bay

(*Umbellularia californica*), and dogwood (*Cornus* spp.). Associated riparian shrubs include California wildrose (*Rosa californica*), mugwort (*Artemisia douglasiana*), *Baccharis* spp., *Rubus* spp., *Ribes* spp., etc.

Riparian Mixed Shrub

Riparian mixed shrub alliance includes a mixture of riparian shrub species including willow (*Salix* spp.), elderberry (*Sambucus* spp.), wild rose (*Rosa* spp.) and occasionally mulefat (*Baccharis* spp.). This alliance occurs at elevations general below 3,600 feet (1,098 meters) on moist sites often found adjacent to annual grasses and forbs, California sagebrush (*Artemisia californica*), coast live oak (*Quercus agrifolia*), hardwoods of the riparian mixed hardwood alliance, and urban landscapes.

River/Stream/Canal

River/stream/canal is not described by CALVEG (2009). This waterway type includes water features such as rivers, streams, or canals that convey moving water.

Riversidean Alluvial Scrub

Riversidean alluvial scrub alliance occurs within alluvial fans and dry washes on low gradient slopes at elevations up to 5,000 feet (1,524 meters). This alliance is identified by a combination of species including scalebroom (*Lepidospartum squamatum*), Eastern Mojave buckwheat, California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), *Encelia* spp., *Opuntia* spp., chaparral yucca (*Yucca whipplei*), *Rhus* spp., and California juniper.

Saltbush

Fourwing saltbush (*Atriplex canescens*) alliance is dominated by fourwing saltbush and occurs at elevations below about 6,800 feet (2,074 meters). Common associated species within this alliance include creosote bush (*Larrea tridentata*), brittlebush (*Encelia farinosa*), and mesquite (*Prosopis* spp.).

Scalebroom

Scalebroom alliance occurs within drainages of intermittent streams and may be dominated by Scalebroom (*Lepidospartum squamatum*) in the vicinity of sandy and coarse-textured alluvial fans in this alliance. This alliance occurs at elevations up to about 5,400 feet (1,646 meters). Scalebroom-dominated washes in western Mojave fringe areas have considerable winter and spring hydric flows and are closely related in site preference to the more abundant Riversidean alluvial scrub alliance in these areas. Associated species include California sagebrush (*Artemisia californica*) as well as those of xeric habitats such as brittlebush (*Encelia farinosa*), creosote

bush (*Larrea tridentata*), chaparral yucca (*Y. whipplei*), rabbitbrush (*Chrysothamnus nauseosus*) and big sagebrush (*Artemisia tridentata*). Riparian hardwoods associated to the alliance include Fremont cottonwood (*Populus fremontii*) and desert willow (*Chilopsis linearis*).

Scrub Oak

Scrub oak (*Quercus berberidifolia*) alliance elevation ranges from near sea level to about 9,000 feet (2,745 meters). This alliance include any combination of scrub oak including Alvord Oak (*Q. × alvordiana*), Tucker or Muller shrub oak (*Q. john-tuckeri, Q. cornelius-mulleri*), shrub interior live oak (*Q. wislizenii* var. *frutescens*), Brewer oak (*Q. garryana* var. *breweri*), leather oak (*Q. durata*), various shrub oak hybrids, and shrub canyon live oak (*Q. chrysolepis* var. *nana*) may be present in this alliance. Associated species include chamise (*Adenostoma fasciculatum*), birchleaf mountain mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), species of ceanothus, sumacs (*Rhus* spp.), and manzanita (*Arctostaphylos* spp.). In drier areas, associated species include redshank (*Adenostoma sparsifolium*), California juniper (*Juniperus californica*), singleleaf pinyon (*Pinus monophylla*), and big sagebrush (*Artemisia tridentata*). Vines such as poison oak (*Toxicodendron diversilobum*), cucumber vine (*Marah macrocarpus*), and honeysuckle (*Lonicera* spp.) also are commonly associated.

Semi-Desert Chaparral

Semi-desert chaparral alliance occurs on slopes at elevation ranges generally between 3,000–5,600 feet (915–1,708 meters). This transitional alliance includes a combination of chaparral shrubs including chamise (*Adenostoma fasciculatum*), scrub oaks (*Quercus* spp.), and Eastern Mojave buckwheat (*Eriogonum fasciculatum*). Other desert or semi-desert trees, shrubs or perennials may be present and include flannelbush (*Fremontodendron californicum*), desert bitterbrush (*Purshia tridentata* var. *glandulosa*), Tucker or Muller scrub oak (*Quercus john-tuckeri, Q. cornelius-mulleri*), desert ceanothus (*Ceanothus greggii* var. *vestitus*), rabbitbrush (*Chrysothamnus* spp.), Mojave yucca (*Yucca schidigera*), pricklypear (*Opuntia* spp.) or cholla (*Cylindropuntia* spp.), desert almond or desert apricot (*Prunus fasciculata, P. fremontii*), basin sagebrush (*Artemisia tridentata*), and rarely creosote bush (*Larrea tridentata*).

Singleleaf Pinyon

Singleleaf pinyon (*Pinus monophylla*) is an open woodland alliance and is found within the elevation range of 3,000–9,000 feet (915–2,745 meters) in transmontane regions such as the Mojave and Colorado Deserts. It is even more so abundant in the San Gabriel Mountains and Little San Bernardino–Bighorn Mountains. Understories within this alliance are diverse and may include the shrubs big sagebrush (*Artemisia tridentata*), Tucker or Muller oak (*Quercus john-tuckeri, Quercus cornelius-mulleri*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), boxthorn (*Lycium* spp.), and desert bitterbrush (*Purshia tridentata*). California

juniper (*Juniperus californica*) occupies sites at low elevations. Small trees such as Utah juniper (*Juniperus osteosperma*) and Joshua tree (*Yucca brevifolia*) are also known to occur in this alliance.

Soft Scrub Mixed Chaparral

Soft scrub mixed chaparral alliance occurs on steep slopes in the mountains at elevations below about 5,800 feet (1,768 meters). This alliance contains a mixture of subshrubs, forbs, and woody shrubs. Associated species include California sagebrush, Eastern Mojave buckwheat, white sage, common deerweed (*Acmispon glaber*), coyote brush (*Baccharis pilularis*), California encelia, bush monkeyflower, bush poppy (*Dendromecon rigida*), heartleaf keckiella (*Keckiella cordifolia*), yerba santa (*Eriodictyon* spp.), and goldenbush (*Ericameria* spp.). In addition, chamise, species of ceanothus, scrub interior and canyon live oak (*Quercus wislizenii* var. *frutescens*, *Q. chrysolepis* var. *nana*), and scrub oak (*Q. berberidifolia*) may be present at a low cover.

Sumac Shrub

Sumac scrub alliance occurs at elevations below 4,400 feet (1,342 meters) in the mountains on moderate to steep slopes. This alliance is a combination of laurel sumac (*Malosma laurina*) and lemonade berry (*Rhus integrifolia*) and can include associated hardwood species such as coast live oak (*Quercus agrifolia*) and California walnut (*Juglans californica*). Other associated shrubs include sugar sumac (*Rhus ovata*), skunkbush (*Rhus trilobata*), California sagebrush (*Artemisia californica*), and annual grasses and forbs.

Subalpine Conifers

This type is a mixed lodgepole pine (*Pinus contorta* ssp. *murrayana*)–limber pine (*Pinus flexilis*)–mountain juniper (*Juniperus occidentalis* var. *australis*, also called *J. grandis*) open forest that occurs at the higher elevations of the Transverse and San Jacinto Mountains in the Mountains Section. Usually occurring above about 7,000 feet (2,134 meters), on steep and often north-facing slopes, the subalpine conifers alliance may be found as high as 11,000 feet (4,060 meters) or to the extent of local timberline. Limber Pine is most important on exposed high slopes and ridges, where it may form small areas of pure stands in the limber pine alliance. Lodgepole pine becomes locally abundant on similar dry sites. White fir (*Abies concolor*) may be present in small amounts in this mixture. This alliance is defined by the lack of clear dominance of a single conifer on these sites.

Tilled Earth Agriculture

Tilled earth agriculture includes agricultural lands that are barren and lacking vegetation on occasion, such as after harvesting and during seasons prior to crop growth. Some areas may be

kept fallow during and after the growing season for various reasons such as conservation of moisture and nutrients in a crop rotation schedule.

Tucker/Muller Scrub Oak

Tucker/Mueller scrub oak alliance is identified by either Tucker or Muller oak singly or in a combination. Muller oak is found further east on dry washes and slopes along the interior Mojave or Colorado Desert or Great Basin margins in the San Bernardino County while Tucker oak is found on similar xeric habitats further north and west. This alliance occurs at elevation ranges from 3,300 to 6,600 feet (915 to 2,013 meters). Associated species include big basin sagebrush (*Artemisia tridentata* var. *tridentata*), singleleaf pinyon, and junipers.

Tule-Cattail

Cattail or tule marshes occur near lakes and springs as high as 4,600 feet (1,402 meters) in elevation. Dominant species include sedges (*Carex* spp.), tule (*Scirpus* spp.), cattail (*Typha* spp.), and spikerush (*Eleocharis* spp.). There are numerous associated species with this alliance and varies based on geographic area.

Upper Montane Mixed Chaparral

Upper montane mixed chaparral alliance is a combination of chaparral species that occurs on steep slopes with rocky to shallow soils within the mountains at elevations above 4,200 feet (1,280 meters). This alliance includes shrubs such as mountain whitethorn or deerbrush (*Ceanothus cordulatus*, *C. integerrimus*), bush chinquapin (*Chrysolepis sempervirens*), and greenleaf, Parry, Mexican, or pink-bract manzanita (*Arctostaphylos patula*, *A. parryana*, *A. pungens*, *A. pringlei*). Chamise (*Adenostoma fasciculatum*) is generally absent from this alliance.

Urban/Developed (General)

This category applies to landscapes that are dominated by urban structures, residential units, or other developed land use elements such as highways, city parks, cemeteries and the like. In those cases in which the managed landscapes may have a considerable vegetation component, other land use categories may be more appropriate, such as ornamental conifer and hardwood mixtures within city parks. Much of the landscape in Southern California has been mapped in this category.

Urban or Industrial Impoundment

Urban or industrial impoundment is not described by CALVEG (2009). These water features typically include dams, reservoirs, and mining impoundments.

Urban-Related Bare Soil

Urban development in Southern California occurs in phases. When land is cleared prior to being paved, this category represents the occurrence of non-vegetated barren ground that is caused by urbanization. This land-use type also represents other mechanically-caused barren ground, such as open quarries or mined areas, barren ground along highways, and other areas cleared of vegetation prior to construction. This category has been mapped extensively throughout this region, usually adjacent to agricultural areas, already established urbanized centers or paved areas of the landscape.

This alliance is abundantly found in the Upper San Gabriel Mountains, Upper San Gorgonio Mountains, and San Jacinto Mountains Subsections and less frequently in seven other subsections of the Mountains Section in the elevation range 5,400–9,400 feet (1,646–2,864 meters), about 1000 feet (304 meters) higher than the mixed conifer–pine alliance where they occur in the same areas. Sites are mainly north facing and steep. They may be as low as 4,200 feet (1,280 meters) in the southern areas and as high as 10,000 feet (3,048 meters) elsewhere. True fir, usually white fir (*Abies concolor*), comprises a prominent portion of the conifer canopy cover. Jeffrey pine (*Pinus jeffreyi*) is generally present in this alliance but may be replaced by lodgepole pine (*Pinus contorta* ssp. *murrayana*) on some sites. The combination of species may include sugar (Pinus lambertiana) and Coulter (*Pinus coulteri*) pines in addition to incense cedar (*Calocedrus decurrens*) and those mentioned above. Black oak (*Quercus kelloggii*) is the main hardwood associate in the southern Peninsular Ranges, more likely to occur on moderately steep slopes. Canyon live oak (*Quercus chrysolepis*) is a more common associate in the San Jacinto Mountains and both species in the San Bernardino and San Gabriel Mountains. White alder (*Alnus rhombifolia*) and species of willow (*Salix* spp.) may occasionally occur in moist sites of this alliance.

Vineyard–Shrub Agriculture

Vineyard–shrub agriculture includes woody vines or shrubs on agricultural or horticultural lands used in the production of food or fiber such as vines devoted to grapes and kiwi fruit and shrubby nut or fruit crops such as blueberries or raspberries.

Water (General)

Water is labeled in Calveg mapping in those cases in which permanent sources of surface water are identified within a landscape unit of sufficient size to be mapped. The category includes lakes, streams, and canals of various size, bays and estuaries and similar water bodies. These areas are considered to have a minimum of vegetation components, except along the edges, which may be mapped as types such as wet meadows, tule–cattail freshwater marshes, or pickleweed–cordgrass

saline or mixed marshes. Islands of sufficient size within water bodies are mapped according to their terrestrial dominant vegetation types.

White Fir

White fir (*Abies concolor*) alliance typically occurs within an elevation range of about 5,000–9,000 feet (1,524–2,745 meters) often on mesic or shaded slopes. White fir alliance's most frequent hardwood associate is black oak (*Quercus kelloggii*), at lower elevations, below about 5,600 feet (1,706 meters). It is also associated with sugar pine (*Pinus lambertiana*) on sunnier sites and with Coulter pine (*Pinus coulteri*) at lower elevations.

Western Juniper

The western juniper (*Juniperus occidentalis*) alliance is a long-lived, slow growing conifer of unforgiving sites that are usually nutrient-poor but support a water table. Mountain juniper (*Juniperus occidentalis* var. *australis*), the southern variety of western juniper (*J. o.* var. *occidentalis*), has recently been renamed as its own species (*J. grandis*). It occasionally will dominate the tree component of a site, and has been mapped sparsely in the San Bernardino Mountains at elevations between 6,600 and 9,400 feet (2,012 and 2,867 meters). White fir (*Abies concolor*), limber pine (*Pinus flexilis*), and singleleaf pinyon (*Pinus monophylla*) may occur within or adjacent to mountain juniper sites in this area.

Wet Meadows

This alliance occurs at elevations generally above 3,000 feet (914 meters) on fine-textured, moist or wet soils. It often includes a dense growth of sedges (*Carex* spp.), rushes (*Juncus* spp.), perennial grasses such as mat muhly (*Muhlenbergia richardsonis*) and San Bernardino blue grass (*Poa atropurpurea*) and annual and perennial herbaceous species such as false hellebore (*Veratrum californicum*), clovers (*Trifolium variegatum, Trifolium wormskioldii*), monkeyflower (*Mimulus guttatus*), etc. Willows (*Salix* spp.), roses (*Rosa* spp.), and blue elderberry (*Sambucus mexicana*) may occur along streambanks associated with this alliance.

White Alder

White alder (*Alnus rhombifolia*) alliance occurs within the elevation range of 300–7,000 feet (92–2,135 meters). Associated riparian trees include Fremont cottonwood (*Populus fremontii*) and willows (*Salix* spp.).

White Bursage

White bursage (*Ambrosia dumosa*) is the dominant shrub in this alliance and is found in often sandy areas below 5,000 feet (1,524 meters). Closely associated species include creosote bush and less frequently brittlebush and California juniper.

Willow

The willow alliance includes the dominance of any single or combination of willow (*Salix* spp.), such as black (*Salix gooddingii*), red (*Salix laevigata*), arroyo (*Salix lasiolepis*), and/or shining (*Salix lucida*) willows. This alliance occurs along stream banks below mainly below about 8,200 feet (2,501 meters). Associates riparian species include Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*) as well as perennial and annual forbs, including invasive species such as pampas grasses (*Cortaderia* spp.).

Willow (Shrub)

Shrub forms of willow (*Salix* spp.) including narrowleaf (*S. exigua*), arroyo (*S. lasiolepis*), shining and (*S. lucida*) occur at elevations generally below about 7,000 feet (2,135 meters). Riparian associates include tree willows, cottonwoods (*Populus* spp.), white alder (*Alnus rhombifolia*), elderberry (*Sambucus* spp.), baccharis species, and too often, herbaceous species like the invasive giant reed (*Arundo donax*). This alliance also occurs within the high desert plains and hills (Mojave Section) along gravel bars adjacent to permanent water sources at elevations generally from 1,400 to 6,200 feet (426 to 1,890 meters).

INTENTIONALLY LEFT BLANK

APPENDIX B

Vegetation Communities Sensitivity Designation

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Southwestern North American riparian/wash scrub	Desert	*Arundo donax*			
Californian montane conifer forest	Desert	Abies concolor			
Mojavean semi-desert wash scrub	Desert	Acacia greggii			
Madrean warm semi-desert wash woodland/scrub	Desert	Acacia greggii			
Inter-mountain dry shrubland and grassland	Desert	Achnatherum hymenoides	Y	S1.2	
North American warm desert dunes and sand flats	Desert	*Achnatherum hymenoides*	Y	S1.2	
Inter-mountain dry shrubland and grassland	Desert	Achnatherum speciosum	Y	S2.2	
Southern Great Basin semi-desert grassland	Desert	Achnatherum speciosum	Y	S2.2	
Californian broadleaf forest and woodland	Desert	Aesculus californica	Y	S3	
Madrean warm semi-desert wash woodland/scrub	Desert	Agave deserti	Y	S3	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Agave deserti	Y	S3	
Southwestern North American salt basin and high marsh	Desert	Allenrolfea occidentalis	Y	S3	
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Ambrosia dumosa			
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Ambrosia salsola			
California annual forb/grass vegetation	Desert	Amsinckia (menziesii, tessellata)			
Californian xeric chaparral	Desert	Arctostaphylos glauca			
Intermountain mountain big sagebrush shrubland and steppe	Desert	Artemisia tridentata			
Southwestern North American salt basin and high marsh	Desert	Arthrocnemum subterminale	Y	S2	
Riparian	Desert	Arundo donax			
Shadscale–saltbush cool semi-desert scrub	Desert	Atriplex canescens			
Shadscale–saltbush cool semi-desert scrub	Desert	Atriplex confertifolia			
North American warm desert bedrock cliff and outcrop	Desert	Atriplex hymenelytra			
Southwestern North American salt basin and high marsh	Desert	Atriplex lentiformis			
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Atriplex polycarpa			
Southwestern North American salt basin and high marsh	Desert	Atriplex spinifera			
Riparian	Desert	Baccharis emoryi	Y	S2?	
Southwestern North American riparian/wash scrub	Desert	*Baccharis emoryi*	Y	S2?	
Southwestern North American riparian/wash scrub	Desert	Baccharis emoryi	Y	S2?	

