

3.4 BIOLOGICAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes biological resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern biological resources, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR table provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.4.1 ENVIRONMENTAL SETTING

The SCAG region encompasses an area of varied topography and diverse ecosystems.¹ The region covers over 38,000 square miles across six counties, encompassing two mountain ranges, two deserts, and approximately 150 miles of coastline, with elevations ranging from 0 to 10,000 feet above mean seal level (msl). Due to the remarkable variation in the region’s topography, climate, and landforms, the biological communities within the area are exceptionally diverse and call for a broad approach to their description.

The SCAG region primarily encompasses the following five United States Department of Agriculture (USDA) regionally defined Ecological Sections.²

Southern California Coast Section. This ecological region is bound to the west by the Pacific Ocean. This section has coastal terraces and low elevation ranges with alluvial lowlands. Plant communities are generally comprised of coastal sagebrush, sagebrush, chaparral, and western hardwood communities. This ecological region occurs in Ventura, Los Angeles and Orange Counties and a small portion of extreme southwestern Riverside County.

Southern California Mountain and Valley Section. Located generally east of the Southern California Coast Section, this region has a landscape of moderate elevation and narrow ranges primarily vegetated with chaparral, chaparral-mountain scrub, western hardwoods, pine, and fir-spruce communities. This ecological section is present in every SCAG county.

Mojave Desert Section. Located primarily within the northeast portion of the SCAG region, this ecological section consists of short mountain ranges, basins, playas and dunes. Much of this ecological

¹ An ecosystem is the dynamic complex of plant and animal communities and their associated non-living environment.

² Descriptions of “Ecological Subregions: Sections of the Conterminous United States. 2017. General Technical Report WO- 76B. United States Department of Agriculture, Forest Service. Available at: http://www.edc.uri.edu/ATMT-DSS/report_forecast/landscape_dynamics/SectionDescriptions.pdf, accessed August 26, 2019.

region is vegetated with creosote bush scrub and desert scrub, with pinyon-juniper and other communities within the large array of elevations within this wide section. The Mojave Desert comprises a large portion of San Bernardino County, and smaller portions of Los Angeles and Riverside Counties.

Colorado Desert Section. This area is largely a plain comprised of alluvial deposits associated with the Salton Sea in Imperial and Riverside Counties. Native vegetation is sparse creosote bush scrub and desert scrub communities, with a high concentration of agricultural lands.

Sonoran Desert Section. This area consists of desert plain interspersed with small low elevation mountain ranges primarily vegetated with creosote bush scrub and desert scrub plant communities. This section covers a large portion of eastern Imperial and Riverside Counties and the southeastern portion of San Bernardino County.

3.4.1.1 Definitions

Definitions of terms used in this section are provided.

Critical Habitat: A designated area defined by the USFWS as being important for the survival of species listed pursuant to the federal Endangered Species Act (ESA). The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened and endangered.

Federally Designated Sensitive Species: Species that are not listed by the federal government as endangered, threatened, or candidate species but are categorized by the federal government as a federal species of concern. Federal species of concern is a term-of-art that describes a taxon (organism or group of organisms) whose conservation status may be of concern to the USFWS but does not have official status. In addition, federally designated sensitive species include those that are designated as such by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) on lands that fall under their jurisdiction.

Federally Listed Species: Species provided with special legal protection under the federal ESA. A federally listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Federal Wetlands: Defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”³

Greenfield: Also known as “raw land,” land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas.

Habitat Conservation Plans (HCPs): Required by the USFWS as part of an application for an “incidental take” permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Locally Important Species: Species that are not monitored by the resource agencies but monitored by private organizations or local municipal governments. For the purposes of this PEIR, locally important species include those plant species recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants, as well as those recognized by the Audubon Society.

Natural Community Conservation Plan (NCCP): Defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or areawide protection and perpetuation of plants, animals, and their habitats.⁴

Nursery Site: Considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Community: A native plant community listed on CDFW Natural Communities List as being rare within California or threatened by human actions.

Special Status Species: Species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered “Rare, Threatened, or Endangered in California” by the California Native Plant Society (Lists 1B and 2); (4) animal listed as “species of special concern” by the state; and (5) animals fully protected in California by the Fish and Game Code.

³ U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS. Available online at: <http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf>, accessed August 26, 2019.

⁴ California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>, accessed August 26, 2019.

Species of Special Concern (SSC): Species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (a) is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as federally-, but not state-, threatened or endangered; (c) meets the state definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

State-designated Sensitive Species: Species that are not listed by the state government as endangered, threatened, or candidate species but are categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by the California Department of Fish and Wildlife (CDFW) as being a wildlife species that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction.

State-Listed Species: Species provided special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

State Wetlands/Streams: Defined by the California Fish and Game Code. A *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. *Wetlands* are defined as areas having riparian vegetation, without regard to wetland vegetation, soils, or hydrology. Defined by the SWRCB it is area that, under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the United States: Surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the U.S. EPA proposed to refine the definition of waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and

impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.⁵

Wildlife Movement Corridors: Characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

3.4.1.2 Special-Status Species and Critical Habitat

Special-status species are generally defined as: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered “Rare, Threatened, or Endangered in California” by the California Native Plant Society (Lists 1B and 2); (4) animal listed as “species of special concern” by the state; and (5) animals fully protected in California by the Fish and Game Code.

Critical habitat is a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is designated by the USFWS under the Federal Endangered Species Act (FESA) and cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The listing process for individual species may include designation of critical habitat. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.⁶

The following discussion is based on a background search of special-status species that are documented in the CNDDDB,⁷ the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants,⁸ and the US Fish and Wildlife Service’s (USFWS) Endangered and Threatened species list.⁹ The background search was regional in scope and focused on the documented occurrences within the boundaries of the SCAG region.

As described in **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**, below, there are 63 federally or state-listed wildlife species and 72 plant species with

⁵ Federal Register. 2014. *Proposed Rules*. 79(76). April. Available online at: <http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf>, accessed March 19, 2019.

⁶ U.S. Department of Fish and Wildlife. *Critical Habitat under the Endangered Species Act*. Available online at: <https://www.fws.gov/southeast/endangered-species-act/critical-habitat/>, accessed August 26, 2019.

⁷ California Department of Fish and Wildlife. *California Natural Diversity Database*. Available online at: <https://www.wildlife.ca.gov/Data/CNDDDB>, accessed August 26, 2019.

⁸ California Native Plant Society. *Welcome to the Inventory of Rare and Endangered Plants of California*. Available online at: <http://www.rareplants.cnps.org/>, accessed August 26, 2019.

⁹ U.S. Fish and Wildlife Services. *Endangered Species*. Available online at: <https://www.fws.gov/endangered/>, accessed August 26, 2019.

historical records located within the six counties of the SCAG region as well as nearly 5.5 million acres of designated critical habitat. **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**, provides further detail on the state- and federally- listed plant and animal species, as well as their affiliated critical habitat, within the SCAG region.

**Table 3.4-1
Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**

County	Number Federally and State-Listed Wildlife Species	Number Federally and State-Listed Plant Species	Acres of Critical Habitat
Imperial	19	4	423,065
Los Angeles	37	30	108,574
Orange	22	11	27,833
Riverside	34	21	938,789
San Bernardino	32	24	3,673,963
Ventura	28	19	358,793
Entire SCAG Region	63	72	5,530,964

Source: California Department of Fish and Wildlife. 2019. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Every county within the SCAG region contains USFWS-designated critical habitat for listed species (**Figure 3.4-1, Designated Critical Habitat in the SCAG Region**). Critical habitat for 46 of these federally listed species has been established within the SCAG region (see **Appendix 3.4**). San Bernardino, the largest county in the country, contains nearly 3,700,000 acres of designated critical habitat, or over 66% of the lands designated in the SCAG region. Both San Bernardino and Riverside each have designated habitat for 22 federally-listed species, the most of any SCAG counties. More than 86 percent (4,685,378 acres) of all the critical habitat in the region is for desert tortoise (*Gopherus agassizii*) and this species represents the largest designated critical habitat in the four of the six SCAG counties in which it is present (San Bernardino, Riverside, Los Angeles, and Imperial Counties). Coastal California gnatcatcher (*Poliophtila californica californica*) has the largest critical habitat in Orange County (with 19,000 acres, or nearly 67 percent of the designated lands in the County). California Condor (*Gymnogyps californianus*) has nearly 180,000 acres designated in Ventura County, or almost 50 percent of all critical habitat designated in the County. Each county has designated critical habitat for a wide variety of species (including plants, amphibians, fish, reptiles, insects, crustaceans, birds, and mammals) and each county has a wide diversity of natural communities to support these species.

State and Federally Listed Species

A search of relevant literature and databases for the six counties of the SCAG region was performed to develop a list of 135 listed species and biological resources that could potentially occur in the SCAG region, as shown in **Table 3.4-2, Federally and State Listed Species Reported in the SCAG Region.**¹⁰ These included federally listed threatened and endangered and state-listed threatened, endangered or rare species. Although only the third largest county in the region, Los Angeles had the greatest number of listed species with 67. Imperial County had the fewest species listed with 23.

**Table 3.4-2
Federally and State Listed Species Reported in the SCAG Region**

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
<i>Acanthoscyphus parishii</i> var. <i>goodmanian</i>	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
<i>Acemispion argophyllus</i> var. <i>adsurgens</i>	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
<i>Acemispion dendroideus</i> var. <i>traskiae</i>	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
<i>Allium munzii</i>	Munz's onion	FE, ST, CRPR: 1B.1	RIV	98
<i>Ambrosia pumila</i>	San Diego ambrosia	FE, CRPR: 1B.1	RIV	307
<i>Arenaria paludicola</i>	Marsh sandwort	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR	3298
<i>Astragalus jaegerianus</i>	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	14167
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	9671
<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	12105
<i>Astragalus pyncnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
<i>Astragalus tener</i> var. <i>titi</i>	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND
<i>Astragalus traskiae</i>	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
<i>Astragalus tricarinatus</i>	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND

¹⁰ CNDDDB (RareFind 5): administered by CDFW; Biogeographical Data Branch inventories the status and locations of rare plants, animals, and natural communities in California.

CNPS online electronic Inventory of Rare and Endangered Vascular Plants of California
Calflora, Information on wild California plants for conservation, education, and appreciation.

<http://www.calflora.org/>.

Information about birds. <http://ebird.org>.