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Riparian	Desert	Baccharis sergiloides	Y	S3	
Southwestern North American riparian/wash scrub	Desert	*Baccharis sergiloides*	Y	S3	
Southwestern North American riparian/wash scrub	Desert	Baccharis sergiloides	Y	S3	
California annual and perennial grassland	Desert	Brassica nigra and other mustards			
California annual and perennial grassland	Desert	Brassica nigra and other mustards			
California annual and perennial grassland	Desert	Bromus rubens - Schismus (arabicus, barbatus)			
California annual and perennial grassland	Desert	Bromus rubens–Schismus (arabicus, barbatus)			
Madrean warm semi-desert wash woodland/scrub	Desert	Castela emoryi	Y	S1	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Castela emoryi	Y	S1	
Great Basin pinyon–juniper woodland	Desert	Cercocarpus ledifolius			
Inter-mountain dry shrubland and grassland	Desert	Cercocarpus ledifolius			
Madrean warm semi-desert wash woodland/scrub	Desert	Chilopsis linearis	Y	S3	Holland - Desert Dry Wash Woodland
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Chilopsis linearis	Y	S3	Holland - Desert Dry Wash Woodland
Inter-mountain dry shrubland and grassland	Desert	Coleogyne ramosissima			
Mojave and Great Basin upper bajada and toeslope	Desert	Coleogyne ramosissima			
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Cylindropuntia bigelovii	Y	S3	
North American warm desert dunes and sand flats	Desert	*Dicoria canescens–Abronia villosa*	Y	S3	
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Encelia farinosa			
Intermontane seral shrubland	Desert	Encelia virginensis	Y	S3	
Madrean warm semi-desert wash woodland/scrub	Desert	Ephedra californica	Y	S3	
Mojavean semi-desert wash scrub	Desert	Ephedra californica	Y	S3	
North American warm desert bedrock cliff and outcrop	Desert	Ephedra funerea	Y	S2?	
Intermontane deep or well-drained soil scrub	Desert	*Ephedra nevadensis*			
Inter-mountain dry shrubland and grassland	Desert	Ephedra nevadensis			
Intermontane deep or well-drained soil scrub	Desert	*Ephedra viridis*			
Inter-mountain dry shrubland and grassland	Desert	Ephedra viridis			
Central and south coastal California seral scrub	Desert	Ericameria linearifolia	Y	S3?	
Intermontane seral shrubland	Desert	Ericameria nauseosa			
Madrean warm semi-desert wash woodland/scrub	Desert	Ericameria paniculata	Y	S3	

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Mojavean semi-desert wash scrub	Desert	Ericameria paniculata	Y	S3	
Intermontane deep or well-drained soil scrub	Desert	*Ericameria teretifolia*			
Intermontane seral shrubland	Desert	Ericameria teretifolia			
Inter-mountain dry shrubland and grassland	Desert	Ericameria teretifolia			
Central and south coastal Californian coastal sage scrub	Desert	Eriogonum fasciculatum			
Central and south coastal Californian coastal sage scrub	Desert	Eriogonum wrightii	Y	S3	
California annual forb/grass vegetation	Desert	Eschscholzia (californica)			
Riparian	Desert	Forestiera pubescens	Y	S2	
Southwestern North American riparian/wash scrub	Desert	*Forestiera pubescens*	Y	S2	
Southwestern North American riparian/wash scrub	Desert	Forestiera pubescens	Y	S2	
Southwestern North American salt basin and high marsh	Desert	Frankenia salina	Y	S3	
Intermontane deep or well-drained soil scrub	Desert	*Grayia spinosa*			
Inter-mountain dry shrubland and grassland	Desert	Grayia spinosa			
Intermontane seral shrubland	Desert	Gutierrezia sarothrae	Y	S3	
Pleuraphis rigida	Desert	*Gutierrezia sarothrae*	Y	S3	
Central and south coastal California seral scrub	Desert	Hazardia squarrosa	Y	S3	
Madrean warm semi-desert wash woodland/scrub	Desert	Hyptis emoryi	Y	S3	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Hyptis emoryi	Y	S3	
Californian warm temperate marsh/seep	Desert	Juncus arcticus (var. balticus, mexicanus)			
Californian warm temperate marsh/seep	Desert	Juncus xiphioides	Y	S2?	
Great Basin pinyon–juniper woodland	Desert	Juniperus californica			
Madrean warm semi-desert wash woodland/scrub	Desert	Justicia californica	Y	S2?	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Justicia californica	Y	S2?	
Central and south coastal Californian coastal sage scrub	Desert	Keckiella antirrhinoides	Y	S3	
Intermontane deep or well-drained soil scrub	Desert	*Krascheninnikovia lanata*	Y	S2	
Inter-mountain dry shrubland and grassland	Desert	Krascheninnikovia lanata	Y	S2	
Agriculture	Desert	Land Cover			
Barren	Desert	Land Cover			
Developed and disturbed areas	Desert	Land Cover			
Open water	Desert	Land Cover			
Rural	Desert	Land Cover			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Larrea tridentata			
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Larrea tridentata-Ambrosia dumosa			
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Larrea tridentata-Encelia farinosa			
Central and south coastal Californian coastal sage scrub	Desert	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Madrean warm semi-desert wash woodland/scrub	Desert	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Mojavean semi-desert wash scrub	Desert	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Californian warm temperate marsh/seep	Desert	Leymus triticoides	Y	S3	
Intermontane deep or well-drained soil scrub	Desert	*Lycium andersonii*	Y	S3	
Inter-mountain dry shrubland and grassland	Desert	Lycium andersonii	Y	S3	
Intermontane deep or well-drained soil scrub	Desert	*Lycium cooperi*	Y	S3?	
Inter-mountain dry shrubland and grassland	Desert	Lycium cooperi	Y	S3?	
Inter-mountain dry shrubland and grassland	Desert	Menodora spinescens	Y	S3	
Mojave and Great Basin upper bajada and toeslope	Desert	Menodora spinescens	Y	S3	
Californian warm temperate marsh/seep	Desert	Mimulus (guttatus)	Y	S3?	
Californian warm temperate marsh/seep	Desert	Muhlenbergia rigens	Y	S2?	
North American warm desert dunes and sand flats	Desert	*Panicum urvilleanum*	Y	S1	
Madrean warm semi-desert wash woodland/scrub	Desert	Parkinsonia florida-Olneya tesota	Y	S3	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Parkinsonia florida-Olneya tesota	Y	S3	
California annual and perennial grassland	Desert	Pennisetum setaceum			
Arid west freshwater emergent marsh	Desert	Phragmites australis			
Great Basin pinyon–juniper woodland	Desert	Pinus monophylla			
Riparian	Desert	Platanus racemosa	Y	S3	
Southwestern North American riparian evergreen and deciduous woodland	Desert	Platanus racemosa	Y	S3	
Inter-mountain dry shrubland and grassland	Desert	Pleuraphis jamesii	Y	S2.2	
Southern Great Basin semi-desert grassland	Desert	Pleuraphis jamesii	Y	S2.2	
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Pleuraphis rigida	Y	S2.2	
North American warm desert dunes and sand flats	Desert	*Pleuraphis rigida*	Y	S2.2	
Madrean warm semi-desert wash woodland/scrub	Desert	Pluchea sericea	Y	S3	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Pluchea sericea	Y	S3	
Riparian	Desert	Populus fremontii	Y	S3	

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Southwestern North American riparian evergreen and deciduous woodland	Desert	Populus fremontii	Y	S3	
Playa	Desert	Project Specific Analysis Needed			
Wetland	Desert	Project Specific Analysis Needed	Y	most S1-S3	
Madrean warm semi-desert wash woodland/scrub	Desert	Prosopis glandulosa	Y	S3.2	SBC - Native Desert Plant
North American warm desert dunes and sand flats	Desert	*Prosopis glandulosa*	Y	S3.2	SBC - Native Desert Plant
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Prosopis glandulosa	Y	S3.2	SBC - Native Desert Plant
Madrean warm semi-desert wash woodland/scrub	Desert	Prosopis pubescens	Y	S2.2	
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Prosopis pubescens	Y	S2.2	
Madrean warm semi-desert wash woodland/scrub	Desert	Prunus fasciculata	Y	S3	
Mojavean semi-desert wash scrub	Desert	Prunus fasciculata	Y	S3	
Madrean warm semi-desert wash woodland/scrub	Desert	Psorothamnus spinosus	Y	S3	Holland - Desert Dry Wash Woodland
Sonoran–Coloradan semi-desert wash woodland/scrub	Desert	Psorothamnus spinosus	Y	S3	Holland - Desert Dry Wash Woodland
Inter-mountain dry shrubland and grassland	Desert	Purshia stansburiana	Y	S3.2	
Intermontane deep or well-drained soil scrub	Desert	*Purshia tridentata*	Y	S3	
Inter-mountain dry shrubland and grassland	Desert	Purshia tridentata	Y	S3	
Californian broadleaf forest and woodland	Desert	Quercus chrysolepis tree	Y		SBC - Oak Woodland
Western Mojave and Western Sonoran Desert borderland chaparral	Desert	Quercus cornelius-mulleri			
Western Mojave and Western Sonoran Desert borderland chaparral	Desert	Quercus john-tuckeri			
Inter-mountain dry shrubland and grassland	Desert	Salazaria mexicana			
Mojave and Great Basin upper bajada and toeslope	Desert	Salazaria mexicana			
Riparian	Desert	Salix exigua			
Southwestern North American riparian/wash scrub	Desert	*Salix exigua*			
Southwestern North American riparian/wash scrub	Desert	Salix exigua			
Riparian	Desert	Salix gooddingii	Y	S3	
Southwestern North American riparian evergreen and deciduous woodland	Desert	Salix gooddingii	Y	S3	
Riparian	Desert	Salix laevigata	Y	S3	
Southwestern North American riparian evergreen and deciduous woodland	Desert	Salix laevigata	Y	S3	
Riparian	Desert	Salix lasiolepis			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Southwestern North American riparian/wash scrub	Desert	*Salix lasiolepis*			
Southwestern North American riparian/wash scrub	Desert	Salix lasiolepis			
Intermontane seral shrubland	Desert	Salvia dorrii	Y	S2	
Riparian	Desert	Sambucus nigra	Y	S3	
Southwestern North American riparian/wash scrub	Desert	*Sambucus nigra*	Y	S3	
Southwestern North American riparian/wash scrub	Desert	Sambucus nigra	Y	S3	
North American warm desert alkaline scrub and herb playa and wet flat	Desert	Sarcobatus vermiculatus			
Arid west freshwater emergent marsh	Desert	Schoenoplectus acutus			
Arizonan upland Sonoran desert scrub	Desert	Simmondsia chinensis	Y	S3?	
Southwestern North American salt basin and high marsh	Desert	Sueda moquinii	Y	S3	
Southwestern North American riparian/wash scrub	Desert	*Tamarix* spp.			
Riparian	Desert	Tamarix spp.			
Arizonan upland Sonoran desert scrub	Desert	Tetracoccus hallii	Y	S1	
Lower bajada and fan Mojavean–Sonoran desert scrub	Desert	Tidestromia oblongifolia	Y	S3	
Arid west freshwater emergent marsh	Desert	Typha (angustifolia, domingensis, latifolia)			
Arizonan upland Sonoran desert scrub	Desert	Viguiera parishii			
Madrean warm semi-desert wash woodland/scrub	Desert	Viguiera reticulata	Y	S3?	
Mojavean semi-desert wash scrub	Desert	Viguiera reticulata	Y	S3?	
Riparian	Desert	Washingtonia filifera	Y	S3.2	
Southwestern North American riparian evergreen and deciduous woodland	Desert	Washingtonia filifera	Y	S3.2	
North American warm desert dunes and sand flats	Desert	*Wislizenia refracta*	Y	S2	
Inter-mountain dry shrubland and grassland	Desert	Yucca brevifolia	Y	S3.2	
Mojave and Great Basin upper bajada and toeslope	Desert	Yucca brevifolia	Y	S3.2	SBC - Joshua Tree Woodland
Inter-mountain dry shrubland and grassland	Desert	Yucca schidigera			
Mojave and Great Basin upper bajada and toeslope	Desert	Yucca schidigera	Y		SBC - Native Desert Plant
Arizonan upland Sonoran desert scrub	Desert	Ziziphus obtusifolia	Y	S2?	
White fir	Mountain	Abies concolor			
Mixed conifer–pine	Mountain	Abies concolor - Pinus lambertiana			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
White fir	Mountain	Abies concolor - Pinus lambertiana			
Coastal mixed hardwood	Mountain	Acer macrophyllum	Y	S3	
Interior mixed hardwood	Mountain	Acer macrophyllum	Y	S3	
Fremont cottonwood	Mountain	Acer negundo	Y	S2.2	
Perennial grasses and forbs	Mountain	Achnatherum hymenoides	Y	S1.2	
Perennial grasses and forbs	Mountain	Achnatherum speciosum	Y	S2.2	
Chamise	Mountain	Adenostoma fasciculatum			
Chamise	Mountain	Adenostoma fasciculatum - Salvia apiana	Y	S3	
Chamise	Mountain	Adenostoma fasciculatum - Salvia mellifera			
Lower montane mixed chaparral	Mountain	Adenostoma fasciculatum - Salvia mellifera			
Desert mixed shrub	Mountain	Agave deserti	Y	S3.2	
Riparian mixed shrub	Mountain	Alnus rhombifolia			
White alder	Mountain	Alnus rhombifolia			
Perennial grasses and forbs	Mountain	Ambrosia psilostachya			
Desert mixed shrub	Mountain	Ambrosia salsola			
Annual grasses and forbs	Mountain	Amsinckia (menziesii, tessellata)			
Perennial grasses and forbs	Mountain	Amsinckia (menziesii, tessellata)			
Chamise	Mountain	Arctostaphylos glauca			
Manzanita chaparral	Mountain	Arctostaphylos glauca			
Great Basin–mixed chaparral transition	Mountain	Arctostaphylos patula			
Upper montane mixed chaparral	Mountain	Arctostaphylos patula			
Manzanita chaparral	Mountain	Arctostaphylos pringlei ssp. drupacea	Y	S3	
Upper montane mixed chaparral	Mountain	Arctostaphylos pringlei ssp. drupacea	Y	S3	
Perennial grasses and forbs	Mountain	Aristida purpurea	Y	S3?	
California sagebrush	Mountain	Artemisia californica			
Buckwheat	Mountain	Artemisia californica - Eriogonum fasciculatum			
California sagebrush	Mountain	Artemisia californica - Eriogonum fasciculatum			
Riversidean alluvial scrub	Mountain	Artemisia californica - Eriogonum fasciculatum			
California sagebrush	Mountain	Artemisia californica - Salvia mellifera			
Riparian mixed shrub	Mountain	Artemisia dracunculus			
Basin sagebrush	Mountain	Artemisia tridentata			
Great Basin mixed scrub	Mountain	Artemisia tridentata			
Great Basin–desert mixed scrub	Mountain	Artemisia tridentata			
Great Basin–mixed chaparral transition	Mountain	Artemisia tridentata			
Great Basin mixed scrub	Mountain	Artemisia tridentata ssp. vaseyana			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Saltbush	Mountain	Atriplex canescens			
Saltbush	Mountain	Atriplex polycarpa			
Annual grasses and forbs	Mountain	Avena (barbata, fatua)			
Baccharis (riparian)	Mountain	Baccharis salicifolia			
Annual grasses and forbs	Mountain	Brassica nigra and other mustards			
Annual grasses and forbs	Mountain	Bromus (diandrus, hordeaceus) - Brachypodium distachyon			
Annual grasses and forbs	Mountain	Bromus rubens - Schismus (arabicus, barbatus)			
Alkaline mixed grasses	Mountain	Carex douglasii	Y	S2?	
Perennial grasses and forbs	Mountain	Carex douglasii	Y	S2?	
Perennial grasses and forbs	Mountain	Carex integra	Y	S2?	
Perennial grasses and forbs	Mountain	Carex microptera	Y	S2?	
Ceanothus mixed chaparral	Mountain	Ceanothus cordulatus			
Upper montane mixed chaparral	Mountain	Ceanothus cordulatus			
Lower montane mixed chaparral	Mountain	Ceanothus crassifolius			
Chamise	Mountain	Ceanothus cuneatus			
Lower montane mixed chaparral	Mountain	Ceanothus cuneatus			
Ceanothus mixed chaparral	Mountain	Ceanothus greggii	Y	S3	
Great Basin–mixed chaparral transition	Mountain	Ceanothus greggii	Y	S3	
Upper montane mixed chaparral	Mountain	Ceanothus integerrimus			
Ceanothus mixed chaparral	Mountain	Ceanothus leucodermis			
Ceanothus mixed chaparral	Mountain	Ceanothus oliganthus			
Annual grasses and forbs	Mountain	Centaurea (solstitialis, melitensis)			
Curlleaf mountain mahogany	Mountain	Cercocarpus ledifolius			
Curlleaf mountain mahogany (tree)	Mountain	Cercocarpus ledifolius			
Upper montane mixed chaparral	Mountain	Chrysolepis sempervirens	Y	S3	
Riparian mixed shrub	Mountain	Cornus sericea	Y	S3?	
Annual grasses and forbs	Mountain	Cynosurus echinatus			
Perennial grasses and forbs	Mountain	Danthonia californica	Y	S3	
Annual grasses and forbs	Mountain	Deinandra fasciculata	Y	S3?	
Alkaline mixed grasses	Mountain	Distichlis spicata			
Perennial grasses and forbs	Mountain	Elymus glaucus	Y	S3?	
Perennial grasses and forbs	Mountain	Elymus multisetus			
Desert mixed shrub	Mountain	Encelia farinosa			
Desert mixed shrub	Mountain	Ephedra californica	Y	S3.3	
Desert mixed shrub	Mountain	Ephedra nevadensis			
Great Basin–desert mixed scrub	Mountain	Ephedra nevadensis			
Great Basin–desert mixed scrub	Mountain	Ephedra viridis			
Rabbitbrush	Mountain	Ericameria nauseosa			