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Berberis nevinii</i>	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	5.3
<i>Berberis pinnata</i> ssp. <i>insularis</i>	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
<i>Boechera hoffmannii</i>	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea		LA, OR, RIV, SB	2799
<i>Castilleja cinerea</i>	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	1767
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
<i>Castilleja grisea</i>	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
<i>Cercocarpus traskiae</i>	Catalina Island mountain-mohogany	FE, SE, CRPR: 1B.1	LA	ND
<i>Chloropyron maritimum</i> ssp. <i>Maritimum</i>	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FPT, SE, CRPR: 1B.1	LA, OR, VEN	ND
<i>Crocanthemum greenei</i>	Island rush-rose	FT, CRPR: 1B.2	LA	ND
<i>Croton wigginsii</i>	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND
<i>Deinandra minthornii</i>	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
<i>Deinandra mohavensis</i>	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
<i>Delphinium hesperium</i> ssp. <i>Cuyamaca</i>	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
<i>Delphinium variegatum</i> ssp. <i>Kinkiense</i>	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
<i>Dithyrea maritima</i>	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Dudleya cymosa</i> ssp. <i>Agourensis</i>	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>Marcescens</i>	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i>	Santa Monica dudleya	FT, CRPR: 1B.1	LA	ND
<i>Dudleya parva</i>	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
<i>Dudleya stolonifera</i>	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
<i>Dudleya verityi</i>	Verity's dudleya	FT, CRPR: 1B.1	VEN	ND
<i>Eremalche parryi</i> ssp. <i>Kernensis</i>	Kern mallow	FE, CRPR: 1B.22	VEN	ND
<i>Eremogone ursina</i>	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	1411
<i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i>	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
<i>Erigeron parishii</i>	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
<i>Eriogonum crocatum</i>	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
<i>Eriogonum grande</i> var. <i>timorum</i>	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB	ND
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
<i>Eriogonum thornei</i>	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Galium angustifolium</i> ssp. <i>Borregoense</i>	Borrego bedstraw	SR, CRPR: 1B.3	IMP	ND
<i>Galium catalinense</i> ssp. <i>Acrispum</i>	San Clemente Island bedstraw	SE, CRPR: 1B.3	LA	ND
<i>Helianthus niveus</i> ssp. <i>Tephrodes</i>	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
<i>Ivesia callida</i>	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
<i>Lithophragma maximum</i>	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothamnus clementinus</i>	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothrix squalida</i>	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
<i>Nasturtium gambelii</i>	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
<i>Navarretia fossalis</i>	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	6,519
<i>Orcuttia californica</i>	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN, OR	ND
<i>Packera ganderi</i>	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
<i>Physaria kingii</i> ssp. <i>Bernardina</i>	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,026
<i>Poa atropurpurea</i>	San Bernardino blue grass	FE, CRPR: 1B.2	SB	1,415
<i>Sibara filifolia</i>	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND
<i>Sidalcea pedata</i>	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
<i>Taraxacum californicum</i>	California dandelion	FE, CRPR: 1B.1	SB	1,955
<i>Thelypodium stenopetalum</i>	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
<i>Verbesina dissita</i>	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
<i>Branchinecta conservation</i>	Conservancy fairy shrimp	FE	VEN	46,430
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	LA, RIV	46,430
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	RIV, OR	200
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	LA, OR, RIV	2,050
Insects				
<i>Dinacoma caseyi</i>	Casey's June beetle	FE	RIV	594
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	FE	LA	
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE	SB, LA, RIV, OR	22,023
<i>Euproserpinus euterpe</i>	Kern primrose sphinx moth	FT	VEN	ND
<i>Glaucopsyche lygdamus palosverdesensis</i>	Palos Verdes blue butterfly	FE	LA	91
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
<i>Cyprinodon macularius</i>	Desert pupfish	FE, SE	IMP, RIV	ND
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	LA, OR, VEN	448
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
<i>Gila elegans</i>	Bonytail	FE, SE	IMP, SB	10,113
<i>Oncorhynchus mykiss irideus</i>	Southern steelhead – southern California DPS	FE	LA, OC, VEN, RIV	292
<i>Ptychocheilus lucius</i>	Colorado pikeminnow	FE, SE	IMP, SB	ND
<i>Siphateles bicolor mohavensis</i>	Mohave tui chub	FE, SE	SB, LA	ND
<i>Xyrauchen texanus</i>	Razorback sucker	FE, SE	IMP, RIV, SB	9,166
Amphibians				
<i>Anaxyrus californicus</i>	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
<i>Batrachoseps major aridus</i>	Desert slender salamander	FE, SE	RIV	ND
<i>Rana boylei</i>	Foothill yellow-legged frog	SCT	VEN, LA, SB	
<i>Rana draytonii</i>	California red-legged frog	FT	LA, RIV, SB, VEN	33,279
<i>Rana muscosa</i>	Southern mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
<i>Charina umbratica</i>	Southern rubber boa	ST	VEN, RIV, SB	ND
<i>Chelonia mydas</i>	Green turtle	FT	LA, OR	ND
<i>Coleonyx switaki</i>	Barefoot gecko	ST	IMP	ND
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	FE, SE	VEN	ND
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
Birds				
<i>Agelaius tricolor</i>	Tricolored blackbird	ST	LA, OR, RIV, SB, VEN	ND
<i>Artemisiospiza belli clementeae</i>	San Clemente sage sparrow	FT	LA	ND
<i>Buteo swainsoni</i>	Swainson's hawk	ST	LA, OR, RIV, SB	ND
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN, OR	39,015
<i>Colaptes chrysoides</i>	Gilded flicker	SE	IMP, RIV, SB	ND
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
<i>Gymnogyps californianus</i>	California condor	FE, SE	VEN, LA	187,558
<i>Haliaeetus leucocephalus</i>	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Lanius ludovicianus mearnsi</i>	San Clemente loggerhead shrike	FE	LA	ND
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST	IMP, LA, OR, RIV, SB, VEN	ND
<i>Melanerpes uropygialis</i>	Gila woodpecker	SE	IMP, RIV, SB	ND
<i>Micrathene whitneyi</i>	Elf owl	SE	IMP, RIV, SB	ND
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	SE	LA, OR, VEN	ND
<i>Polioptila californica</i>	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	120,891
<i>Rallus obsoletus levipes</i>	Light-footed Ridgeway's clapper rail	FE, SE	OR, VEN	ND
<i>Rallus obsoletus yumanensis</i>	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND
<i>Riparia riparia</i>	Bank swallow	ST	LA, OR, VEN	ND
<i>Sterna antillarum browni</i>	California least tern	FE, SE	LA, OR, VEN	ND
<i>Synthliboramphus scrippsi</i>	Scripps's murrelet	FC, ST	LA	ND
<i>Vireo bellii arizonae</i>	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
<i>Ammospermophilus nelsoni</i>	Nelson's antelope squirrel	ST	LA, VEN	ND
<i>Arctocephalus townsendi</i>	Guadalupe fur-seal	FT, ST	VEN	ND
<i>Canis lupus</i>	Gray wolf	FE, SE	SB	ND
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
<i>Dipodomys stephensi</i>	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	VEN	ND
<i>Ovis canadensis nelson pop. 2</i>	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	115,845
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE	LA, OR	ND
<i>Urocyon littoralis catalinae</i>	Santa Catalina Island fox	FT, ST	LA	ND
<i>Urocyon littoralis clementae</i>	San Clemente Island fox	ST	LA	ND
<i>Urocyon littoralis dickeyi</i>	San Nicolas Island fox	ST	VEN	ND
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	ST	LA, SB	ND

Note:

California Native Plant Society: California Rare Plant Rank (CRPR) 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; FPT = Federal Proposed Threatened; SR = State Rare; SCT = State Candidate Threatened; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County; ND = none designated.