APPENDIX B

Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Desert mixed shrub	Mountain	Ericameria paniculata	Y	S3	
Rabbitbrush	Mountain	Ericameria parryi	Y	S3	
Rabbitbrush	Mountain	Ericameria teretifolia			
Buckwheat	Mountain	Eriogonum cinereum	Y	S3	
California sagebrush	Mountain	Eriogonum cinereum	Y	S3	
Buckwheat	Mountain	Eriogonum fasciculatum			
Desert buckwheat	Mountain	Eriogonum fasciculatum			
Buckwheat	Mountain	Eriogonum fasciculatum - Salvia apiana			
Riversidean alluvial scrub	Mountain	Eriogonum fasciculatum - Salvia apiana			
Desert mixed shrub	Mountain	Eriogonum heermannii	Y	S2?	
Desert buckwheat	Mountain	Eriogonum wrightii	Y	S3	
Annual grasses and forbs	Mountain	Eschscholzia (californica)			
Eucalyptus	Mountain	Eucalyptus camaldulensis			
Eucalyptus	Mountain	Eucalyptus globulus			
Perennial grasses and forbs	Mountain	Festuca rubra	Y	S3?	
Lower montane mixed chaparral	Mountain	Frangula californica			
Desert mixed shrub	Mountain	Grayia spinosa	Y	S3.3	
Desert mixed shrub	Mountain	Hyptis emoryi	Y	S3	
Perennial grasses and forbs	Mountain	Iris missouriensis			
Perennial grasses and forbs	Mountain	Juncus arcticus (var. balticus, mexicanus)			
Barren	Mountain	Juncus parryi			
California juniper (shrub)	Mountain	Juniperus californica			
Western juniper	Mountain	Juniperus grandis			
Agriculture (general)	Mountain	Land Cover			
Agriculture pond or water feature	Mountain	Land Cover			
Alpine mixed scrub	Mountain	Land Cover			
Intermittent lake or pond	Mountain	Land Cover			
Intermittent stream channel	Mountain	Land Cover			
Non-native/ornamental conifer	Mountain	Land Cover			
Non-native/ornamental grass	Mountain	Land Cover			
Non-native/ornamental hardwood	Mountain	Land Cover			
Orchard agriculture	Mountain	Land Cover			
Pastures and crop agriculture	Mountain	Land Cover			
Perennial lake or pond	Mountain	Land Cover			
Reservoir	Mountain	Land Cover			
Urban or industrial impoundment	Mountain	Land Cover			
Urban/developed (general)	Mountain	Land Cover			
Urban-related bare soil	Mountain	Land Cover			
Water (general)	Mountain	Land Cover			
Desert mixed shrub	Mountain	Larrea tidentata			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Creosote bush	Mountain	Larrea tridentata - Ambrosia dumosa			
Creosote bush	Mountain	Larrea tridentata - Encelia farinosa			
Annual grasses and forbs	Mountain	Lasthenia californica - Plantago erecta - Vulpia microstachys			
Riversidean alluvial scrub	Mountain	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Scalebroom	Mountain	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Perennial grasses and forbs	Mountain	Leymus cinereus	Y	S2	
Perennial grasses and forbs	Mountain	Leymus condensatus	Y	S3	
Perennial grasses and forbs	Mountain	Leymus triticoides	Y	S3	
Annual grasses and forbs	Mountain	Lolium perenne			
Annual grasses and forbs	Mountain	Lotus purshianus			
Soft scrub mixed chaparral	Mountain	Lotus scoparius			
Desert mixed shrub	Mountain	Lycium andersonii	Y	S3	
California sagebrush	Mountain	Malosma laurina			
Riversidean alluvial scrub	Mountain	Malosma laurina			
Sumac shrub	Mountain	Malosma laurina			
Perennial grasses and forbs	Mountain	Muhlenbergia richardsonis			
Perennial grasses and forbs	Mountain	Muhlenbergia rigens	Y	S2?	
Perennial grasses and forbs	Mountain	Nassella cernua	Y	S3?	
Perennial grasses and forbs	Mountain	Nassella lepida	Y	S3?	
Desert mixed shrub	Mountain	Nolina bigelovii	Y	S2.2	
Desert mixed shrub	Mountain	Nolina parryi	Y	S2.2	
Perennial grasses and forbs	Mountain	Oxyria digyna	Y	S3?	
Knobcone pine	Mountain	Pinus attenuata			
Lodgepole pine	Mountain	Pinus contorta ssp. murrayana			
Coulter pine	Mountain	Pinus coulteri			
Limber pine	Mountain	Pinus flexilis	Y	S3.2	
Subalpine conifers	Mountain	Pinus flexilis	Y	S3.2	
Eastside pine	Mountain	Pinus jeffreyi			
Jeffrey pine	Mountain	Pinus jeffreyi			
Mixed conifer–fir	Mountain	Pinus jeffreyi			
Singleleaf pinyon	Mountain	Pinus monophylla			
Eastside pine	Mountain	Pinus ponderosa			
Ponderosa pine	Mountain	Pinus ponderosa			
Mixed conifer–pine	Mountain	Pinus ponderosa - Calocedrus decurrens			
Annual grasses and forbs	Mountain	Plagiobothrys nothofulvus			
California sycamore	Mountain	Platanus racemosa	Y	S3	
Perennial grasses and forbs	Mountain	Poa secunda	Y	S3?	
Fremont cottonwood	Mountain	Populus fremontii	Y	S3.2	
Black cottonwood	Mountain	Populus trichocarpa	Y	S3	

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Wet meadow	Mountain	Project Specific Analysis Needed	Y	most S1-S3	
Upper montane mixed chaparral	Mountain	Prunus emarginata			
Desert mixed shrub	Mountain	Prunus fasciculata	Y	S3.3	
Lower montane mixed chaparral	Mountain	Prunus ilicifolia	Y	S3	
Bigcone Douglas-firc	Mountain	Pseudotsuga macrocarpa	Y	S3.2	
Bitterbrush–sagebrush	Mountain	Purshia tridentata	Y	S3	
Great Basin mixed scrub	Mountain	Purshia tridentata	Y	S3	
Great Basin–desert mixed scrub	Mountain	Purshia tridentata	Y	S3	
Great Basin–mixed chaparral transition	Mountain	Purshia tridentata	Y	S3	
Coastal mixed hardwood	Mountain	Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)			
Interior live oak	Mountain	Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)			
Scrub oak	Mountain	Quercus berberidifolia			
Scrub oak	Mountain	Quercus berberidifolia - Adenostoma fasciculatum			
Canyon live oak	Mountain	Quercus chrysolepis	Y		SBC - Oak Woodland
Scrub oak	Mountain	Quercus chrysolepis (shrub)	Y	S3	SBC - Oak Woodland
Upper montane mixed chaparral	Mountain	Quercus chrysolepis (shrub)	Y	S3	SBC - Oak Woodland
Great Basin–mixed chaparral transition	Mountain	Quercus cornelius-mulleri			
Scrub oak	Mountain	Quercus cornelius-mulleri			
Tucker/Muller scrub oak	Mountain	Quercus cornelius-mulleri			
Black oak	Mountain	Quercus kelloggii			
Scrub oak	Mountain	Quercus palmeri	Y	S2?	
Semi-desert chaparral	Mountain	Quercus palmeri	Y	S2?	
Interior live oak	Mountain	Quercus wislizeni			
Scrub oak	Mountain	Quercus wislizeni (shrub)			
Semi-desert chaparral	Mountain	Rhus ovata			
Riparian mixed shrub	Mountain	Rosa californica	Y	S3	
Riparian mixed shrub	Mountain	Rubus armeniacus			
Riparian mixed shrub	Mountain	Rubus parviflorus			
Riparian mixed shrub	Mountain	Rubus ursinus	Y	S3	
Desert mixed shrub	Mountain	Salazaria mexicana			
Riparian mixed shrub	Mountain	Salix exigua			
Willow (shrub)	Mountain	Salix exigua			
Riparian mixed hardwood	Mountain	Salix laevigata	Y	S3	
Willow	Mountain	Salix laevigata	Y	S3	
Riparian mixed shrub	Mountain	Salix lasiolepis			
Willow	Mountain	Salix lasiolepis			
Willow (shrub)	Mountain	Salix lasiolepis			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Willow	Mountain	Salix lucida	Y	S3.2	
Riparian mixed shrub	Mountain	Salix lutea	Y	S3?	
Willow (shrub)	Mountain	Salix lutea	Y	S3?	
California sagebrush	Mountain	Salvia apiana	Y	S3	
Barren	Mountain	Sedum spathulifolium			
Perennial grasses and forbs	Mountain	Sedum spathulifolium			
Annual grasses and forbs	Mountain	Selaginella bigelovii	Y	S3	
Barren	Mountain	Selaginella bigelovii	Y	S3	
Alkaline mixed grasses	Mountain	Sporobolus airoides	Y	S2.2	
Perennial grasses and forbs	Mountain	Sporobolus airoides	Y	S2.2	
California bay	Mountain	Umbellularia californica	Y	S3	
Coastal mixed hardwood	Mountain	Umbellularia californica	Y	S3	
Desert mixed shrub	Mountain	Viguiera parishii			
Desert mixed shrub	Mountain	Viguiera reticulata	Y	S3?	
Creosote bush	Mountain	Yucca schidigera	Y		SBC - Native Desert Plant
Coastal mixed hardwood	Valley	Acer macrophyllum	Y	S3	
Interior mixed hardwood	Valley	Acer macrophyllum	Y	S3	
Fremont cottonwood	Valley	Acer negundo	Y	S2.2	
Perennial grasses and forbs	Valley	Achnatherum hymenoides	Y	S1.2	
Perennial grasses and forbs	Valley	Achnatherum speciosum	Y	S2.2	
Chamise	Valley	Adenostoma fasciculatum			
Chamise	Valley	Adenostoma fasciculatum - Salvia apiana	Y	S3	
Chamise	Valley	Adenostoma fasciculatum - Salvia mellifera			
Lower montane mixed chaparral	Valley	Adenostoma fasciculatum - Salvia mellifera			
Chamise	Valley	Adenostoma fasciculatum - Xylococcus bicolor	Y	S3	
Non-native/invasive grass	Valley	Agropyron cristatum			
Non-native/ornamental grass	Valley	Agropyron cristatum			
Perennial grasses and forbs	Valley	Agrostis (gigantea, stolonifera) - Festuca arundinacea			
Riparian mixed shrub	Valley	Alnus rhombifolia			
Perennial grasses and forbs	Valley	Ambrosia psilostachya			
Annual grasses and forbs	Valley	Amsinckia (menziesii, tessellata)			
Perennial grasses and forbs	Valley	Amsinckia (menziesii, tessellata)			
Chamise	Valley	Arctostaphylos glauca			
Perennial grasses and forbs	Valley	Aristida purpurea	Y	S3?	
California sagebrush	Valley	Artemisia californica			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Buckwheat	Valley	Artemisia californica - Eriogonum fasciculatum			
California sagebrush	Valley	Artemisia californica - Eriogonum fasciculatum			
Riversidean alluvial scrub	Valley	Artemisia californica - Eriogonum fasciculatum			
California sagebrush	Valley	Artemisia californica - Salvia mellifera			
Riparian mixed shrub	Valley	Artemisia dracunculus			
Non-native/invasive grass	Valley	Arundo donax			
Non-native/ornamental grass	Valley	Arundo donax			
Annual grasses and forbs	Valley	Avena (barbata, fatua)			
Non-native/invasive grass	Valley	Avena (barbata, fatua)			
Non-native/ornamental grass	Valley	Avena (barbata, fatua)			
Tule–cattail	Valley	Azolla (filiculoides, mexicana)			
Baccharis (riparian)	Valley	Baccharis emoryi	Y	S2?	
Baccharis (riparian)	Valley	Baccharis salicifolia			
Tule–cattail	Valley	Bolboschoenus maritimus			
Annual grasses and forbs	Valley	Brassica nigra and other mustards			
Non-native/invasive grass	Valley	Brassica nigra and other mustards			
Non-native/ornamental grass	Valley	Brassica nigra and other mustards			
Annual grasses and forbs	Valley	Bromus (diandrus, hordeaceus) - Brachypodium distachyon			
Non-native/invasive grass	Valley	Bromus (diandrus, hordeaceus) - Brachypodium distachyon			
Non-native/ornamental grass	Valley	Bromus (diandrus, hordeaceus) - Brachypodium distachyon			
Annual grasses and forbs	Valley	Bromus rubens - Schismus (arabicus, barbatus)			
Non-native/invasive grass	Valley	Bromus rubens - Schismus (arabicus, barbatus)			
Non-native/ornamental grass	Valley	Bromus rubens - Schismus (arabicus, barbatus)			
Non-native/invasive grass	Valley	Bromus tectorum			
Non-native/ornamental grass	Valley	Bromus tectorum			
Non-native/ornamental shrub	Valley	Broom (Cytisus scoparius and Others)			
Lower montane mixed chaparral	Valley	Ceanothus crassifolius			
Chamise	Valley	Ceanothus cuneatus			
Lower montane mixed chaparral	Valley	Ceanothus cuneatus			
Ceanothus mixed chaparral	Valley	Ceanothus spinosus			
Chamise	Valley	Ceanothus verrucosus	Y	S2	

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Annual grasses and forbs	Valley	Centaurea (solstitialis, melitensis)			
Non-native/invasive grass	Valley	Centaurea (solstitialis, melitensis)			
Non-native/ornamental grass	Valley	Centaurea (solstitialis, melitensis)			
Annual grasses and forbs	Valley	Centromadia (pungens)	Y	S2?	
Non-native/invasive grass	Valley	Conium maculatum - Foeniculum vulgare			
Non-native/ornamental grass	Valley	Conium maculatum - Foeniculum vulgare			
California sagebrush	Valley	Coreopsis gigantea	Y	S3?	
Non-native/invasive grass	Valley	Cortaderia (jubata, selloana)			
Non-native/ornamental grass	Valley	Cortaderia (jubata, selloana)			
Perennial grasses and forbs	Valley	Cortaderia (jubata, selloana)			
Alkaline mixed grasses	Valley	Cressa truxillensis - Distichlis spicata			
Annual grasses and forbs	Valley	Cynosurus echinatus			
Non-native/invasive grass	Valley	Cynosurus echinatus			
Non-native/ornamental grass	Valley	Cynosurus echinatus			
Annual grasses and forbs	Valley	Deinandra fasciculata	Y	S3?	
Alkaline mixed grasses	Valley	Distichlis spicata			
Perennial grasses and forbs	Valley	Elymus glaucus	Y	S3?	
Perennial grasses and forbs	Valley	Elymus multisetus			
Encelia scrub	Valley	Encelia californica	Y	S3	
Encelia scrub	Valley	Encelia farinosa			
Buckwheat	Valley	Eriogonum cinereum	Y	S3	
California sagebrush	Valley	Eriogonum cinereum	Y	S3	
Buckwheat	Valley	Eriogonum fasciculatum			
Buckwheat	Valley	Eriogonum fasciculatum - Salvia apiana			
Riversidean alluvial scrub	Valley	Eriogonum fasciculatum - Salvia apiana			
Annual grasses and forbs	Valley	Eschscholzia (californica)			
Eucalyptus	Valley	Eucalyptus (globulus, camaldulensis)			
Non-native/ornamental hardwood	Valley	Eucalyptus (globulus, camaldulensis)			
Lower montane mixed chaparral	Valley	Frangula californica			
California walnut	Valley	Juglans californica	Y	S3.2	
Perennial grasses and forbs	Valley	Juncus arcticus (var. balticus, mexicanus)			
Agriculture (general)	Valley	Land Cover			
Agriculture pond or water feature	Valley	Land Cover			
Intermittent lake or pond	Valley	Land Cover			
Intermittent stream channel	Valley	Land Cover			
Nurseries	Valley	Land Cover			
Orchard agriculture	Valley	Land Cover			
Pastures and crop agriculture	Valley	Land Cover			
Perennial lake or pond	Valley	Land Cover			
Reservoir	Valley	Land Cover			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
River/stream/canal	Valley	Land Cover			
Tilled earth	Valley	Land Cover			
Urban or industrial impoundment	Valley	Land Cover			
Urban/developed (general)	Valley	Land Cover			
Urban-related bare soil	Valley	Land Cover			
Vineyard–shrub agriculture	Valley	Land Cover			
Water (general)	Valley	Land Cover			
Annual grasses and forbs	Valley	Lasthenia californica - Plantago erecta - Vulpia microstachys			
Tule–cattail	Valley	Lemna (minor) and Relatives			
Riversidean alluvial scrub	Valley	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Scalebroom	Valley	Lepidospartum squamatum	Y	S3	Holland - RAFSS
Perennial grasses and forbs	Valley	Leymus condensatus	Y	S3	
Perennial grasses and forbs	Valley	Leymus triticoides	Y	S3	
Annual grasses and forbs	Valley	Lolium perenne			
Non-native/invasive grass	Valley	Lolium perenne			
Non-native/ornamental grass	Valley	Lolium perenne			
Annual grasses and forbs	Valley	Lotus purshianus			
Soft scrub mixed chaparral	Valley	Lotus scoparius			
Tule–cattail	Valley	Ludwigia (hexapetala, peploides)			
California sagebrush	Valley	Lupinus chamissonis - Ericameria ericoides	Y	S3	
California sagebrush	Valley	Malosma laurina			
Riversidean alluvial scrub	Valley	Malosma laurina			
Sumac shrub	Valley	Malosma laurina			
Perennial grasses and forbs	Valley	Muhlenbergia rigens	Y	S2?	
Perennial grasses and forbs	Valley	Nassella cernua	Y	S3?	
Perennial grasses and forbs	Valley	Nassella lepida	Y	S3?	
Perennial grasses and forbs	Valley	Nassella pulchra	Y	S3?	
Coastal cactus	Valley	Opuntia littoralis			
Non-native/invasive grass	Valley	Pennisetum setaceum			
Non-native/ornamental grass	Valley	Pennisetum setaceum			
Non-native/invasive grass	Valley	Phalaris aquatica			
Non-native/ornamental grass	Valley	Phalaris aquatica			
Tule–cattail	Valley	Phragmites australis			
Annual grasses and forbs	Valley	Plagiobothrys nothofulvus			
California sycamore	Valley	Platanus racemosa	Y	S3	
Perennial grasses and forbs	Valley	Poa secunda	Y	S3?	
Fremont cottonwood	Valley	Populus fremontii	Y	S3.2	
Non-native/ornamental conifer	Valley	Project Specific Analysis Needed			
Non-native/ornamental conifer/hardwood	Valley	Project Specific Analysis Needed			