Sensitive Wildlife Species

A query of the CNDDDB was performed to develop a list of sensitive wildlife species recognized by the CDFW as California Species of Special Concern, or species that are tracked by the CNDDDB that could potentially occur in the SCAG region. In addition to the federally and State-listed wildlife species described above, there are 233 sensitive wildlife species with historic records located within the SCAG region (Table 3.4-3, **Sensitive Wildlife Species Reported in the SCAG Region**, and Figure 3.4-2, **Sensitive Wildlife Species Reported in the SCAG Region**).¹¹

Of these 233 sensitive wildlife species, Riverside and San Bernardino Counties had the highest diversity of species observed (both with more than 21 percent of the total recorded for the SCAG region), followed closely by Los Angeles County (with more than 20 percent of the wildlife recorded), and then Imperial, Orange, and Ventura Counties (with a range of 12–13 percent of the recorded observations).

**Table 3.4-3
Sensitive Wildlife Species Reported in the SCAG Region**

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
<i>Linderiella santarosae</i>	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
<i>Assiminea infima</i>	Badwater snail	CSA	SB
<i>Eremarionta immaculata</i>	white desertsnailed	CSA	RIV
<i>Eremarionta morongoana</i>	Morongo (=Colorado) desertsnailed	CSA	SB
<i>Eremarionta rowelli bakerensis</i>	Baker's desertsnailed	CSA	SB
<i>Eremarionta rowelli mccoiana</i>	California Mcco snail	CSA	RIV
<i>Haplotrema catalinense</i>	Santa Catalina lancetooth	CSA	LA
<i>Helminthoglypta ayresiana sanctaerucis</i>	Ayer's snail	CSA	VEN
<i>Helminthoglypta mohaveana</i>	Victorville shoulderband	CSA	SB
<i>Helminthoglypta taylori</i>	Westfork shoulderband	CSA	SB
<i>Helminthoglypta traskii</i>	Trask shoulderband	CSA	VEN
<i>Micrarionta feralis</i>	San Nicolas islandsnailed	CSA	VEN
<i>Micrarionta gabbi</i>	San Clemente islandsnailed	CSA	LA
<i>Micrarionta opuntia</i>	Pricklypear islandsnailed	CSA	VEN
<i>Pristiloma shepardae</i>	Shepard's snail	CSA	LA

¹¹ California Department of Fish and Wildlife. 2018. *CNDDDB QuickView Tool in BIOS*. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Scientific Name	Common Name	Status	Counties Reported
<i>Radiocentrum avalonense</i>	Catalina mountainsnail	CSA	LA
<i>Sterkia clementina</i>	San Clemente Island blunt-top snail	CSA	LA, VEN
<i>Tryonia imitator</i>	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
<i>Xerarionta intercisa</i>	Horseshoe snail	CSA	LA
<i>Xerarionta redimita</i>	Wreathed cactusnail	CSA	LA
Arachnids			
<i>Calileptoneta oasa</i>	Andreas Canyon leptonetid spider	CSA	RIV
<i>Socalchemmis gertschi</i>	Gertsch's socialchemmis spider	CSA	LA
<i>Socalchemmis icenoglei</i>	Icenogle's socialchemmis spider	CSA	RIV
<i>Texella kokoweef</i>	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
<i>Aglaothorax longipennis</i>	Santa Monica shieldback katydid	CSA	LA
<i>Ammopelmatus kelsoensis</i>	Kelso jerusalem cricket	CSA	SB
<i>Anomala carlsoni</i>	Carlson's dune beetle	CSA	IMP
<i>Anomala hardyorum</i>	Hardy's dune beetle	CSA	IMP
<i>Belostoma saratogae</i>	Saratoga Springs belostoman bug	CSA	SB
<i>Brennania belkini</i>	Belkin's dune tabanid fly	CSA	LA
<i>Callophrys mossii hidakupa</i>	San Gabriel Mountains elfin butterfly	CSA	LA, SB
<i>Carolella busckana</i>	Busck's gallmoth	CSA	LA, RIV, SB
<i>Ceratochrysis bradleyi</i>	Bradley's cuckoo wasp	CSA	RIV
<i>Ceratochrysis longimala</i>	Desert cuckoo wasp	CSA	LA, VEN, RIV
<i>Cicindela gabbii</i>	Western tidal-flat tiger beetle	CSA	LA, OR
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	CSA	LA, OR, VEN
<i>Cicindela latesignata</i>	Western beach tiger beetle	CSA	LA, OR
<i>Cicindela senilis frosti</i>	Senile tiger beetle	CSA	LA, OR, RIV, VEN
<i>Cicindela tranquebarica viridissima</i>	Greenest tiger beetle	CSA	RIV
<i>Coelus globosus</i>	Globose dune beetle	CSA	LA, OR, VEN
<i>Danaus plexippus</i>	Monarch butterfly	CSA	LA, OR, VEN
<i>Dipletrona californica</i>	California diplectronan caddisfly	CSA	LA, SB
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	CSA	SB
<i>Eucosma hennei</i>	Henne's eucosman moth	CSA	LA
<i>Glaresis arenata</i>	Kelso Dunes scarab glaresis beetle	CSA	SB
<i>Halictus harmonius</i>	Haromonius halictid bee	CSA	RIV, SB
<i>Hedychridium argenteum</i>	Riverside cuckoo wasp	CSA	RIV
<i>Hydroporus simplex</i>	Simple hydroporus diving beetle	CSA	SB
<i>Lepismadora algodones</i>	Algodones sand jewel beetle	CSA	IMP
<i>Macrobaenetes kelsoensis</i>	Kelso giant sand treader cricket	CSA	SB
<i>Macrobaenetes valgum</i>	Coachella giant sand treader cricket	CSA	RIV
<i>Melitta californica</i>	California mellitid bee	CSA	IMP, RIV