APPENDIX B
Vegetation Sensitivity Listings

General Category Name	Region	MCV2 Name	Sensitive?	CDFG Sensitivity Ranking	Other Sensitivity (Holland, SBCGP)
Wet meadow	Valley	Project Specific Analysis Needed	Y	most S1-S3	
Lower montane mixed chaparral	Valley	Prunus ilicifolia	Y	S3	
Coastal mixed hardwood	Valley	Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)			
Coast live oak	Valley	Quercus agrifolia	Y		SBC - Oak Woodland
Coastal mixed hardwood	Valley	Quercus agrifolia	Y		SBC - Oak Woodland
Scrub oak	Valley	Quercus berberidifolia			
Scrub oak	Valley	Quercus berberidifolia - Adenostoma fasciculatum			
Scrub oak	Valley	Quercus wislizeni (shrub)			
Riparian mixed shrub	Valley	Rosa californica	Y	S3	
Non-native/ornamental shrub	Valley	Rubus armeniacus			
Riparian mixed shrub	Valley	Rubus armeniacus			
Riparian mixed shrub	Valley	Rubus parviflorus			
Riparian mixed shrub	Valley	Rubus ursinus	Y	S3	
Riparian mixed shrub	Valley	Salix exigua			
Willow	Valley	Salix gooddingii	Y	S3	
Riparian mixed hardwood	Valley	Salix laevigata	Y	S3	
Willow	Valley	Salix laevigata	Y	S3	
Riparian mixed shrub	Valley	Salix lasiolepis			
Willow	Valley	Salix lasiolepis			
Willow	Valley	Salix lucida	Y	S3.2	
California sagebrush	Valley	Salvia apiana	Y	S3	
Riparian mixed hardwood	Valley	Sambucus nigra	Y	S3	
Non-native/ornamental hardwood	Valley	Schinus (molle, terebinthifolius) - Myoporum laetum			
Tule–cattail	Valley	Schoenoplectus acutus			
Tule–cattail	Valley	Schoenoplectus americanus			
Tule–cattail	Valley	Schoenoplectus californicus			
Tule–cattail	Valley	Scirpus microcarpus			
Annual grasses and forbs	Valley	Selaginella bigelovii	Y	S3	
Barren	Valley	Selaginella bigelovii	Y	S3	
Alkaline mixed grasses	Valley	Sporobolus airoides	Y	S2.2	
Perennial grasses and forbs	Valley	Sporobolus airoides	Y	S2.2	
Tule–cattail	Valley	Stuckenia (pectinata) - Potamogeton spp.			
Tule–cattail	Valley	Typha (angustifolia, domingensis, latifolia)			
Fan palm	Valley	Washingtonia filifera	Y	S3.2	

APPENDIX C

Documented Special-Status Plant and Wildlife Species – Desert, Mountain, and Valley Regions

Desert Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Abert's sanvitalia	*Sanvitalia abertii*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(carbonate)/ annual herb/ Aug-Sep(Oct)/ 5151-5906	None							
alkali mariposa lily	*Calochortus striatus*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Chenopod scrub, Mojavean desert scrub, Meadows and seeps/alkaline, mesic/ perennial bulbiferous herb/ Apr-Jun/ 230-5233	FACW				x	x		
Amargosa beardtongue	*Penstemon fruticiformis var. amargosae*	None	None	1B.3	None/ None/ 1B.3	Mojavean desert scrub/ perennial herb/ Apr-Jun/ 2789-4593	None							
appressed muhly	*Muhlenbergia appressa*	None	None	2B.2	None/ None/ 2B.2	Coastal scrub, Mojavean desert scrub, Valley and foothill grassland/rocky/ annual herb/ Apr-May/ 66-5249	None							
Arizona cottontop	*Digitaria californica var. californica*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub, Sonoran desert scrub/rocky/ perennial herb/ Jul-Nov/ 951-4888	None							
Arizona pholistoma	*Pholistoma auritum var. arizonicum*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub/ annual herb/ Mar/ 902-2740	None							
Aven Nelson's phacelia	*Phacelia anelsonii*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/carbonate, sandy or gravelly/ annual herb/ Apr-May/ 3937-4921	None							
bare-stem larkspur	*Delphinium scaposum*	None	None	2B.3	None/ None/ 2B.3	Sonoran desert scrub/rocky, sometimes washes/ perennial herb/ Mar-Apr/ 886-3461	None				x			
Barneby's phacelia	*Phacelia barnebyana*	None	None	2B.3	None/ None/ 2B.3	Great Basin scrub, Pinyon and juniper woodland/usually carbonate, gravelly, rocky/ annual herb/ May-Jul/ 5249-8858	None							
Barstow woolly sunflower	*Eriophyllum mohavense*	None	None	1B.2	None/ None/ 1B.2	Chenopod scrub, Mojavean desert scrub, Playas/ annual herb/ (Mar),Apr-May/ 1640-3150	None				x	x		
Beaver Dam breadroot	*Pediomelum castoreum*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Mojavean desert scrub/Sandy, washes and roadcuts/ perennial herb/ Apr-May/ 2001-5003	None							
bitter hymenoxys	*Hymenoxys odorata*	None	None	2B.1	None/ None/ 2B.1	Riparian scrub, Sonoran desert scrub/sandy/ annual herb/ Feb-Nov/ 148-492	None							
black bog-rush	*Schoenus nigricans*	None	None	2B.2	None/ None/ 2B.2	Marshes and swamps(often alkaline)/ perennial herb/ Aug-Sep/ 492-6562	OBL							
Booth's evening-primrose	*Eremothera boothii ssp. boothii*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/ annual herb/ Apr-Sep/ 2674-7874	None							
Booth's hairy evening-primrose	*Eremothera boothii ssp. intermedia*	None	None	2B.3	None/ None/ 2B.3	Great Basin scrub(sandy), Pinyon and juniper woodland/ annual herb/ (May),Jun/ 4921-7054	None							
Boyd?s monardella	*Monardella boydii*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub, Pinyon and juniper woodland, Riparian scrub(desert)/Usually in alluvial soils and cracks of bedrock in washes on canyon bottoms and rocky slopes./ perennial shrub/ Aug-Oct/ 4593-5413	None							
burro grass	*Scleropogon brevifolius*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(decomposed granitic)/ perennial stoloniferous herb/ Oct/ 5200-5249	None							
California ayenia	*Ayenia compacta*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub, Sonoran desert scrub/rocky/ perennial herb/ Mar-Apr/ 492-3593	None							
cave evening-primrose	*Oenothera cavernae*	None	None	2B.1	None/ None/ 2B.1	Great Basin scrub, Joshua tree woodland, Mojavean desert scrub/gravelly, often calcareous/ annual herb/ Mar-Nov/ 2493-4199	None							
Chambers' physaria	*Physaria chambersii*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(carbonate, rocky)/ perennial herb/ Apr-May/ 4921-8497	None							
chaparral sand-verbena	*Abronia villosa var. aurita*	None	None	1B.1	None/ None/ 1B.1	Chaparral, Coastal scrub, Desert dunes/sandy/ annual herb/ Jan-Sep/ 246-5249	None							
Charleston sandwort	*Eremogone congesta var. charlestonensis*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland(sandy)/ perennial herb/ Jun/ 7218-7300	None							
Cima milk-vetch	*Astragalus cimae var. cimae*	None	None	1B.2	None/ None/ 1B.2	Great Basin scrub, Joshua tree woodland, Pinyon and juniper woodland/clay/ perennial herb/ Apr-May/ 2920-6070	None							
Clark Mountain green-gentian	*Frasera albomarginata var. induta*	None	None	1B.2	None/ None/ 1B.2	Pinyon and juniper woodland/Rocky or gravelly, usually carbonate./ perennial herb/ May-Jun(Sep)/ 5594-5807	None							
Clark Mountain monardella	*Monardella eremicola*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland, Riparian scrub(desert)/Granitic or carbonate. Usually in bedrock cracks and benches along canyon washes./ perennial shrub/ Jun-Aug/ 4921-6890	None							
Clark Mountain spurge	*Euphorbia exstipulata var. exstipulata*	None	None	2B.1	None/ None/ 2B.1	Mojavean desert scrub(rocky)/ annual herb/ Sep/ 4199-6562	None							
Clokey's cryptantha	*Cryptantha clokeyi*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub/ annual herb/ Apr/ 2379-4478	None					x		
Coulter's goldfields	*Lasthenia glabrata ssp. coulteri*	None	None	1B.1	None/ None/ 1B.1	Marshes and swamps(coastal salt), Playas, Vernal pools/ annual herb/ Feb-Jun/ 3-4003	None							
Coves' cassia	*Senna covesii*	None	None	2B.2	None/ None/ 2B.2	Sonoran desert scrub(sandy)/ perennial herb/ Mar-Jun/ 935-3510	None							
coyote gilia	*Aliciella triodon*	None	None	2B.2	None/ None/ 2B.2	Great Basin scrub, Pinyon and juniper woodland/sometimes sandy/ annual herb/ Apr-Jun/ 2001-5577	None							
creamy blazing star	*Mentzelia tridentata*	None	None	1B.3	None/ None/ 1B.3	Mojavean desert scrub/rocky, gravelly, sandy/ annual herb/ Mar-May/ 2297-3855	None							
curved-spine beavertail	*Opuntia xcurvispina*	None	None	2B.2	None/ None/ 2B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland/ perennial stem succulent/ Apr-Jun/ 3281-4593	None							
Cushenbury buckwheat	*Eriogonum ovalifolium var. vineum*	FE	None	1B.1	FE/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/carbonate/ perennial herb/ May-Aug/ 4593-8005	None				x			x
Cushenbury milk-vetch	*Astragalus albens*	FE	None	1B.1	FE/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/usually carbonate, rarely granitic/ perennial herb/ Mar-Jun/ 3593-6562	None							x
Cushenbury oxytheca	*Acanthoscyphus parishii var. goodmaniana*	FE	None	1B.1	FE/ None/ 1B.1	Pinyon and juniper woodland(carbonate, talus)/sandy, carbonate/ annual herb/ May-Oct/ 3999-7799	None							x
Darlington's blazing star	*Mentzelia puberula*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Sonoran desert scrub/sandy or rocky/ perennial herb/ Mar-May/ 295-4199	None							
Death Valley round-leaved phacelia	*Phacelia mustelina*	None	None	1B.3	None/ None/ 1B.3	Mojavean desert scrub, Pinyon and juniper woodland/carbonate or volcanic, gravelly or rocky/ annual herb/ May-Jul/ 2395-8596	None							
Death Valley sandpaper-plant	*Petalonyx thurberi ssp. gilmanii*	None	None	1B.3	None/ None/ 1B.3	Desert dunes, Mojavean desert scrub/ perennial evergreen shrub/ May-Sep/ 853-4741	None							
delicate muhly	*Muhlenbergia fragilis*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(carbonate, gravelly)/ annual herb/ Oct/ 5249-5249	None							
desert ageratina	*Ageratina herbacea*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(rocky)/ perennial herb/ Jul-Oct/ 5003-7218	None							
desert beardtongue	*Penstemon pseudospectabilis ssp. pseudospectabilis*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Sonoran desert scrub/often sandy washes, sometimes rocky/ perennial herb/ Jan-May/ 262-6348	None							
desert bedstraw	*Galium proliferum*	None	None	2B.2	None/ None/ 2B.2	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/rocky, carbonate/ annual herb/ Mar-Jun/ 3904-5348	None							
desert cymopterus	*Cymopterus deserticola*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Mojavean desert scrub/sandy/ perennial herb/ Mar-May/ 2067-4921	None				x	x		
desert germander	*Teucrium glandulosum*	None	None	2B.3	None/ None/ 2B.3	Sonoran desert scrub(rocky)/ perennial stoloniferous herb/ Apr-May/ 1312-2592	None							
desert green-gentian	*Frasera albomarginata var. albomarginata*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(rocky or gravelly)/ perennial herb/ Apr-Jun(Jul),(Aug),(Sep)/ 4495-7595	None							
desert mountain thistle	*Cirsium arizonicum var. tenuisectum*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/rocky, disturbed areas, often roadsides/ perennial herb/ Jun-Nov/ 4921-9186	None							
desert pincushion	*Coryphantha chlorantha*	None	None	2B.1	None/ None/ 2B.1	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/carbonate, gravelly, rocky/ perennial stem succulent/ Apr-Sep/ 148-5594	None							
desert wing-fruit	*Acleisanthes nevadensis*	None	None	2B.1	None/ None/ 2B.1	Joshua tree woodland, Mojavean desert scrub/rocky, gravelly/ perennial herb/ Apr-Sep/ 2608-4101	None							
Drummond's false pennyroyal	*Hedeoma drummondii*	None	None	2B.2	None/ None/ 2B.2	Great Basin scrub, Pinyon and juniper woodland/rocky or gravelly, usually carbonate/ perennial herb/ May-Jul/ 4593-5577	None							

Desert Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
dwarf abutilon	*Abutilon parvulum*	None	None	2B.3	None/ None/ 2B.3	Chenopod scrub(rocky)/ perennial herb/ Apr-May/ 2953-4265	None							
Emory's crucifixion-thorn	*Castela emoryi*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Playas, Sonoran desert scrub/gravelly/ perennial deciduous shrub/ (Apr),Jun-Jul(Sep),(Oct)/ 295-2379	None					x		
false buffalo-grass	*Munroa squarrosa*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(gravelly or rocky)/ annual herb/ Oct/ 4921-5906	None							
few-flowered muhly	*Muhlenbergia pauciflora*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(rocky)/ perennial rhizomatous herb/ Sep-Oct/ 5758-6102	None							
forked buckwheat	*Eriogonum bifurcatum*	None	None	1B.2	None/ None/ 1B.2	Chenopod scrub(sandy)/ annual herb/ Apr-Jun/ 2116-2657	None							
forked purple mat	*Nama dichotoma var. dichotoma*	None	None	2B.3		Pinyon and juniper woodland(granitic or carbonate)/ annual herb/ Sep-Oct/ 6234-7218	None							
Fremont barberry	*Berberis fremontii*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/Rocky, sometimes granitic/ perennial evergreen shrub/ Mar-May/ 3757-5643	None							
Gilman's cymopterus	*Cymopterus gilmanii*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(often carbonate)/ perennial herb/ Apr-May/ 3002-6562	None							
glandular ditaxis	*Ditaxis claryana*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Sonoran desert scrub/sandy/ perennial herb/ Oct-Mar/ 0-1526	None							
Goodding's phacelia	*Phacelia pulchella var. gooddingii*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub(clay, often alkaline)/ annual herb/ Apr-Jun/ 2510-3281	None							
Graham's fishhook cactus	*Mammillaria grahamii var. grahamii*	None	None	2B.2	None/ None/ 2B.2	Sonoran desert scrubgravelly or rocky/ perennial stem succulent/ Apr-Sep/ 984-2953	None							
Great Basin onion	*Allium atrorubens var. atrorubens*	None	None	2B.3	None/ None/ 2B.3	Great Basin scrub, Pinyon and juniper woodland/rocky or sandy/ perennial bulbiferous herb/ May-Jun/ 3937-7595	None							
hairy erioneuron	*Erioneuron pilosum*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(rocky, sometimes carbonate)/ perennial herb/ May-Jun/ 4659-6594	None							
hairy-podded fine-leaf hymenopappus	*Hymenopappus filifolius var. eriopodus*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland/carbonate/ perennial herb/ May-Jul/ 5249-5577	None							
Harwood's eriastrum	*Eriastrum harwoodii*	None	None	1B.2	None/ None/ 1B.2	Desert dunes/ annual herb/ Mar-Jun/ 410-3002	None							
Harwood's milk-vetch	*Astragalus insularis var. harwoodii*	None	None	2B.2	None/ None/ 2B.2	Desert dunes, Mojavean desert scrub/sandy or gravelly/ annual herb/ Jan-May/ 0-2329	None							
hot springs fimbristylis	*Fimbristylis thermalis*	None	None	2B.2	None/ None/ 2B.2	Meadows and seeps(alkaline, near hot springs)/ perennial rhizomatous herb/ Jul-Sep/ 361-4396	OBL							
Howe's hedgehog cactus	*Echinocereus engelmannii var. howei*	None	None	1B.1	None/ None/ 1B.1	Mojavean desert scrub/ perennial stem succulent/ Apr-May/ 1411-2543	None							
inland rush	*Juncus interior*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland/ perennial herb/ Jun-Aug/ 6004-6053	FAC							
intermountain milkwort	*Polygala intermontana*	None	None	2B.1	None/ None/ 2B.1	Pinyon and juniper woodland/ perennial shrub/ Jun-Jul(Oct)/ 6594-10105	None							
jackass-clover	*Wislizenia refracta ssp. refracta*	None	None	2B.2	None/ None/ 2B.2	Desert dunes, Mojavean desert scrub, Playas, Sonoran desert scrub/ annual herb/ Apr-Nov/ 1969-2625	None							
Jaeger's ivesia	*Ivesia jaegeri*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland, Upper montane coniferous forest/carbonate, rocky/ perennial herb/ Jun-Jul/ 6004-11811	None							
Jaeger's phacelia	*Phacelia perityloides var. jaegeri*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland(rocky, often carbonate)/ perennial herb/ May-Jul/ 6004-7694	None							
Johnson's bee-hive cactus	*Sclerocactus johnsonii*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub(granitic)/ perennial stem succulent/ Apr-May/ 1640-3937	None							
juniper sulphur-flowered buckwheat	*Eriogonum umbellatum var. juniporinum*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ Jul-Oct/ 4265-8202	None							
King's eyelash grass	*Blepharidachne kingii*	None	None	2B.3	None/ None/ 2B.3	Great Basin scrub(usually carbonate)/ perennial herb/ May/ 3494-7005	None							
Kingston Mountains bedstraw	*Galium hilendiae ssp. kingstonense*	None	None	1B.3	None/ None/ 1B.3	Lower montane coniferous forest, Pinyon and juniper woodland/rocky/ perennial herb/ (May),Jun/ 3937-6890	None							
Kingston Mountains ivesia	*Ivesia patellifera*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland(granitic, rocky)/ perennial herb/ Jun-Oct/ 4593-6890	None							
knotted rush	*Juncus nodosus*	None	None	2B.3	None/ None/ 2B.3	Meadows and seeps(mesic), Marshes and swamps(lake margins)/ perennial rhizomatous herb/ Jul-Sep/ 98-6496	OBL							
Kofa Mountain barberry	*Berberis harrisoniana*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Mojavean desert scrub/usually north-facing talus slopes, sometimes volcanic/ perennial evergreen shrub/ Jan-Mar/ 2559-2756	None							
Lane Mountain milk-vetch	*Astragalus jaegerianus*	FE	None	1B.1	FE/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub/granitic, sandy or gravelly/ perennial herb/ Apr-Jun/ 2953-3937	None				x			
Latimer's woodland-gilia	*Saltugilia latimeri*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland/rocky or sandy, often granitic, sometimes washes/ annual herb/ Mar-Jun/ 1312-6234	None							
limestone beardtongue	*Penstemon calcareus*	None	None	1B.3	None/ None/ 1B.3	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/carbonate, rocky/ perennial herb/ Apr-May/ 3494-6693	None							
limestone daisy	*Erigeron uncialis var. uncialis*	None	None	1B.2	None/ None/ 1B.2	Great Basin scrub, Pinyon and juniper woodland, Subalpine coniferous forest/carbonate/ perennial herb/ May-Jul/ 6234-9514	None							
Lincoln rockcress	*Boechera lincolnensis*	None	None	2B.3	None/ None/ 2B.3	Chenopod scrub, Mojavean desert scrub/carbonate/ perennial herb/ Mar-May/ 3609-8875	None							
Little San Bernardino Mtns. linanthus	*Linanthus maculatus*	None	None	1B.2	None/ None/ 1B.2	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub/sandy/ annual herb/ Mar-May/ 640-6808	None				x			
lobed ground-cherry	*Physalis lobata*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(decomposed granitic), Playas/ perennial herb/ (May),Sep-Jan/ 1640-2625	None							
long-stem evening-primrose	*Oenothera longissima*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Pinyon and juniper woodland/seasonally mesic/ annual / perennial herb/ Jul-Sep/ 3281-5577	OBL							
many-flowered bahia	*Bahia neomexicana*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(sandy)/ annual herb/ Sep-Oct/ 4921-5577	None							
Mojave Desert plum	*Prunus eremophila*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub/granitic or rhyolitic, usually washes/ perennial deciduous shrub/ Mar-Apr/ 3199-3855	None							
Mojave menodora	*Menodora spinescens var. mohavensis*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub/Andesite gravel, rocky hillsides, canyons/ perennial deciduous shrub/ Apr-May/ 2264-6562	None							
Mojave milkweed	*Asclepias nyctaginifolia*	None	None	2B.1	None/ None/ 2B.1	Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ May-Jun/ 2871-5577	None							
Mojave monkeyflower	*Mimulus mohavensis*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Mojavean desert scrub/sandy or gravelly, often in washes/ annual herb/ Apr-Jun/ 1969-3937	None				x	x		
Mojave tarplant	*Deinandra mohavensis*	None	CE	1B.3	None/ CE/ 1B.3	Chaparral, Coastal scrub, Riparian scrub/mesic/ annual herb/ (May),Jun-Oct(Jan)/ 2100-5249	None				x	x		
Mormon needle grass	*Stipa arida*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/carbonate/ perennial herb/ May-Jul/ 1640-8432	None							
narrow-leaved psorothamnus	*Psorothamnus fremontii var. attenuatus*	None	None	2B.3	None/ None/ 2B.3	Sonoran desert scrub(granitic or volcanic)/ perennial shrub/ Apr/ 1099-3002	None							
narrow-leaved yerba santa	*Eriodictyon angustifolium*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland/ perennial evergreen shrub/ May-Aug/ 4921-6234	None							
Nevada onion	*Allium nevadense*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(sandy or gravelly)/ perennial bulbiferous herb/ Apr-May/ 2657-5577	None							
New Mexico locust	*Robinia neomexicana*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(sandy)/ perennial deciduous shrub/ May-Jul/ 4921-5807	None							
nine-awned pappus grass	*Enneapogon desvauxii*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(rocky, carbonate)/ perennial herb/ Aug-Sep/ 4183-5988	None							
Orocopia Mountains spurge	*Euphorbia jaegeri*	None	None	1B.1	None/ None/ 1B.1	Mojavean desert scrub/Rocky hillsides and arroyos, gravelly or rocky crevices; granitic, carbonate, or metamorphic/ perennial shrub/ Oct-May/ 1969-2789	None							

Desert Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Palmer's mariposa lily	*Calochortus palmeri var. palmeri*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps/mesic/ perennial bulbiferous herb/ Apr-Jul/ 2329-7841	None							
Parish's alkali grass	*Puccinellia parishii*	None	None	1B.1	None/ None/ 1B.1	Meadows and seeps(alkaline springs and seeps)/ annual herb/ Apr-May/ 2297-3281	OBL				x	x		
Parish's brittlescale	*Atriplex parishii*	None	None	1B.1	None/ None/ 1B.1	Chenopod scrub, Playas, Vernal pools/alkaline/ annual herb/ Jun-Oct/ 82-6234	FAC							
Parish's club-cholla	*Grusonia parishii*	None	None	2B.2	None/ None/ 2B.2	Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub/sandy, rocky/ perennial stem succulent/ May-Jun(Jul)/ 984-5000	None							
Parish's daisy	*Erigeron parishii*	FT	None	1B.1	FT/ None/ 1B.1	Mojavean desert scrub, Pinyon and juniper woodland/usually carbonate, sometimes granitic/ perennial herb/ May-Aug/ 2625-6562	None				x			x
Parish's phacelia	*Phacelia parishii*	None	None	1B.1	None/ None/ 1B.1	Mojavean desert scrub, Playas/clay or alkaline/ annual herb/ Apr-May(Jun),(Jul)/ 1772-3937	FACU				x	x		
Parish's popcorn-flower	*Plagiobothrys parishii*	None	None	1B.1	None/ None/ 1B.1	Great Basin scrub, Joshua tree woodland/alkaline, mesic/ annual herb/ Mar-Jun(Nov)/ 2461-4593	OBL							
pinyon rockcress	*Boechera dispar*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/granitic, gravelly/ perennial herb/ Mar-Jun/ 3937-8333	None							
Pioneertown linanthus	*Linanthus bernardinus*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Pinyon and juniper woodland/ annual herb/ Mar-May/ 3904-4396	None							
plains bee balm	*Monarda pectinata*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/rocky/ annual herb/ Jul-Sep/ 3773-5003	None							
plains flax	*Linum puberulum*	None	None	2B.3	None/ None/ 2B.3	Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ May-Jul/ 3281-8202	None							
plains stoneseed	*Lithospermum incisum*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland/ perennial herb/ May/ 5413-5643	None							
playa milk-vetch	*Astragalus allochrous var. playanus*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub(sandy)/ perennial herb/ Apr/ 2625-2625	None							
Plummer's woodsia	*Woodsia plummerae*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(granitic, rocky)/ perennial rhizomatous herb/ May-Sep/ 5249-6562	None							
polished blazing star	*Mentzelia polita*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub/carbonate/ perennial herb/ Apr-Aug/ 3937-5184	None							
Preuss' milk-vetch	*Astragalus preussii var. preussii*	None	None	2B.1	None/ None/ 2B.1	Chenopod scrub, Mojavean desert scrub/clay/ perennial herb/ Apr-Jun/ 2461-2641	None							
Providence Mountains lotus	*Acmispon argyraeus var. notitius*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland/ perennial herb/ May-Aug/ 3937-6562	None							
pungent glossopetalon	*Glossopetalon pungens*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Pinyon and juniper woodland/carbonate/ perennial deciduous shrub/ May-Jun/ 5495-6562	None							
purple-nerve cymopterus	*Cymopterus multinervatus*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Pinyon and juniper woodland/sandy or gravelly/ perennial herb/ Mar-Apr/ 2592-5906	None							
Rau?s jaffueliobryum moss	*Jaffueliobryum raui*	None	None	2B.3	None/ None/ 2B.3	Alpine dwarf scrub, Chaparral, Mojavean desert scrub, Sonoran desert scrub/Dry openings, rock crevices, carbonate/ moss/ N.A./ 1608-6890	None							
red four o'clock	*Mirabilis coccinea*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland/ perennial herb/ May-Jul/ 3510-5906	None							
Red Rock poppy	*Eschscholzia minutiflora ssp. twisselmannii*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub(volcanic tuff)/ annual herb/ Mar-May/ 2231-4035	None							
Reveal's buckwheat	*Eriogonum contiguum*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(sandy)/ annual herb/ (Feb),Mar-May(Jun)/ 98-4331	None							
rigid fringepod	*Thysanocarpus rigidus*	None	None	1B.2	None/ None/ 1B.2	Pinyon and juniper woodland/Dry rocky slopes/ annual herb/ Feb-May/ 1969-7218	None							
Ripley's aliciella	*Aliciella ripleyi*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(carbonate)/ perennial herb/ May-Jul/ 1001-6398	None							
Robison's monardella	*Monardella robisonii*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland/ perennial rhizomatous herb/ (Feb),Apr-Sep(Oct)/ 2001-4921	None							
rosy two-toned beardtongue	*Penstemon bicolor ssp. roseus*	None	None	1B.1	None/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub/rocky or gravelly, sometimes disturbed areas/ perennial herb/ May/ 2297-4921	None							
rough menodora	*Menodora scabra*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ May-Jun/ 3937-5906	None							
roughstalk witch grass	*Panicum hirticaule ssp. hirticaule*	None	None	2B.1	None/ None/ 2B.1	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub/sandy, silty, depressions/ annual herb/ Aug-Dec/ 148-4314	None							
Rusby's desert-mallow	*Sphaeralcea rusbyi var. eremicola*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Mojavean desert scrub/ perennial herb/ Mar-Jun/ 3199-5397	None							
sagebrush loeflingia	*Loeflingia squarrosa var. artemisiarum*	None	None	2B.2	None/ None/ 2B.2	Desert dunes, Great Basin scrub, Sonoran desert scrub/sandy/ annual herb/ Apr-May/ 2297-5299	None							
saguaro	*Carnegiea gigantea*	None	None	2B.2	None/ None/ 2B.2	Sonoran desert scrub(rocky)/ perennial stem succulent/ May-Jun/ 164-4921	None							
Salina Pass wild-rye	*Elymus salina*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(rocky)/ perennial rhizomatous herb/ May-Jun/ 4429-7005	None							
salt spring checkerbloom	*Sidalcea neomexicana*	None	None	2B.2	None/ None/ 2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas/alkaline, mesic/ perennial herb/ Mar-Jun/ 49-5020	FACW					x		
San Bernardino aster	*Symphyotrichum defoliatum*	None	None	1B.2	None/ None/ 1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland(vernally mesic)/near ditches, streams, springs/ perennial rhizomatous herb/ Jul-Nov/ 7-6693	OBL							
San Bernardino milk-vetch	*Astragalus bernardinus*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Pinyon and juniper woodland/Often granitic or carbonate/ perennial herb/ Apr-Jun/ 2953-6562	None							
San Bernardino Mountains dudleya	*Dudleya abramsii ssp. affinis*	None	None	1B.2	None/ None/ 1B.2	Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest/granitic, quartzite, or carbonate/ perennial herb/ Apr-Jul/ 4101-8530	None							
sand evening-primrose	*Chylismia arenaria*	None	None	2B.2	None/ None/ 2B.2	Sonoran desert scrub(sandy or rocky)/ annual / perennial herb/ Nov-May/ -230-3002	None							
scaly cloak fern	*Astrolepis cochisensis ssp. cochisensis*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Pinyon and juniper woodland/carbonate/ perennial rhizomatous herb/ Apr-Oct/ 2953-5906	None							
scrub lotus	*Acmispon argyraeus var. multicaulis*	None	None	1B.3	None/ None/ 1B.3	Pinyon and juniper woodland(granitic)/ perennial herb/ Apr-Jun/ 3937-4921	None							
Shockley's rockcress	*Boechera shockleyi*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(carbonate or quartzite, rocky or gravelly)/ perennial herb/ May-Jun/ 2871-7579	None					x		
short-joint beavertail	*Opuntia basilaris var. brachyclada*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ perennial stem succulent/ Apr-Jun(Aug)/ 1394-5906	None					x		
sky-blue phacelia	*Phacelia coerulea*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub, Pinyon and juniper woodland/ annual herb/ Apr-May/ 4593-6562	None							
slender cottonheads	*Nemacaulis denudata var. gracilis*	None	None	2B.2	None/ None/ 2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/ annual herb/ (Mar),Apr-May/ -164-1312	None							
small-flowered androstephium	*Androstephium breviflorum*	None	None	2B.2	None/ None/ 2B.2	Desert dunes, Mojavean desert scrub(bajadas)/ perennial bulbiferous herb/ Mar-Apr/ 722-2625	None							
small-flowered bird's-beak	*Cordylanthus parviflorus*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ annual herb (hemiparasitic)/ Aug-Oct/ 2297-7218	None							
small-flowered rice grass	*Stipa divaricata*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(gravelly, carbonate)/ perennial herb/ Jun-Sep/ 2297-9678	None							
small-flowered sand-verbena	*Tripterocalyx micranthus*	None	None	2B.3	None/ None/ 2B.3	Desert dunes, Mojavean desert scrub(sandy)/ perennial herb/ Apr-May/ 1804-2805	None							
southern mountains skullcap	*Scutellaria bolanderi ssp. austromontana*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/mesic/ perennial rhizomatous herb/ Jun-Aug/ 1394-6562	None							
southwestern false cloak-fern	*Argyrochosma limitanea ssp. limitanea*	None	None	2B.1	None/ None/ 2B.1	Pinyon and juniper woodland(carbonate, rocky)/ perennial rhizomatous herb/ Apr-Oct/ 5906-5906	None							

Desert Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
spearleaf	*Matelea parvifolia*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub, Sonoran desert scrub/rocky/ perennial herb/ Mar-May/ 1444-3593	None							
spiny cliff-brake	*Pellaea truncata*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(volcanic or granitic, rocky)/ perennial rhizomatous herb/ Apr-Jun/ 3937-7054	None							
spiny-hair blazing star	*Mentzelia tricuspis*	None	None	2B.1	None/ None/ 2B.1	Mojavean desert scrub/sandy, gravelly, slopes, and washes/ annual herb/ Mar-May/ 492-4199	None							
Stephens' beardtongue	*Penstemon stephensii*	None	None	1B.3	None/ None/ 1B.3	Mojavean desert scrub, Pinyon and juniper woodland/usually carbonate, rocky/ perennial herb/ Apr-Jun/ 3806-6070	None							
Tecopa bird's-beak	*Chloropyron tecopense*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub, Meadows and seeps/Mesic, alkaline/ annual herb (hemiparasitic)/ Jul-Oct/ 197-2953	FACW							
Thompson's beardtongue	*Penstemon thompsoniae*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(gravelly, carbonate)/ perennial herb/ May-Jun/ 4921-8858	None							
Thorne's buckwheat	*Eriogonum thornei*	None	CE	1B.2	None/ CE/ 1B.2	Pinyon and juniper woodland(gravelly)/ perennial shrub/ Jul-Aug/ 5906-6004	None							
thorny milkwort	*Polygala acanthoclada*	None	None	2B.3	None/ None/ 2B.3	Chenopod scrub, Joshua tree woodland, Pinyon and juniper woodland/ perennial shrub/ May-Aug/ 2493-7497	None							
three-awned grama	*Bouteloua trifida*	None	None	2B.3	None/ None/ 2B.3	Mojavean desert scrub(carbonate, rocky)/ perennial herb/ May-Sep/ 2297-6562	None							
Tidestrom's milk-vetch	*Astragalus tidestromii*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub/carbonate, sandy or gravelly/ perennial herb/ (Jan),Apr-Jul/ 1969-5200	None							
tough muhly	*Muhlenbergia arsenei*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(rocky, carbonate)/ perennial rhizomatous herb/ Aug-Oct/ 4593-6102	None							
triple-ribbed milk-vetch	*Astragalus tricarinatus*	FE	None	1B.2	FE/ None/ 1B.2	Joshua tree woodland, Sonoran desert scrub/sandy or gravelly/ perennial herb/ Feb-May/ 1476-3904	None				x			
Utah beardtongue	*Penstemon utahensis*	None	None	2B.3	None/ None/ 2B.3	Chenopod scrub, Great Basin scrub, Mojavean desert scrub, Pinyon and juniper woodland/rocky/ perennial herb/ Apr-May/ 3494-8202	None							
Utah daisy	*Erigeron utahensis*	None	None	2B.3	None/ None/ 2B.3	Pinyon and juniper woodland(carbonate)/ perennial herb/ May-Jun/ 4921-7612	None							
vaginulate grimmia	*Grimmia vaginulata*	None	None	1B.1	None/ None/ 1B.1	Chaparral(openings)/Rocky, boulder and rock walls, carbonate/ moss/ N.A./ 2247-2247	None							
violet twining snapdragon	*Maurandella antirrhiniflora*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Mojavean desert scrub/carbonate/ perennial herb/ Apr-May/ 2493-5003	None							
viviparous foxtail cactus	*Coryphantha vivipara var. rosea*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub, Pinyon and juniper woodland/carbonate/ perennial stem succulent/ May-Jun/ 4101-8858	None							
wand-like fleabane daisy	*Erigeron oxyphyllus*	None	None	2B.3	None/ None/ 2B.3	Sonoran desert scrub/dry, rocky slopes and washes/ perennial herb/ May/ 2116-2592	None							
white bear poppy	*Arctomecon merriamii*	None	None	2B.2	None/ None/ 2B.2	Chenopod scrub, Mojavean desert scrub/rocky/ perennial herb/ Apr-May/ 1608-5906	None							
white-bracted spineflower	*Chorizanthe xanti var. leucotheca*	None	None	1B.2	None/ None/ 1B.2	Coastal scrub(alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland/sandy or gravelly/ annual herb/ Apr-Jun/ 984-3937	None							
white-margined beardtongue	*Penstemon albomarginatus*	None	None	1B.1	None/ None/ 1B.1	Desert dunes(stabilized), Mojavean desert scrub(sandy)/ perennial herb/ Mar-May/ 2100-3494	None				x	x		
Wiggins' cholla	*Opuntia wigginsii*	None	None	3.3	None/ None/ 3.3	Sonoran desert scrub(sandy)/ perennial stem succulent/ Mar/ 98-2904	None							
wing-seed blazing star	*Mentzelia pterosperma*	None	None	2B.2	None/ None/ 2B.2	Mojavean desert scrub/clay, gypseous/ annual / perennial herb/ Apr-Jun/ 3740-3740	None							
wolftail	*Muhlenbergia alopecuroides*	None	None	2B.2	None/ None/ 2B.2	Joshua tree woodland, Pinyon and juniper woodland/ perennial herb/ Aug-Sep/ 1640-1640	None							
Wright?s jaffueliobryum moss	*Jaffueliobryum wrightii*	None	None	2B.3	None/ None/ 2B.3	Alpine dwarf scrub, Mojavean desert scrub, Pinyon and juniper woodland/Dry openings, rock crevices, carbonate/ moss/ N.A./ 525-8202	None							
Wright's bedstraw	*Galium wrightii*	None	None	2B.3	None/ None/ 2B.3	Lower montane coniferous forest, Pinyon and juniper woodland/carbonate, rocky/ perennial herb/ Jun-Oct/ 5249-6562	None							