Scientific Name	Common Name	Status	Counties Reported
<i>Miloderes nelsoni</i>	Nelson's miloderes weevil	CSA	SB
<i>Minymischa ventura</i>	Ventura cuckoo wasp	CSA	VEN
<i>Oliarces clara</i>	Cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
<i>Onychobaris langei</i>	Lange's El Segundo Dune weevil	CSA	LA
<i>Panoquina errans</i>	Wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
<i>Paranomada californica</i>	California cuckoo bee	CSA	SB
<i>Parnopes borregoensis</i>	Borrego parnopes cuckoo wasp	CSA	SB
<i>Pelocoris shoshone</i>	Amargosa naucorid bug	CSA	SB
<i>Plebejus saepiolus aureolus</i>	San Gabriel Mountains blue butterfly	CSA	LA, SB
<i>Plebulina emigdionis</i>	San Emigdio blue butterfly	CSA	LA, VEN, SB
<i>Polyphylla erratica</i>	Death Valley June beetle	CSA	SB
<i>Pseudocotalpa andrewsi</i>	Andrew's dune scarab beetle	CSA	IMP
<i>Psychomastax deserticola</i>	Desert monkey grasshopper	CSA	SB
<i>Rhaphiomidas terminatus terminatus</i>	El Segundo flower-loving fly	CSA	LA
<i>Rhopalolemma robertsi</i>	Roberts' rhopalolemma bee	CSA	RIV, SB
<i>Stenopelmatus californicus</i>	Coachella Valley jerusalem cricket	CSA	RIV
<i>Trigonoscuta brunnotesselata</i>	Brown tassel trigonoscuta weevil	CSA	SB
<i>Trigonoscuta dorothea</i>	Dorothy's El Segundo Dune weevil	CSA	LA, OR
<i>Trimerotropis occidentiloides</i>	Santa Monica grasshopper	CSA	LA, VEN
Fish			
<i>Catostomus latipinnis</i>	Flannelmouth sucker	CSA	SB
<i>Cyprinodon nevadensis amargosae</i>	Amargosa pupfish	SSC	SB
<i>Cyprinodon nevadensis nevadensis</i>	Saratoga Springs pupfish	SSC	SB
<i>Gila orcuttii</i>	Arroyo chub	SSC	SB, LA, VEN, OR, RIV
<i>Rhinichthys osculus</i> ssp. 1	Amargosa Canyon speckled dace	SSC	SB
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	SSC	SB, LA, OR, RIV
Amphibians			
<i>Batrachoseps gabrieli</i>	San Gabriel slender salamander	CSA	LA, SB
<i>Batrachoseps pacificus</i>	Channel Islands slender salamander	CSA	VEN
<i>Ensatina eschscholtzii croceator</i>	Yellow-blotched salamander	SSC	LA
<i>Ensatina klauberi</i>	Large-blotched salamander	SSC	LA, RIV, SB
<i>Incilius alvarius</i>	Sonoran desert toad	SSC	IMP, SB
<i>Lithobates pipiens</i>	Northern leopard frog	SSC	IMP, OR, RIV
<i>Lithobates yavapaiensis</i>	Lowland (=Yavapai, San Sebastian & San Felipe) leopard frog	SSC	IMP, RIV
<i>Rana boylei</i>	Foothill yellow-legged frog	SSC	VEN
<i>Scaphiopus couchii</i>	Couch's spadefoot	SSC	IMP, RIV
<i>Spea hammondi</i>	Western spadefoot	SSC	LA, OR, RIV, VEN
<i>Taricha torosa</i>	Coast Range newt	SSC	LA, OR, RIV, VEN

Scientific Name	Common Name	Status	Counties Reported
Reptiles			
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	SSC	LA, RIV, SB, VEN
<i>Aspidoscelis hyperythra</i>	Orangethroat whiptail	SSC	OR, RIV, SB
<i>Aspidoscelis tigris stejnegeri</i>	Coastal whiptail	CSA	LA, OR, RIV, SB, VEN
<i>Charina trivirgata</i>	Rosy boa	CSA	LA, OR, RIV, SB
<i>Coleonyx variegatus abbotti</i>	San Diego banded gecko	CSA	RIV
<i>Crotalus ruber</i>	Red-diamond rattlesnake	SSC	IMP, OR, RIV, SB
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	CSA	LA, RIV, SB
<i>Emys marmorata</i>	Western pond turtle	SSC	LA, OR, SB, RIV, VEN
<i>Heloderma suspectum cinctum</i>	Banded gila monster	SSC	IMP, SB, RIV
<i>Kinosternon sonoriense</i>	Sonoran mud turtle	SSC	IMP, RIV
<i>Lampropeltis zonata (parvirubra)</i>	California mountain kingsnake (San Bernardino population)	SSC	LA, RIV, SB
<i>Lampropeltis zonata (pulchra)</i>	California mountain kingsnake (San Diego population)	SSC	LA, OR
<i>Phrynosoma blainvillii</i>	Coast horned lizard	SSC	VEN, LA, OR, RIV, SB
<i>Plestiodon skiltonianus interparietalis</i>	Coronado Island skink	SSC	RIV
<i>Salvadora hexalepis virgultea</i>	Coast patch-nosed snake	SSC	OR, RIV, VEN
<i>Thamnophis hammondi</i>	Two-striped garter snake	SSC	LA, OR, RIV, SB, VEN
<i>Thamnophis sirtalis ssp.</i>	South coast garter snake	SSC	VEN
<i>Uma notata</i>	Colorado Desert fringe-toed lizard	SSC	IMP
<i>Uma scoparia</i>	Mojave fringe-toed lizard	SSC	SB, RIV
Birds			
<i>Accipiter cooperii</i>	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	CSA	LA, VEN, OR, RIV, SB
<i>Ammodramus savannarum</i>	Grasshopper sparrow	SSC	LA, OR
<i>Aquila chrysaetos</i>	Golden eagle	CFP	IMP, LA, OR, SB, RIV, VEN
<i>Ardea alba</i>	Great egret	CSA	IMP, RIV
<i>Ardea herodias</i>	Great blue heron	CSA	IMP, OR, RIV
<i>Artemisospiza belli belli</i>	Bell's sage sparrow	CSA	LA, RIV, SB
<i>Asio flammeus</i>	Short-eared owl	SSC	LA
<i>Asio otus</i>	Long-eared owl	SSC	OR, RIV, SB
<i>Athene cucularia</i>	Burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Buteo regalis</i>	Ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
<i>Calypte costae</i>	Costa's hummingbird	CSA	SB
<i>Campylorhynchus brunneicapillus sandiegensis</i>	Coastal cactus wren	SSC	LA, OR, RIV
<i>Cardinalis cardinalis</i>	Northern cardinal	CSA	RIV, SB
<i>Charadrius montanus</i>	Mountain plover	SSC	IMP, RIV, LA, SB
<i>Circus cyaneus</i>	Northern harrier	SSC	OR, RIV
<i>Cypseloides niger</i>	Black swift	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
<i>Dendragapus fuliginosus howardi</i>	Mount Pinos sooty grouse	SSC	VEN
<i>Egretta thula</i>	Snowy egret	CSA	RIV
<i>Elanus leucurus</i>	White-tailed kite	CFP	LA, OR, RIV, SB, VEN
<i>Eremophila alpestris actia</i>	California horned lark	CSA	LA, OR, RIV, SB, VEN
<i>Falco columbarius</i>	Merlin	CSA	IMP, LA, RIV
<i>Falco mexicanus</i>	Prairie falcon	CSA	IMP, VEN, LA, RIV, SB
<i>Gelochelidon nilotica</i>	Gull-billed tern	SSC	IMP, RIV
<i>Hydroprogne caspia</i>	Caspian tern	CSA	IMP
<i>Icteria virens</i>	Yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Ixobrychus exilis</i>	Least bittern	SSC	IMP
<i>Junco hyemalis caniceps</i>	Gray-headed junco	CSA	IMP, RIV, SB
<i>Lanius ludovicianus</i>	Loggerhead shrike	SSC	IMP, LA, RIV, SB
<i>Larus californicus</i>	California gull	CSA	IMP
<i>Melospiza melodia graminea</i>	Channel Island song sparrow	SSC	LA
<i>Myiarchus tyrannulus</i>	Brown-crested flycatcher	CSA	IMP, RIV, SB
<i>Nycticorax nycticorax</i>	Black-crowned night heron	CSA	RIV
<i>Oceanodroma homochroa</i>	Ashy storm-petrel	SSC	LA, VEN
<i>Oreothlypis luciae</i>	Lucy's warbler	SSC	IMP, SB
<i>Oreothlypis virginiae</i>	Virginia's warbler	CSA	SB
<i>Pandion haliaetus</i>	Osprey	CSA	OR
<i>Phalacrocorax auritus</i>	Double-crested cormorant	CSA	VEN
<i>Piranga flava</i>	Hepatic tanager	CSA	SB
<i>Piranga rubra</i>	Summer tanager	SSC	IMP, RIV, SB
<i>Plegadis chihi</i>	White-faced ibis	CSA	IMP, RIV, LA
<i>Polioptila melanura</i>	Black-tailed gnatcatcher	CSA	IMP, RIV, SB
<i>Progne subis</i>	Purple martin	SSC	RIV
<i>Pyrocephalus rubinus</i>	Vermilion flycatcher	SSC	IMP, RIV, SB
<i>Rynchops niger</i>	Black skimmer	SSC	IMP, OR, RIV
<i>Setophaga petechia</i>	Yellow warbler	SSC	IMP, LA, RIV, SB, VEN
<i>Setophaga petechia sonorana</i>	Sonoran yellow warbler	SSC	IMP, RIV, SB
<i>Spinus lawrencei</i>	Lawrence's goldfinch	CSA	RIV
<i>Toxostoma bendirei</i>	Bendire's thrasher	SSC	RIV, SB
<i>Toxostoma crissale</i>	Crissal thrasher	SSC	IMP, RIV, SB
<i>Toxostoma lecontei</i>	Le Conte's thrasher	SSC	IMP, RIV, LA, SB
<i>Vireo vicinior</i>	Gray vireo	SSC	SB
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	SSC	RIV
Mammals			
<i>Antrozous pallidus</i>	Pallid bat	SSC	IMP, RIV, LA, OR, SB, VEN
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	SSC	OR, RIV, VEN
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
<i>Chaetodipus fallax pallidus</i>	Pallid San Diego pocket mouse	SSC	IMP, RIV, LA, SB
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	SSC	OR, VEN
<i>Dipodomys merriami collinus</i>	Earthquake Merriam's kangaroo rat	CSA	RIV
<i>Euderma maculatum</i>	Spotted bat	SSC	LA, RIV, SB
<i>Eumops perotis californicus</i>	Western mastiff bat	SSC	IMP, LA, OR, VEN, RIV, SB
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	SSC	RIV, SB
<i>Lasionycteris noctivagans</i>	Silver-haired bat	CSA	LA, SB
<i>Lasiurus blossevillii</i>	Western red bat	SSC	LA, OR
<i>Lasiurus cinereus</i>	Hoary bat	CSA	IMP, RIV, LA, SB, VEN
<i>Lasiurus xanthinus</i>	Western yellow bat	SSC	IMP, LA, RIV, SB
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
<i>Lontra canadensis sonora</i>	Southwestern river otter	SSC	SB
<i>Macrotus californicus</i>	California leaf-nosed bat	SSC	IMP, LA, VEN, RIV, SB
<i>Microtus californicus mohavensis</i>	Mohave river vole	SSC	SB
<i>Microtus californicus stephensi</i>	South coast marsh vole	SSC	LA, OR, VEN
<i>Myotis ciliolabrum</i>	Western small-footed myotis	CSA	IMP, LA, SB, VEN
<i>Myotis evotis</i>	Long-eared myotis	CSA	LA, SB
<i>Myotis occultus</i>	Arizona Myotis	SSC	IMP, RIV
<i>Myotis thysanodes</i>	Fringed myotis	CSA	LA, RIV, SB, VEN
<i>Myotis velifer</i>	Cave myotis	SSC	IMP, RIV, SB
<i>Myotis volans</i>	Long-legged myotis	CSA	SB, LA, VEN
<i>Myotis yumanensis</i>	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
<i>Neotamias panamintinus acrus</i>	Kingston Mountain chipmunk	CSA	SB
<i>Neotamias speciosus callipeplus</i>	Mount Pinos chipmunk	CSA	VEN
<i>Neotamias speciosus speciosus</i>	Lodgepole chipmunk	CSA	LA, RIV, SB
<i>Neotoma albigula venusta</i>	Colorado Valley woodrat	CSA	IMP, RIV, SB
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB
<i>Nyctinomops macrotis</i>	Big free-tailed bat	SSC	IMP, LA, OR, RIV
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	SSC	IMP, LA, RIV, SB
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	CFP	IMP, RIV, SB, LA
<i>Perognathus alticolus alticolus</i>	White-eared pocket mouse	SSC	SB
<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	SSC	LA, VEN
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse	CSA	LA, VEN
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	SSC	IMP, RIV
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	SSC	LA, RIV, SB
<i>Perognathus longimembris internationalis</i>	Jacumba pocket mouse	SSC	RIV
<i>Peromyscus maniculatus anacapae</i>	Anacapa Island deer mouse	SSC	VEN
<i>Puma concolor browni</i>	Yuma mountain lion	SSC	IMP