Desert Region
Documented Special-Status Wildlife Species

Common Name	Scientific Name	Federal Status	State Status	Habitat	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Amphibians											
California red-legged frog	*Rana draytonii*	FT	SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands. Not observed since 1960's in the Mojave River, and no critical habitat designated for this region.							
arroyo toad	*Anaxyrus californicus*	FE	SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	x			x			x
western pond turtle	*Actinemys marmorata*	None	SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter							
Sonoran desert toad	*Incilius alvarius*	None	SSC	Desert and semi-arid habitats including desert scrub, semi-arid grasslands and woodlands; usually associated with large permanent streams. There is one documented occurrence of this species in the most eastern border of San Bernardino County, within the Colorado River. Though this occurrence is not dated, the last documented occurrence of this species prior to thios occurred in 1950, and this species is listed as "likely extirpated" from this area (CNDDB 2015).							
Reptiles											
banded gila monster	*Heloderma suspectum cinctum*	None	SSC	Rocky areas in desert scrub and semi-desert grassland							
Blainville's horned lizard	*Phrynosoma blainvillii*	None	SSC	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper and annual grassland							
Desert tortoise	*Gopherus agassizii*	FT	ST	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats and hillsides.				x			x
Mohave fringe-toed lizard	*Uma scoparia*	None	SSC	Loose wind-blown sand dunes, flats with sandy hummocks, washes and banks of rivers				x	x		
red diamondback rattlesnake	*Crotalus ruber*	None	SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats. There are three documented occurrences of this species in San Bernardino County, all directly east of the San Bernardino Mountains. The most recent of this occurrences was in 2008, and this species is presumed extant in this area (CNDDB 2015).							
Birds											
burrowing owl	*Athene cunicularia (burrow sites & some wintering sites)*	None	SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.							
California black rail	*Laterallus jamaicensis coturniculus*	None	ST, FP	Tidal marshes, shallow freshwater margins, wet meadows and flooded grassy vegetation. Populations in San Bernardino known from Big Morongo Canyon and Havasu National Wildlife Refuge (Conway et al. 2002, Corman 2005)				x			
loggerhead shrike	*Lanius ludovicianus (nesting)*	None	SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches							
Swainson's hawk	*Buteo swainsoni (nesting)*	None	ST	Nests in open woodland and savanna, riparian and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture. This species occasionally stops over during migration. Not recently recorded as nesting in San Bernardino County.							
yellow warbler	*Setophaga petechia (nesting)*	None	SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine and mixed conifer habitats							
bald eagle	*Haliaeetus leucocephalus (nesting & wintering)*	FDL	SE, FP	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains. There is a single record of a nesting pair at the Cooper Basin Reservoir as recently as 2011 (CNDDB 2016).							
tricolored blackbird	*Agelaius tricolor (nesting colony)*	None	SSC	Nests near fresh water, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture. There are documented occurrences of this species amongst cattails along the Mojave River as recent as 2015 (UC Davis 2016). This species is a candidate for listing under the California Endangered Species Act.							
least Bell's vireo	*Vireo bellii pusillus (nesting)*	FE	SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season							
long-eared owl	*Asio otus (nesting)*	None	SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats							
southwestern willow flycatcher	*Empidonax traillii extimus (nesting)*	FE	SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration							x
yellow-breasted chat	*Icteria virens (nesting)*	None	SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush							
northern harrier	*Circus cyaneus (nesting)*	None	SSC	Nests in open wetlands including marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats. Although Harper Dry Lake in western San Bernardino County had long supported harriers, breeding has not been suspected there since the mid-1990s.							
American white pelican	*Pelecanus erythrorhynchos (nesting colony)*	None	SSC	Nests colonially on isolated islands in freshwater lakes with sandy, earthen, or rocky substrates; minimal disturbance from humans or mammalian predators required, as is close access to productive foraging areas; forages on inland marshes, lakes or rivers; winters on shallow coastal bays, inlets and estuaries							
golden eagle	*Aquila chrysaetos (nesting & wintering)*	None	FP	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats							
Arizona bell's vireo	*Vireo bellii arizonae (nesting)*	None	SE	Nests and forages in lowland riparian areas with low, shrubby vegetation							
Bendire's thrasher	*Toxostoma bendirei*	None	SSC	Nests and forages in desert succulent shrub and Joshua tree habitat in Mojave Desert; nests in yucca, cholla and other thorny scrubs or small trees				x	x		
Crissal thrasher	*Toxostoma crissale*	None	SSC	Nests and forages in desert riparian and desert wash; dense thickets of sagebrush and other shrubs such as mesquite, iron catclaw acacia, and arroweed willow within juniper and pinyon-juniper woodlands							
elf owl	*Micrathene whitneyi (nesting)*	None	SE	Nests in desert riparian with cottonwood, sycamore, willow, and mesquite. There are three documented occurrences of this species at the easternmost extent of San Bernardino County, along the Colorado River in the vicinity of Mohave Valley. The most recent of these documented occurences was in 1999. (CNDDB 2015).							
Gila woodpecker	*Melanerpes uropygialis*	None	SE	Nests and forages in Saguaro cacti, riparian woodland and residential areas. All documented occurrences of this species occur along the eastern San Bernardino County line. While this species is presumed extant, there is only one documented occurrence (2009) since the previous occurrence in 1987 (CNDDB 2015).				x			
gilded flicker	*Colaptes chrysoides*	None	SE	Nests and forages in desert riparian, desert wash and Joshua tree woodland							
gray vireo	*Vireo vicinior (nesting)*	None	SSC	Nests and forages in pinyon-juniper woodland, oak, and chamise and redshank chaparral							
Lucy's warbler	*Oreothlypis luciae (nesting)*	None	SSC	Nests and forages in desert wash and desert riparian habitats, especially dominated by mesquite, but also in other shrubs and tamarisk							
mountain plover	*Charadrius montanus (wintering)*	None	SSC	Winters in shortgrass prairies, plowed fields, open sagebrush and sandy deserts							
summer tanager	*Piranga rubra (nesting)*	None	SSC	Nests and forages in mature desert riparian habitats dominated by cottonwoods and willows							

Desert Region
Documented Special-Status Wildlife Species

Common Name	Scientific Name	Federal Status	State Status	Habitat	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
vermilion flycatcher	*Pyrocephalus rubinus (nesting)*	None	SSC	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches or pastures							
western snowy plover	*Charadrius alexandrinus nivosus (nesting)*	FT	SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds. They have been recorded at China, Searles, and Harper lakes in San Bernardino County during sttewide surveys.							
western yellow-billed cuckoo	*Coccyzus americanus occidentalis (nesting)*	FT	SE	Nests dense, wide riparian woodlands and forest with well-developed understories. While there are occurrences within San Bernardino County, this species is listed as "possibly extirpated," as there has not been an occurrence since 1991, save for one sighting in Victorville (CNDDB 2015).							
white-tailed kite	*Elanus leucurus (nesting)*	None	FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands							
Fishes											
Amargosa Canyon speckled dace	*Rhinichthys osculus ssp. 1*	None	SSC	Found only in Amargosa Canyon and tributaries of the Amargosa River, esp. Willow Creek & Willow Creek Reservoir. There are two documented occurrences in San Bernardino County, though these occurrences were in 1981 and 1985 (CNDDB 2015).							
Amargosa pupfish	*Cyprinodon nevadensis amargosae*	None	SSC	Permanent water sections of the lower Amargosa River. There are 3 documented occurrences in San Bernardino County. The most recent of these occurrences took place in 1989. (CNDDB 2015).							
bonytail	*Gila elegans*	FE	SE	Found in the Colorado River bordering California. The last documented occurrence of this species was in 2004 (CNDDB 2015).							
Colorado pikeminnow	*Ptychocheilus lucius*	FE	SE, FP	Was native to the Colorado River bordering California, but has been extirpated from the Lower Colorado River Basin since the 1970's.							
Mohave tui chub	*Siphateles bicolor mohavensis*	FE	SE, FP	Lacustrine ponds or pools with minimum water depth of 4 ft and some freshwater flow for a mineralized and alkaline environment; aquatic plants (e.g., Ruppia maritima, Typha spp., and Juncus spp.), that provide habitat for aquatic invertebrate prey and substrate for egg attachment; aquatic ditchgrass (Ruppia maritima) appears to be preferred vegetation for egg attachment and thermal refuge in summer months. As of 2011, there were five populations of genetically pure Mohave tui chubs: Soda Springs and Morning Star Mine at Mojave National Preserve, Lark Seep at China Lake Naval Air Weapons Station, Camp Cady Wildlife Area, and the Lewis Center in Apple Valley.				x			
razorback sucker	*Xyrauchen texanus*	FE	SE, FP	Found in the Colorado River bordering California. The last documented occurrence of this species was in 2003 (CNDDB 2015). Currently, only occurs in Lake Mead within San Bernardino County.							
Saratoga Springs pupfish	*Cyprinodon nevadensis nevadensis*	None	SSC	Only known from Saratoga Springs and its outflow in Death Valley. There are two documented occurrences of this species in San Bernardino County from 1985 and 1989 (CNDDB 2015).							
Mammals											
pallid bat	*Antrozous pallidus*	None	SSC	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees				x	x		
American badger	*Taxidea taxus*	None	SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, pastures, especially with friable soils							
cave myotis	*Myotis velifer*	None	SSC	Creosote bush scrub, palo verde, brittlebush, and cactus; roosts in crevices in caves, mines, occasionally buildings and bridges; forages in riparian and desert wash							
Colorado River cotton rat	*Sigmodon arizonae plenus*	None	SSC	Moist riverine habitats along the Colorado River floodplain							
Mohave ground squirrel	*Spermophilus (Xerospermophilus) mohavensis*	None	ST	Desert scrub habitats including those dominated by creosote bush and burrobush, desert sink scrub, and desert saltbush scrub							
Mohave river vole	*Microtus californicus mohavensis*	None	SSC	Wet, weedy, herbaceous areas along the Mojave River				x			
pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*	None	SSC	Desert wash, desert scrub, desert succulent scrub and pinyon-juniper woodland							
southwestern river otter	*Lontra canadensis sonora*	None	SSC	Riparian habitat along streams and rivers with sufficient prey. There eare two documented occurrences at the most easternmost extent of San Bernardino County, within the Colorado River. The last documented occurrences are from 1926 and 1933 (CNDDB 2015).							
spotted bat	*Euderma maculatum*	None	SSC	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes					x		
Townsend's big-eared bat	*Corynorhinus townsendii*	None	SCT, SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, also man-made structures and tunnels				x	x		
western mastiff bat	*Eumops perotis californicus*	None	SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels					x		
western yellow bat	*Lasiurus xanthinus*	None	SSC	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 ft; roost in riparian and palms							
Californian leaf-nosed bat	*Macrotus californicus*	None	SSC	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings. Not known to occur in the state of California.				x	x		
Nelson's bighorn sheep	*Ovis canadensis nelsoni*	None	FP	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes and alluvial fans				x	x		

Mountain Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
alkali mariposa lily	*Calochortus striatus*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Chenopod scrub, Mojavean desert scrub, Meadows and seeps/alkaline, mesic/ perennial bulbiferous herb/ Apr-Jun/ 230-5233	FACW				x	x		
ash-gray paintbrush	*Castilleja cinerea*	FT	None	1B.2	FT/ None/ 1B.2	Mojavean desert scrub, Meadows and seeps, Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest(clay openings)/ perennial herb (hemiparasitic)/ Jun-Aug/ 5906-9711	None							x
Baja navarretia	*Navarretia peninsularis*	None	None	1B.2	None/ None/ 1B.2	Chaparral(openings), Lower montane coniferous forest, Meadows and seeps, Pinyon and juniper woodland/mesic/ annual herb/ Jun-Aug/ 4921-7546	FAC							
Baldwin Lake linanthus	*Linanthus killipii*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Meadows and seeps(alkaline), Pebble plain, Pinyon and juniper woodland/ annual herb/ May-Jul/ 5577-7874	None							
Barton Flats horkelia	*Horkelia wilderae*	None	None	1B.1	None/ None/ 1B.1	Chaparral(edges), Lower montane coniferous forest, Upper montane coniferous forest/ perennial herb/ May-Sep/ 5495-9596	None							
Bear Lake buckwheat	*Eriogonum microthecum var. lacus-ursi*	None	None	1B.1	None/ None/ 1B.1	Great Basin scrub, Lower montane coniferous forest/clay outcrops/ perennial shrub/ Jul-Aug/ 6562-6890	None							
Bear Valley checkerbloom	*Sidalcea malviflora ssp. dolosa*	None	None	1B.2	None/ None/ 1B.2	Lower montane coniferous forest(meadows and seeps), Meadows and seeps, Riparian woodland, Upper montane coniferous forest(meadows and seeps)/ perennial herb/ May-Aug/ 4905-8809	None							
Bear Valley pyrrocoma	*Pyrrocoma uniflora var. gossypina*	None	None	1B.2	None/ None/ 1B.2	Meadows and seeps, Pebble plain/ perennial herb/ Jul-Sep/ 5249-7546	None							
Big Bear Valley milk-vetch	*Astragalus lentiginosus var. sierrae*	None	None	1B.2	None/ None/ 1B.2	Mojavean desert scrub, Meadows and seeps, Pinyon and juniper woodland, Upper montane coniferous forest/gravelly or rocky/ perennial herb/ Apr-Aug/ 5906-8530	None							
Big Bear Valley phlox	*Phlox dolichantha*	None	None	1B.2	None/ None/ 1B.2	Pebble plain, Upper montane coniferous forest(openings)/ perennial herb/ May-Jul/ 6004-9744	None							
Big Bear Valley sandwort	*Eremogone ursina*	FT	None	1B.2	FT/ None/ 1B.2	Meadows and seeps, Pebble plain, Pinyon and juniper woodland/mesic, rocky/ perennial herb/ May-Aug/ 5906-9514	None							x
Big Bear Valley woollypod	*Astragalus leucolobus*	None	None	1B.2	None/ None/ 1B.2	Lower montane coniferous forest, Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest/rocky/ perennial herb/ May-Jul/ 3609-9465	None							
bird-foot checkerbloom	*Sidalcea pedata*	FE	CE	1B.1	FE/ CE/ 1B.1	Meadows and seeps(mesic), Pebble plain/ perennial herb/ May-Aug/ 5249-8202	OBL							
black bog-rush	*Schoenus nigricans*	None	None	2B.2	None/ None/ 2B.2	Marshes and swamps(often alkaline)/ perennial herb/ Aug-Sep/ 492-6562	OBL							
California dandelion	*Taraxacum californicum*	FE	None	1B.1	FE/ None/ 1B.1	Meadows and seeps(mesic)/ perennial herb/ May-Aug/ 5315-9186	FACW							x
California satintail	*Imperata brevifolia*	None	None	2B.1	None/ None/ 2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps(often alkali), Riparian scrub/mesic/ perennial rhizomatous herb/ Sep-May/ 0-3986	FAC							
Cienega Seca oxytheca	*Acanthoscyphus parishii var. cienegensis*	None	None	1B.3	None/ None/ 1B.3	Joshua tree woodland, Pinyon and juniper woodland, Upper montane coniferous forest(sandy, granitic)/ annual herb/ Jun-Sep/ 6906-8038	None							x
Cushenbury buckwheat	*Eriogonum ovalifolium var. vineum*	FE	None	1B.1	FE/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/carbonate/ perennial herb/ May-Aug/ 4593-8005	None				x			x
Cushenbury milk-vetch	*Astragalus albens*	FE	None	1B.1	FE/ None/ 1B.1	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/usually carbonate, rarely granitic/ perennial herb/ Mar-Jun/ 3593-6562	None							x
Cushenbury oxytheca	*Acanthoscyphus parishii var. goodmaniana*	FE	None	1B.1	FE/ None/ 1B.1	Pinyon and juniper woodland(carbonate, talus)/sandy, carbonate/ annual herb/ May-Oct/ 3999-7799	None							
Fremont's gentian	*Gentiana fremontii*	None	None	2B.3	None/ None/ 2B.3	Meadows and seeps(mesic), Upper montane coniferous forest/ annual herb/ Jun-Aug/ 7874-8858	OBL							
frosted mint	*Poliomintha incana*	None	None	2A	None/ None/ 2A	Lower montane coniferous forest(mesic)/ perennial shrub/ Jun-Jul/ 5249-5577	None							
Greata's aster	*Symphyotrichum greatae*	None	None	1B.3	None/ None/ 1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland/mesic/ perennial rhizomatous herb/ Jun-Oct/ 984-6594	None							
grey-leaved violet	*Viola pinetorum var. grisea*	None	None	1B.3	None/ None/ 1B.3	Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest/ perennial herb/ Apr-Jul/ 4921-11155	None							
Hall's monardella	*Monardella macrantha ssp. hallii*	None	None	1B.3	None/ None/ 1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/ perennial rhizomatous herb/ Jun-Oct/ 2395-7201	None							
hot springs fimbristylis	*Fimbristylis thermalis*	None	None	2B.2	None/ None/ 2B.2	Meadows and seeps(alkaline, near hot springs)/ perennial rhizomatous herb/ Jul-Sep/ 361-4396	OBL							
Johnston's buckwheat	*Eriogonum microthecum var. johnstonii*	None	None	1B.3	None/ None/ 1B.3	Subalpine coniferous forest, Upper montane coniferous forest/rocky/ perennial deciduous shrub/ Jul-Sep/ 6001-9600	None							
Jokerst?s monardella	*Monardella australis ssp. jokerstii*	None	None	1B.1	None/ None/ 1B.1	Chaparral, Lower montane coniferous forest/Steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes./ perennial rhizomatous herb/ Jul-Sep/ 4429-5741	None							
knotted rush	*Juncus nodosus*	None	None	2B.3	None/ None/ 2B.3	Meadows and seeps(mesic), Marshes and swamps(lake margins)/ perennial rhizomatous herb/ Jul-Sep/ 98-6496	OBL							
Latimer's woodland-gilia	*Saltugilia latimeri*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland/rocky or sandy, often granitic, sometimes washes/ annual herb/ Mar-Jun/ 1312-6234	None							
lemon lily	*Lilium parryi*	None	None	1B.2	None/ None/ 1B.2	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest/mesic/ perennial bulbiferous herb/ Jul-Aug/ 4003-9006	OBL							
little purple monkeyflower	*Mimulus purpureus*	None	None	1B.2	None/ None/ 1B.2	Meadows and seeps, Pebble plain, Upper montane coniferous forest/ annual herb/ May-Jun/ 6234-7546	FACU							
Los Angeles sunflower	*Helianthus nuttallii ssp. parishii*	None	None	1A	None/ None/ 1A	Marshes and swamps(coastal salt and freshwater)/ perennial rhizomatous herb/ Aug-Oct/ 33-5495	None							
male fern	*Dryopteris filix-mas*	None	None	2B.3	None/ None/ 2B.3	Upper montane coniferous forest(granitic, rocky)/ perennial rhizomatous herb/ Jul-Sep/ 7874-10171	None							
Mingan moonwort	*Botrychium minganense*	None	None	2B.2	None/ None/ 2B.2	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest/Mesic/ perennial rhizomatous herb/ Jul-Sep/ 4774-7152	None							
Mojave milkweed	*Asclepias nyctaginifolia*	None	None	2B.1	None/ None/ 2B.1	Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ May-Jun/ 2871-5577	None							
Mojave tarplant	*Deinandra mohavensis*	None	CE	1B.3	None/ CE/ 1B.3	Chaparral, Coastal scrub, Riparian scrub/mesic/ annual herb/ (May),Jun-Oct(Jan)/ 2100-5249	None				x	x		
Orcutt's linanthus	*Linanthus orcuttii*	None	None	1B.3	None/ None/ 1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/openings/ annual herb/ May-Jun/ 3002-7037	None							
Palmer's mariposa lily	*Calochortus palmeri var. palmeri*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps/mesic/ perennial bulbiferous herb/ Apr-Jul/ 2329-7841	None							
Parish's alumroot	*Heuchera parishii*	None	None	1B.3	None/ None/ 1B.3	Alpine boulder and rock field, Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/rocky, sometimes carbonate/ perennial rhizomatous herb/ Jun-Aug/ 4921-12467	None							
Parish's checkerbloom	*Sidalcea hickmanii ssp. parishii*	None	CR	1B.2	None/ CR/ 1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/ perennial herb/ Jun-Aug/ 3281-8199	None							
Parish's daisy	*Erigeron parishii*	FT	None	1B.1	FT/ None/ 1B.1	Mojavean desert scrub, Pinyon and juniper woodland/usually carbonate, sometimes granitic/ perennial herb/ May-Aug/ 2625-6562	None				x			x
Parish's rockcress	*Boechera parishii*	None	None	1B.2	None/ None/ 1B.2	Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest/rocky, quartzite on clay, or sometimes carbonate/ perennial herb/ Apr-May/ 5807-9810	None							
Parish's yampah	*Perideridia parishii ssp. parishii*	None	None	2B.2	None/ None/ 2B.2	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/ perennial herb/ Jun-Aug/ 4806-9843	None							
Parry's spineflower	*Chorizanthe parryi var. parryi*	None	None	1B.1	None/ None/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/sandy or rocky, openings/ annual herb/ Apr-Jun/ 902-4003	None							
Peirson's spring beauty	*Claytonia lanceolata var. peirsonii*	None	None	3.1	None/ None/ 3.1	Subalpine coniferous forest, Upper montane coniferous forest/Scree/ perennial herb/ (Mar),May-Jun/ 4954-9006	None							
pinyon rockcress	*Boechera dispar*	None	None	2B.3	None/ None/ 2B.3	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/granitic, gravelly/ perennial herb/ Mar-Jun/ 3937-8333	None							
Plummer's mariposa lily	*Calochortus plummerae*	None	None	4.2	None/ None/ 4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/granitic, rocky/ perennial bulbiferous herb/ May-Jul/ 328-5577	None							