Scientific Name	Common Name	Status	Counties Reported
<i>Sigmodon arizonae plenus</i>	Colorado River cotton rat	SSC	RIV, SB
<i>Sigmodon hispidus eremicus</i>	Yuma hispid cotton rat	SSC	IMP
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	SSC	LA, OR, VEN
<i>Sorex ornatus willetti</i>	Santa Catalina shrew	SSC	LA
<i>Taxidea taxus</i>	American badger	SSC	IMP, RIV, LA, SB, VEN, OR
<i>Xerospermophilus tereticaudus chlorus</i>	Palm Springs round-tailed ground squirrel	SSC	RIV

Note:

SSC = California Species of Special Concern; CFP = California Fully Protected; CSA* = California Special Animal; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

* California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.

Source: California Department of Fish and Wildlife. 2018. CNDDDB QuickView Tool in BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Rare and Locally Important Plants

Rare plants and plants of local importance are recorded by the CNDDDB and the CNPS Rare Plant Inventory. In addition to the federally and state-listed plant species described above, there are 449 locally important plant species with historic records located within the SCAG region as shown in **Table 3.4-4, Rare and Locally Important Plants Reported in the SCAG Region**. As described below, the greatest number, representing more than 36 percent of 449 species recorded, were found in San Bernardino County, with 20 percent in Los Angeles and Riverside Counties, and less than 10 percent in Orange, Imperial and Ventura Counties.

Table 3.4-4
Rare and Locally Important Plants Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Where Reported
<i>Abronia villosa var. aurita</i>	chaparral sand-verbena	1B.1	IMP, OR, RIV, SB
<i>Abutilon parvulum</i>	dwarf abutilon	2B.3	SB
<i>Acanthoscyphus parishii var. abramsii</i>	Abrams' oxytheca	1B.2	VEN
<i>Acanthoscyphus parishii var. cienegensis</i>	Cienega Seca oxytheca	1B.3	SB
<i>Acleisanthes longiflora</i>	angel trumpets	2B.3	RIV
<i>Acleisanthes nevadensis</i>	desert wing-fruit	2B.1	SB
<i>Acmispon argyraeus var. multicaulis</i>	scrub lotus	1B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
<i>Acmispon argyraeus</i> var. <i>notitius</i>	Providence Mountains lotus	1B.3	SB
<i>Acmispon haydonii</i>	pygmy lotus	1B.3	IMP, RIV
<i>Ageratina herbacea</i>	desert ageratina	2B.3	SB
<i>Aliciella ripleyi</i>	Ripley's aliciella	2B.3	SB
<i>Aliciella triodon</i>	coyote gilia	2B.2	SB
<i>Allium atrorubens</i> var. <i>atorrubens</i>	Great Basin onion	2B.3	SB
<i>Allium howellii</i> var. <i>clokeyi</i>	Mt. Pinos onion	1B.3	LA, SB, VEN
<i>Allium marvinii</i>	Yucaipa onion	1B.2	RIV, SB
<i>Allium nevadense</i>	Nevada onion	2B.3	SB
<i>Almutaster pauciflorus</i>	alkali marsh aster	2B.2	RIV, SB
<i>Ambrosia monogyra</i>	singlewhorl burrobrush	2B.2	RIV, SB
<i>Androstephium breviflorum</i>	small-flowered androstephium	2B.2	RIV, SB
<i>Anomobryum julaceum</i>	slender silver moss	4.2	LA
<i>Antennaria marginata</i>	white-margined everlasting	2B.3	SB
<i>Aphanisma blitoides</i>	aphanisma	1B.2	LA, OR, VEN
<i>Arctomecon merriamii</i>	white bear poppy	2B.2	SB
<i>Arctostaphylos catalinae</i>	Santa Catalina Island manzanita	1B.2	LA
<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	San Gabriel manzanita	1B.2	LA, SB
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	1B.1	RIV
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	rock sandwort	2B.3	SB
<i>Argyrosma limitanea</i> ssp. <i>limitanea</i>	southwestern false cloak-fern	2B.1	SB
<i>Asclepias nyctaginifolia</i>	Mojave milkweed	2B.1	SB
<i>Astragalus allochrous</i> var. <i>playanus</i>	playa milk-vetch	2B.2	SB
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	1B.2	RIV, SB
<i>Astragalus cimae</i> var. <i>cimae</i>	Cima milk-vetch	1B.2	SB
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	1B.2	VEN
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	1B.1	SB
<i>Astragalus insularis</i> var. <i>harwoodii</i>	Harwood's milk-vetch	2B.2	IMP, RIV, SB
<i>Astragalus lentiginosus</i> var. <i>antoniuis</i>	San Antonio milk-vetch	1B.3	LA, SB
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	1B.2	SB
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	1B.2	LA, RIV, SB
<i>Astragalus nevini</i>	San Clemente Island milk-vetch	1B.2	LA
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch	1B.1	RIV