Mountain Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Status (Federal/State/CRPR)	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
prairie wedge grass	*Sphenopholis obtusata*	None	None	2B.2	None/ None/ 2B.2	Cismontane woodland, Meadows and seeps/mesic/ perennial herb/ Apr-Jul/ 984-6562	FAC							
pygmy hulsea	*Hulsea vestita ssp. pygmaea*	None	None	1B.3	None/ None/ 1B.3	Alpine boulder and rock field, Subalpine coniferous forest/granitic, gravelly/ perennial herb/ Jun-Oct/ 9301-12795	None							
pygmy pussypaws	*Calyptridium pygmaeum*	None	None	1B.2	None/ None/ 1B.2	Subalpine coniferous forest, Upper montane coniferous forest/sandy or gravelly/ annual herb/ Jun-Aug/ 6496-10203	None							
Rock Creek broomrape	*Orobanche valida ssp. valida*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Pinyon and juniper woodland/granitic/ perennial herb (parasitic)/ May-Sep/ 4101-6562	None							
rock sandwort	*Arenaria lanuginosa var. saxosa*	None	None	2B.3	None/ None/ 2B.3	Subalpine coniferous forest, Upper montane coniferous forest/mesic, sandy/ perennial herb/ Jul-Aug/ 5906-8530	None							
rock-loving oxytrope	*Oxytropis oreophila var. oreophila*	None	None	2B.3	None/ None/ 2B.3	Alpine boulder and rock field, Subalpine coniferous forest/gravelly or rocky/ perennial herb/ Jun-Sep/ 11155-12467	None							
San Antonio milk-vetch	*Astragalus lentiginosus var. antonius*	None	None	1B.3	None/ None/ 1B.3	Lower montane coniferous forest, Upper montane coniferous forest/ perennial herb/ Apr-Jul/ 4921-8530	None							
San Bernardino aster	*Symphyotrichum defoliatum*	None	None	1B.2	None/ None/ 1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland(vernally mesic)/near ditches, streams, springs/ perennial rhizomatous herb/ Jul-Nov/ 7-6693	OBL							
San Bernardino blue grass	*Poa atropurpurea*	FE	None	1B.2	FE/ None/ 1B.2	Meadows and seeps(mesic)/ perennial rhizomatous herb/ (Apr),May-Jul(Aug)/ 4462-8054	FACW							x
San Bernardino gilia	*Gilia leptantha ssp. leptantha*	None	None	1B.3	None/ None/ 1B.3	Lower montane coniferous forest(sandy or gravelly)/ annual herb/ Jun-Aug/ 4921-8399	None					x		
San Bernardino grass-of-Parnassus	*Parnassia cirrata var. cirrata*	None	None	1B.3	None/ None/ 1B.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic, streamsides, sometimes calcareous/ perennial herb/ Aug-Sep/ 4101-8005	None							
San Bernardino milk-vetch	*Astragalus bernardinus*	None	None	1B.2	None/ None/ 1B.2	Joshua tree woodland, Pinyon and juniper woodland/Often granitic or carbonate/ perennial herb/ Apr-Jun/ 2953-6562	None							
San Bernardino Mountains bladderpod	*Physaria kingii ssp. bernardina*	FE	None	1B.1	FE/ None/ 1B.1	Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest/usually carbonate/ perennial herb/ May-Jun/ 6070-8858	None							x
San Bernardino Mountains dudleya	*Dudleya abramsii ssp. affinis*	None	None	1B.2	None/ None/ 1B.2	Pebble plain, Pinyon and juniper woodland, Upper montane coniferous forest/granitic, quartzite, or carbonate/ perennial herb/ Apr-Jul/ 4101-8530	None							
San Bernardino Mountains monkeyflower	*Mimulus exiguus*	None	None	1B.2	None/ None/ 1B.2	Meadows and seeps, Pebble plain, Upper montane coniferous forest/mesic, clay/ annual herb/ May-Jul/ 5906-7595	FACU							
San Bernardino Mountains owl's-clover	*Castilleja lasiorhyncha*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Meadows and seeps, Pebble plain, Riparian woodland, Upper montane coniferous forest/mesic/ annual herb (hemiparasitic)/ May-Aug/ 4265-7841	None							
San Bernardino ragwort	*Packera bernardina*	None	None	1B.2	None/ None/ 1B.2	Meadows and seeps(mesic, sometimes alkaline), Pebble plain, Upper montane coniferous forest/ perennial herb/ May-Jul/ 5906-7546	FACU							
San Bernardino rockcress	*Boechera peirsonii*	None	None	1B.2	None/ None/ 1B.2	Subalpine coniferous forest(rocky)/ perennial herb/ Mar-Aug/ 8858-10499	None							
San Gabriel linanthus	*Linanthus concinnus*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/rocky, openings/ annual herb/ Apr-Jul/ 4987-9186	None							
San Gabriel manzanita	*Arctostaphylos glandulosa ssp. gabrielensis*	None	None	1B.2	None/ None/ 1B.2	Chaparral(rocky)/ perennial evergreen shrub/ Mar/ 1952-4921	None							
Santa Ana River woollystar	*Eriastrum densifolium ssp. sanctorum*	FE	CE	1B.1	FE/ CE/ 1B.1	Chaparral, Coastal scrub(alluvial fan)/sandy or gravelly/ perennial herb/ Apr-Sep/ 299-2001	None	x	x					
scalloped moonwort	*Botrychium crenulatum*	None	None	2B.2	None/ None/ 2B.2	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps(freshwater), Upper montane coniferous forest/ perennial rhizomatous herb/ Jun-Sep/ 4160-10761	FACW							
Shockley's rockcress	*Boechera shockleyi*	None	None	2B.2	None/ None/ 2B.2	Pinyon and juniper woodland(carbonate or quartzite, rocky or gravelly)/ perennial herb/ May-Jun/ 2871-7579	None					x		
short-joint beavertail	*Opuntia basilaris var. brachyclada*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ perennial stem succulent/ Apr-Jun(Aug)/ 1394-5906	None					x		
short-sepaled lewisia	*Lewisia brachycalyx*	None	None	2B.2	None/ None/ 2B.2	Lower montane coniferous forest, Meadows and seeps/mesic/ perennial herb/ Feb-Jun(Jul)/ 4495-7546	FACU							
silver-haired ivesia	*Ivesia argyrocoma var. argyrocoma*	None	None	1B.2	None/ None/ 1B.2	Meadows and seeps(alkaline), Pebble plain, Upper montane coniferous forest/ perennial herb/ Jun-Aug/ 4800-9711	None							
slender mariposa lily	*Calochortus clavatus var. gracilis*	None	None	1B.2	None/ None/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/ perennial bulbiferous herb/ Mar-Jun/ 1050-3281	None							
slender-horned spineflower	*Dodecahema leptoceras*	FE	CE	1B.1	FE/ CE/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub(alluvial fan)/sandy/ annual herb/ Apr-Jun/ 656-2493	None	x	x					
slender-petaled thelypodium	*Thelypodium stenopetalum*	FE	CE	1B.1	FE/ CE/ 1B.1	Meadows and seeps(mesic, alkaline)/ perennial herb/ May-Sep/ 5249-8202	FAC							
Sonoran maiden fern	*Thelypteris puberula var. sonorensis*	None	None	2B.2	None/ None/ 2B.2	Meadows and seeps(seeps and streams)/ perennial rhizomatous herb/ Jan-Sep/ 164-2001	None							
southern alpine buckwheat	*Eriogonum kennedyi var. alpigenum*	None	None	1B.3	None/ None/ 1B.3	Alpine boulder and rock field, Subalpine coniferous forest/granitic, gravelly/ perennial herb/ Jul-Sep/ 8530-11483	None							
southern jewel-flower	*Streptanthus campestris*	None	None	1B.3	None/ None/ 1B.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/rocky/ perennial herb/ (Apr),May-Jul/ 2953-7546	None							
southern mountain buckwheat	*Eriogonum kennedyi var. austromontanum*	FT	None	1B.2	FT/ None/ 1B.2	Lower montane coniferous forest(gravelly), Pebble plain/ perennial herb/ Jun-Sep/ 5807-9482	None							x
thread-leaved brodiaea	*Brodiaea filifolia*	FT	CE	1B.1	FT/ CE/ 1B.1	Chaparral(openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools/often clay/ perennial bulbiferous herb/ Mar-Jun/ 82-3675	FAC							
timberland blue-eyed-grass	*Sisyrinchium longipes*	None	None	2B.2	None/ None/ 2B.2	Meadows and seeps/mesic/ perennial herb/ Jun-Aug/ 6759-6759	FACW							
triple-ribbed milk-vetch	*Astragalus tricarinatus*	FE	None	1B.2	FE/ None/ 1B.2	Joshua tree woodland, Sonoran desert scrub/sandy or gravelly/ perennial herb/ Feb-May/ 1476-3904	None				x			
vanishing wild buckwheat	*Eriogonum evanidum*	None	None	1B.1	None/ None/ 1B.1	Chaparral, Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland/sandy or gravelly/ annual herb/ Jul-Oct/ 3609-7300	None							
wedgeleaf woodbeauty	*Drymocallis cuneifolia var. cuneifolia*	None	None	1B.1	None/ None/ 1B.1	Riparian scrub, Upper montane coniferous forest/Sometimes carbonate/ perennial herb/ Jun-Aug/ 5906-7267	None							
western sedge	*Carex occidentalis*	None	None	2B.3	None/ None/ 2B.3	Lower montane coniferous forest, Meadows and seeps/ perennial rhizomatous herb/ Jun-Aug/ 5397-10285	None							
white bog adder's-mouth	*Malaxis monophyllos var. brachypoda*	None	None	2B.1	None/ None/ 2B.1	Bogs and fens, Meadows and seeps, Upper montane coniferous forest/mesic/ perennial bulbiferous herb/ Jun-Aug/ 7218-8999	None							
white-bracted spineflower	*Chorizanthe xanti var. leucotheca*	None	None	1B.2	None/ None/ 1B.2	Coastal scrub(alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland/sandy or gravelly/ annual herb/ Apr-Jun/ 984-3937	None							
white-margined everlasting	*Antennaria marginata*	None	None	2B.3	None/ None/ 2B.3	Lower montane coniferous forest, Upper montane coniferous forest/ perennial stoloniferous herb/ May-Aug/ 6955-11001	None							
woolly mountain-parsley	*Oreonana vestita*	None	None	1B.3	None/ None/ 1B.3	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/gravel or talus/ perennial herb/ Mar-Sep/ 5299-11483	None							

Mountain Region
Documented Special-Status Wildlife Species

Common Name	Scientific Name	Federal Status	State Status	Habitat	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Amphibians											
California red-legged frog	*Rana draytonii*	FT	SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands. Not known to currently occur in the mountain region.							
arroyo toad	*Anaxyrus californicus*	FE	SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	x			*			x
large-blotched salamander	*Ensatina klauberi*	None	SSC	Moist and shaded evergreen and deciduous woodlands							
western spadefoot	*Spea hammondii*	None	SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrrub, valley-foothill woodlands, pastures, and other agriculture							
coast range newt	*Taricha torosa*	None	SSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used. Documented from upper drainages of the Etiwanda Fan and one mapped occurrence in the San Bernardino Mountains near Mount Baldy.							
southern mountain yellow-legged frog	*Rana muscosa*	FE	SE, SSC	Lakes, ponds, meadow streams, isolated pools and open riverbanks; rocky canyons in narrow canyons and in chaparral							x
Reptiles											
California mountain kingsnake (San Bernardino population)	*Lampropeltis zonata (parvirubra)*	None	SSC	Wide range of habitats including conifer forest, oak-pine woodlands, riparian woodland, chaparral, manzanita and coastal scrub							
coast patch-nosed snake	*Salvadora hexalepis virgultea*	None	SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites							
southern rubber boa	*Charina umbratica*	None	ST	Montane oak-conifer and mixed conifer forests, montane chaparral, wet meadows; usually in vicinity of streams or wet meadows							
Blainville's horned lizard	*Phrynosoma blainvillii*	None	SSC	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper and annual grassland							
two-striped gartersnake	*Thamnophis hammondii*	None	SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools							
Birds											
bald eagle	*Haliaeetus leucocephalus (nesting & wintering)*	FDL	SE, FP	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains							
least Bell's vireo	*Vireo bellii pusillus (nesting)*	FE	SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season							
southwestern willow flycatcher	*Empidonax traillii extimus (nesting)*	FE	SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration							x
loggerhead shrike	*Lanius ludovicianus (nesting)*	None	SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches							
Swainson's hawk	*Buteo swainsoni (nesting)*	None	ST	Nests in open woodland and savanna, riparian and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture. This species occasionally stops over during migration, but is not known to nest in the mountain region of San Bernardino County.							
bank swallow	*Riparia riparia (nesting)*	None	ST	Nests in riparian, lacustrian and coastal areas with vertical banks, bluffs and cliffs with sandy soils; open country and water during migration. This species is now absent as a breeding bird in southern California.							
long-eared owl	*Asio otus (nesting)*	None	SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats							
white-tailed kite	*Elanus leucurus (nesting)*	None	FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands							
black tern	*Chlidonias niger (nesting colony)*	None	SSC	Freshwater marsh with emergent vegetation; in the Central Valley primarily nest and forage in rice fields and other flooded agricultral fields with weeds and other residual aquatic vegetation							
California spotted owl	*Strix occidentalis occidentalis*	None	SSC	Nests and forages in dense, old-growth, multi-layered mixed conifer, redwood and Douglas-fir habitats							
gray vireo	*Vireo vicinior (nesting)*	None	SSC	Nests and forages in pinyon-juniper woodland, oak, and chamise and redshank chaparral							
northern goshawk	*Accipiter gentilis (nesting)*	None	SSC	Nests primarily in middle and higher elevation dense conifer forests; winters at lower elevations along coast, foothills and northern deserts in riparian and pinyon-juniper woodland. Nesting in San Bernardino not currently known, but may haven been present prior to 1944.							
olive-sided flycatcher	*Contopus cooperi (nesting)*	None	SSC	Nests in mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, lodgepole pine; usually close to water							
purple martin	*Progne subis (nesting)*	None	SSC	Nest and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways. Martins are very rare in the San Bernardino Mountains.							
redhead	*Aythya americana (nesting)*	None	SSC	Nests in relatively deep (>3 ft) permanent or semi-permanent wetlands of at least one acre, with about 75% open water and emergent tules, bulrushes (Scirpus spp.) and cattails (Typha spp.) up to about three feet in height; winters in coastal estuaries and large, deep ponds, lakes, and reservoirs of the interior. A few pairs may nest at Baldwin Lake.							
Vaux's swift	*Chaetura vauxi (nesting)*	None	SSC	Late stage conifer forest and mixed conifer-deciduous forest; nests in redwood, Douglas-fir and other conifers, and occasionally building and chimneys. San Bernarino County is outside the known current breeding range for this species.							
yellow-headed blackbird	*Xanthocephalus xanthocephalus (nesting)*	None	SSC	Nests in marshes with tall emergent vegetation, often along borders of lakes and ponds; forages in emergent wetlands, open areas, croplands, and muddy shores of lacustrine habitat							
golden eagle	*Aquila chrysaetos (nesting & wintering)*	None	FP	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats							
black swift	*Cypseloides niger (nesting)*	None	SSC	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats. Only one nesting site is documented in San Bernrdino County: Big Falls in Mill Creek Canyon, San Bernardino Mountains.							
Fishes											
arroyo chub	*Gila orcuttii*	None	SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters; substrates of sand or mud. There is one occurrence in the mountain region of San Bernardino County, within Holcomb Creek (CNDDB 2015).	x						

Mountain Region
Documented Special-Status Wildlife Species

Common Name	Scientific Name	Federal Status	State Status	Habitat	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Santa Ana sucker	*Catostomus santaanae*	FT	SSC	Small, shallow, cool, clear streams less than 7 meters in width and a few centimeters to more than a meter in depth; substrates are generally coarse gravel, rubble and boulder	x						x
Santa Ana speckled dace	*Rhinichthys osculus ssp. 3*	None	SSC	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	x						
unarmored threespine stickleba	*Gasterosteus aculeatus williamsoni*	FE	SE, FP	Slow-moving and backwater areas							
Mammals											
American badger	*Taxidea taxus*	None	SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, pastures, especially with friable soils					x		
ringtail	*Bassariscus astutus*	None	FP	Mixed forests and shrublands near rocky area or riparian habitats; forages near water and is seldom found more than 1 km (0.62 mi) from a water source							
spotted bat	*Euderma maculatum*	None	SSC	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes							
western red bat	*Lasiurus blossevillii*	None	SSC	Forest, woodland, riparian, mesquite bosque and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy							
pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*	None	SSC	Desert wash, desert scrub, desert succulent scrub and pinyon-juniper woodland							
San Bernardino flying squirrel	*Glaucomys sabrinus californicus*	None	SSC	Coniferous and decidious forests including riparian forests							
Townsend's big-eared bat	*Corynorhinus townsendii*	None	SC, SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, also man-made structures and tunnels				x	x		
western mastiff bat	*Eumops perotis californicus*	None	SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels							
white-eared pocket mouse	*Perognathus alticolus alticolus*	None	SSC	Arid ponderosa pine communities					x		
Nelson's bighorn sheep	*Ovis canadensis nelsoni*	None	FP	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes and alluvial fans				x			
Invertebrates											
springsnail	*Pyrgulopsis californiensis*	None	None	Springsnails occur in springs and short lengths of spring-fed stream riparian areas. They prefer sand, gravel, and cobble substrates and use acquatic vegetation in slow to moderate current. They are distributed in a number of springs in the foothills of the San Berandino Mountains. This species is described as being wide-spread, but locally rare. It is potentially undersplit taxonomically, and there is a need for genetic studies to determine whether they may be a unique species.							

Valley Region
Documented Special-Status Plant Species

Common Name	Scientific Name	Federal Status	State Status	CRPR	Primary Habitat Associations, Life form, Blooming period, Elevation Range)	Arid West Wetland Indicator Status	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Alvin Meadow bedstraw	*Galium californicum ssp. primum*	None	None	1B.2	Chaparral, Lower montane coniferous forest/granitic, sandy/ perennial herb/ May-Jul/ 4429-5577	None							
Brand's star phacelia	*Phacelia stellaris*	None	None	1B.1	Coastal dunes, Coastal scrub/ annual herb/ Mar-Jun/ 3-1312. This species is not expected to occur because it is outside its known documented range, though there is single record occurrence in the region (CNDDB 2016).	None							
bristly sedge	*Carex comosa*	None	None	2B.1	Coastal prairie, Marshes and swamps(lake margins), Valley and foothill grassland/ perennial rhizomatous herb/ May-Sep/ 0-2051	OBL							
California satintail	*Imperata brevifolia*	None	None	2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps(often alkali), Riparian scrub/mesic/ perennial rhizomatous herb/ Sep-May/ 0-3986	FAC							
California sawgrass	*Cladium californicum*	None	None	2B.2	Meadows and seeps, Marshes and swamps/alkaline or freshwater/ perennial rhizomatous herb/ Jun-Sep/ 197-2838	OBL							
Coulter's saltbush	*Atriplex coulteri*	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland/alkaline or clay/ perennial herb/ Mar-Oct/ 10-1509	FACU							
Horn's milk-vetch	*Astragalus hornii var. hornii*	None	None	1B.1	Meadows and seeps, Playas/lake margins, alkaline/ annual herb/ May-Oct/ 197-2789	None							
intermediate mariposa lily	*Calochortus weedii var. intermedius*	None	None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/rocky, calcareous/ perennial bulbiferous herb/ May-Jul/ 344-2805	None							
Los Angeles sunflower	*Helianthus nuttallii ssp. parishii*	None	None	1A	Marshes and swamps(coastal salt and freshwater)/ perennial rhizomatous herb/ Aug-Oct/ 33-5495	None							
lucky morning-glory	*Calystegia felix*	None	None	3.1	Meadows and seeps(sometimes alkaline), Riparian scrub(alluvial)/Historically associated with wetland and marshy places, but possibly in drier situations as well. P/ annual rhizomatous herb/ Mar-Sep/ 98-705	None							
many-stemmed dudleya	*Dudleya multicaulis*	None	None	1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/often clay/ perennial herb/ Apr-Jul/ 49-2592	None							
mesa horkelia	*Horkelia cuneata var. puberula*	None	None	1B.1	Chaparral(maritime), Cismontane woodland, Coastal scrub/sandy or gravelly/ perennial herb/ Feb-Jul(Sep)/ 230-2657	None							
Nevin's barberry	*Berberis nevinii*	FE	CE	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub/sandy or gravelly/ perennial evergreen shrub/ Mar-Jun/ 899-2707. Three occurences known from the Loma Linda Hills area in southern San Bernardino County: one near the mouth of Scott Canyon, one near Pilgrim Road, and one in a side canyon off of San Timoteo Canyon	None							
Parish's bush-mallow	*Malacothamnus parishii*	None	None	1A	Chaparral, Coastal scrub/ perennial deciduous shrub/ Jun-Jul/ 1001-1493	None							
Parish's desert-thorn	*Lycium parishii*	None	None	2B.3	Coastal scrub, Sonoran desert scrub/ perennial shrub/ Mar-Apr/ 443-3281	None							
Parish's gooseberry	*Ribes divaricatum var. parishii*	None	None	1A	Riparian woodland/ perennial deciduous shrub/ Feb-Apr/ 213-984	None							
Parry's spineflower	*Chorizanthe parryi var. parryi*	None	None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/sandy or rocky, openings/ annual herb/ Apr-Jun/ 902-4003	None							
Plummer's mariposa lily	*Calochortus plummerae*	None	None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/granitic, rocky/ perennial bulbiferous herb/ May-Jul/ 328-5577	None							
Peruvian dodder	*Cuscuta obtusiflora var. glandulosa*	None	None	2B.2	Marshes and swamps(freshwater)/ annual vine (parasitic)/ Jul-Oct/ 49-919	None							
prairie wedge grass	*Sphenopholis obtusata*	None	None	2B.2	Cismontane woodland, Meadows and seeps/mesic/ perennial herb/ Apr-Jul/ 984-6562	FAC							
Pringle's monardella	*Monardella pringlei*	None	None	1A	Coastal scrub(sandy)/ annual herb/ May-Jun/ 984-1312	None							
prostrate vernal pool navarretia	*Navarretia prostrata*	None	None	1B.1	Coastal scrub, Meadows and seeps, Valley and foothill grassland(alkaline), Vernal pools/Mesic/ annual herb/ Apr-Jul/ 49-3970	OBL							
salt spring checkerbloom	*Sidalcea neomexicana*	None	None	2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas/alkaline, mesic/ perennial herb/ Mar-Jun/ 49-5020	FACW					x		
San Bernardino aster	*Symphyotrichum defoliatum*	None	None	1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland(vernally mesic)/near ditches, streams, springs/ perennial rhizomatous herb/ Jul-Nov/ 7-6693	OBL							
Sanford's arrowhead	*Sagittaria sanfordii*	None	None	1B.2	Marshes and swamps(assorted shallow freshwater)/ perennial rhizomatous herb/ May-Oct(Nov)/ 0-2133	OBL							
Santa Ana River woollystar	*Eriastrum densifolium ssp. sanctorum*	FE	CE	1B.1	Chaparral, Coastal scrub(alluvial fan)/sandy or gravelly/ perennial herb/ Apr-Sep/ 299-2001	None	x	x					
singlewhorl burrobrush	*Ambrosia monogyra*	None	None	2B.2	Chaparral, Sonoran desert scrub/sandy/ perennial shrub/ Aug-Nov/ 33-1640	UPL							
slender-horned spineflower	*Dodecahema leptoceras*	FE	CE	1B.1	Chaparral, Cismontane woodland, Coastal scrub(alluvial fan)/sandy/ annual herb/ Apr-Jun/ 656-2493	None	x	x					
smooth tarplant	*Centromadia pungens ssp. laevis*	None	None	1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland/alkaline/ annual herb/ Apr-Sep/ 0-2100	None							
white-bracted spineflower	*Chorizanthe xanti var. leucotheca*	None	None	1B.2	Coastal scrub(alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland/sandy or gravelly/ annual herb/ Apr-Jun/ 984-3937	None							
Yucaipa onion	*Allium marvinii*	None	None	1B.1	Chaparral(clay, openings)/ perennial bulbiferous herb/ Apr-May/ 2493-3494	None							

Valley Region
Documented Special-Status Wildlife Species

Common Name	Scientific Name	Federal Status	State Status	Habitat	Upper SAR HCP	Wash Plan HCP	Apple Valley Plan	DRECP	West Mojave Plan	West Valley HCP	USFWS Critical Habitat
Amphibians											
arroyo toad	*Anaxyrus californicus*	FE	SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	x			x			x
Western spadefoot	*Spea hammondii*	None	SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrrub, valley-foothill woodlands, pastures, and other agriculture	x						
Reptiles											
orangethroat whiptail	*Aspidoscelis hyperythra*	None	SSC	Low-elevation coastal scrub,chaparral, and valley-foothill hardwood							
California glossy snake	*Arizona elegans occidentalis*	None	None	Inhabits arid scrub, rocky washes, grasslands, and chaparral							
silvery legless lizard	*Anniella pulchra pulchra*	None	SSC	Stabilized dunes, beaches, dry washes, chaparral, scrubs, pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils							
south coast garter snake	*Thamnophis sirtalis ssp.*	None	None	Prefers shallow, low gradient freshwater aquatic habitats such as wetlands and marshes, and upland dense multistoried riparian vegetation. Records from Prado Basin and upstream in the Sanata Ana River.	x						
Blainville's horned lizard	*Phrynosoma blainvillii*	None	SSC	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper and annual grassland.							
western pond turtle	*Actinemys marmorata*	None	SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter. There are several occurrences on the westernmost edge of San Bernardino County (CNDDB 2015).							
Birds											
burrowing owl	*Athene cunicularia (burrow sites & some wintering sites)*	None	SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.							
loggerhead shrike	*Lanius ludovicianus (nesting)*	None	SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches							
Swainson's hawk	*Buteo swainsoni (nesting)*	None	ST	Nests in open woodland and savanna, riparian and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture. This species occasionally stops over during migration, but is not known to currently nest in San Bernardino County.							
white-faced ibis	*Plegadis chihi (nesting colony)*	None	WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries. This species is known to nest in marsh habitat near Prado Dam.							
tricolored blackbird	*Agelaius tricolor (nesting colony)*	None	SSC	Nests near fresh water, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture. This species is a candidate for listing under the California Endangered Species Act.							
yellow warbler	*Setophaga petechia (nesting)*	None	SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine and mixed conifer habitats							
coastal California gnatcatcher	*Polioptila californica californica*	FT	SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 ft in elevation	x	x					x
least Bell's vireo	*Vireo bellii pusillus (nesting)*	FE	SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season							x
cactus wren	*Campylorhynchus brunneicapillus*	None	None	Nests and forages in cactus, yucca, and mesquite. Typically found in low, dry habitats							
long-eared owl	*Asio otus (nesting)*	None	SSC	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats							
southwestern willow flycatcher	*Empidonax traillii extimus (nesting)*	FE	SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration							x
white-tailed kite	*Elanus leucurus (nesting)*	None	FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands							
yellow-breasted chat	*Icteria virens (nesting)*	None	SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush							
yellow-headed blackbird	*Xanthocephalus xanthocephalus (nesting)*	None	SSC	Nests in marshes with tall emergent vegetation, often along borders of lakes and ponds; forages in emergent wetlands, open areas, croplands, and muddy shores of lacustrine habitat							
golden eagle	*Aquila chrysaetos (nesting & wintering)*	None	FP	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats							
western yellow-billed cuckoo	*Coccyzus americanus occidentalis (nesting)*	FT	SE	Nests in dense, wide riparian woodlands and forest with well-developed understories. Only known from Prado Basin in the valley region of San Bernardino County.							
Fishes											
arroyo chub	*Gila orcuttii*	None	SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters; substrates of sand or mud	x						
Santa Ana sucker	*Catostomus santaanae*	FT	SSC	Small, shallow, cool, clear streams less than 7 meters in width and a few centimeters to more than a meter in depth; substrates are generally coarse gravel, rubble and boulder	x						x
Mammals											
San Diego desert woodrat	*Neotoma lepida intermedia*	None	SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas							
pallid bat	*Antrozous pallidus*	None	SSC	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees				x	x		
American badger	*Taxidea taxus*	None	SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, pastures, especially with friable soils							
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	None	SSC	Lower elevation grassland, alluvial sage scrub, and coastal scrub	x						
northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	None	SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland							
pocketed free-tailed bat	*Nyctinomops femorosaccus*	None	SSC	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, buildings					x		
western red bat	*Lasiurus blossevillii*	None	SSC	Forest, woodland, riparian, mesquite bosque and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy							
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	FE	SSC	Sparse scrub habitat, alluvial scrub/coastal scrub habitats on gravelly and sandy soils near river and stream terraces	x	x					x
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	None	SSC	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	x						
southern grasshopper mouse	*Onychomys torridus ramona*	None	SSC	Grassland and sparse coastal scrub							
Stephens' kangaroo rat	*Dipodomys stephensi*	FE	ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover or in disturbed areas. Only occurs in low abudance at the very southwestern edge of San Bernardino County.							
western mastiff bat	*Eumops perotis californicus*	None	SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels					x		
western yellow bat	*Lasiurus xanthinus*	None	SSC	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 ft; roost in riparian and palms							
Invertebrates											
Delhi Sands flower-loving fly	*Rhaphiomidas terminatus abdominalis*	FE	None	Delhi fine sandy soils and dunes, scrub and ruderal vegetation in the sand verbena series with <50% cover	x					x	
springsnail	*Pyrgulopsis californiensis*	None	None	Springsnails occur in springs and short lengths of spring-fed stream riparian areas. They prefer sand, gravel, and cobble substrates and use acquatic vegetation in slow to moderate current. They are distributed in a number of springs in the foothills of the San Beranrdino Mountains. This species is described as being wide-spread, but locally rare. It is potentially undersplit taxonomically, and there is a need for genetic studies to determine whether they may be a unique species.							
Greenest tiger beetle	*Cicindela tranquebarica viridissima*	None	None	Occurs within Santa Ana River Plan Area along the Santa Ana River in and near the City of Riverside. The only other known occurrence is near Bautista Creek in Hemet.							

APPENDIX D

Outreach Summary

APPENDIX D
Outreach Summary

In addition to the research and data compiled herein, public and agency input collected for the Countywide Plan also touched upon issues related to biological resources. Some biological resources topics discussed by outreach participants are listed by region in Table D1.

Table D1
Biological Resources Issues Identified in Public Outreach, 2015–2018

Issues Identified by the Community	Valley	Mountain	North Desert	East Desert
Encourage more land banking		X		X
Preserve wildlife corridors		X		X
Lack of focused habitat conservation strategy		X	X	X
Conflict between mineral extraction and special species			X	X
Conflict between utility-scale solar and special species			X	X
Threats to windblown sand habitat			X	X
Protect riparian corridors	X	X	X	X
Maintain forest health		X		
Improve multi-agency coordination		X	X	X
Preserve dark skies / reduce light pollution	X	X	X	X
Protect scenic vistas		X	X	X
Protect soil quality for agriculture	X	X		
Provide more environmental / drought education		X	X	X
Better enforce OHV regulations			X	X
Keep sand transport zones			X	X
Protect National Forests, Parks and Monuments		X		X
Threats to pebble plain habitat		X		

Engaging residents in a county as large and diverse as San Bernardino required a robust effort to reach residents, agencies, and other stakeholders who live, work, or serve one or more of the county's communities. Between 2015 and 2017, the County engaged over 2,100 individuals from over 80 unincorporated communities throughout the county's four regions. The outreach consisted of over 70 meetings in over 30 different locations, along with in-person and online surveys (total of 910 survey responses).

The public meetings were designed to engage residents in a workshop setting to identify problems and potential solutions to address specific issues unique to each community planning area. Attendees were given a presentation and materials on the overall Countywide Plan effort. Specific questions asked of the community (in person and through the surveys), included the following:

- What areas are there for improvement in the community?
- What internal or external factors or resources could be opportunities for your community?

- What are threats to your community?
- What outside factors outside of the control of the community could threaten your community?

The second phase of public meetings took place in 2017 and 2018 through two rounds of 17 regional meetings in 13 different locations throughout the county's four regions. Over 600 individuals attended these meetings, including representatives from over 50 agencies and organizations associated with federal, state, regional, and local services and interests. The first round of regional meeting was designed to engage residents, agencies, service, providers, advocacy groups, and other stakeholders to identify and discuss issues that are unique to specific communities or regions or are countywide. The second round of regional meetings presented draft policy recommendations based on input received and as directed by state law. Throughout 2018, the County conducted individual interviews with service agencies, advocacy groups, and other organizationally-oriented stakeholders.

Finally, with over 100 communities spread across 20,000 square miles, the County anticipated that attendance at public meetings would not be feasible for many community members. To maximize input and access to information, the County posted all of the meeting material online (countywideplan.com/cp) in advance of public meetings (summary information and electronic versions of surveys posted after the meetings). An individual webpage was dedicated for each community planning area (e.g., countywideplan.com/bloomington) so that community members could focus on information and provide input specific to their area of interest.

The County also maintained individual email addresses for each community (for example: bakercp@lus.sbcounty.gov) and provided an online submission form (no email required) for people to submit comments and questions. Over the span of the three-year outreach effort, the project website was used by over 13,000 unique visitors (excluding County/consultant usage), with the County receiving hundreds of comments and questions through the email addresses and online submission forms (anonymous if desired). A portion of these comments and questions addressed matters related to biological resources.