Scientific Name	Common Name	Status	Counties Where Reported
<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Lancaster milk-vetch	1B.1	LA, RIV
<i>Astragalus preussii</i> var. <i>preussii</i>	Preuss' milk-vetch	2B.1	SB
<i>Astragalus sabulonum</i>	gravel milk-vetch	2B.2	IMP, RIV
<i>Astragalus tidestromii</i>	Tidestrom's milk-vetch	2B.2	SB
<i>Astrolepis cochisensis</i> ssp. <i>cochisensis</i>	scaly cloak fern	2B.3	SB
<i>Atriplex coulteri</i>	Coulter's saltbush	1B.2	LA, OR, SB, VEN
<i>Atriplex pacifica</i>	south coast saltscale	1B.2	LA, OR, VEN
<i>Atriplex parishii</i>	Parish's brittlescale	1B.1	LA, OR, RIV, SB
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	1B.2	LA, OR, RIV, VEN
<i>Ayenia compacta</i>	California ayenia	2B.3	IMP, RIV, SB
<i>Baccharis malibuensis</i>	Malibu baccharis	1B.1	LA, OR, VEN
<i>Bahia neomexicana</i>	many-flowered bahia	2B.3	SB
<i>Berberis fremontii</i>	Fremont barberry	2B.3	SB
<i>Berberis harrisoniana</i>	Kofa Mountain barberry	1B.2	SB
<i>Bergerocactus emoryi</i>	golden-spined cereus	2B.2	LA
<i>Blepharidachne kingii</i>	King's eyelash grass	2B.3	SB
<i>Boechera dispar</i>	pinyon rockcress	2B.3	RIV, SB
<i>Boechera johnstonii</i>	Johnston's rockcress	1B.2	RIV
<i>Boechera lincolnensis</i>	Lincoln rockcress	2B.3	RIV, SB
<i>Boechera parishii</i>	Parish's rockcress	1B.2	SB
<i>Boechera peirsonii</i>	San Bernardino rockcress	1B.2	SB
<i>Boechera shockleyi</i>	Shockley's rockcress	2B.2	SB
<i>Botrychium ascendens</i>	upswept moonwort	2B.3	SB
<i>Botrychium crenulatum</i>	scalloped moonwort	2B.2	LA, SB
<i>Bouteloua trifida</i>	three-awned grama	2B.3	SB
<i>Brodiaea kinkiensis</i>	San Clemente Island brodiaea	1B.2	LA
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	1B.1	RIV
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	1B.2	RIV
<i>Bursera microphylla</i>	little-leaf elephant tree	2B.3	IMP, RIV
<i>Calliandra eriophylla</i>	pink fairy-duster	2B.3	IMP, RIV
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	1B.2	LA, VEN
<i>Calochortus fimbriatus</i>	late-flowered mariposa-lily	1B.3	LA, VEN

Scientific Name	Common Name	Status	Counties Where Reported
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa-lily	1B.2	RIV
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	1B.2	LA, RIV, SB, VEN
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	4.2	LA, OR, RIV, SB, VEN
<i>Calochortus striatus</i>	alkali mariposa-lily	1B.2	LA, SB
<i>Calochortus weedii</i> var. <i>intermedius</i>	intermediate mariposa-lily	1B.2	LA, OR, RIV, SB
<i>Calyptidium pygmaeum</i>	pygmy pussypaws	1B.2	SB
<i>Calystegia felix</i>	lucky morning-glory	1B.1	LA, RIV, SB
<i>Calystegia peirsonii</i>	Peirson's morning-glory	4.2	LA
<i>Camissoniopsis guadalupensis</i> ssp. <i>clementina</i>	San Clemente Island evening-primrose	1B.2	LA
<i>Canbya candida</i>	white pygmy-poppy	4.2	LA, SB
<i>Carex comosa</i>	bristly sedge	2B.1	SB
<i>Carex occidentalis</i>	western sedge	2B.3	LA, RIV, SB
<i>Carnegiea gigantea</i>	saguaro	2B.2	IMP, SB
<i>Castela emoryi</i>	Emory's crucifixion-thorn	2B.2	IMP, RIV, SB
<i>Castilleja hololeuca</i>	island white-felted paintbrush	1B.2	VEN
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	1B.2	RIV, SB
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	1B.2	VEN
<i>Caulanthus simulans</i>	Payson's jewelflower	4.2	RIV
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	1B.1	LA, OR, VEN
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	1B.1	LA, RIV, SB
<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>	Peirson's pincushion	1B.3	IMP
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	1B.1	LA, OR, VEN
<i>Chaenactis parishii</i>	Parish's chaenactis	1B.3	RIV
<i>Chenopodium littoreum</i>	coastal goosefoot	1B.2	LA
<i>Chloropyron tecopense</i>	Tecopa bird's-beak	1B.2	SB
<i>Chorizanthe blakleyi</i>	Blakley's spineflower	1B.3	VEN
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	1B.1	LA, RIV, SB
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	1B.2	OR, RIV
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	1B.2	RIV, SB
<i>Chylismia arenaria</i>	sand evening-primrose	2B.2	IMP, RIV, SB
<i>Cirsium arizonicum</i> var. <i>tenuisectum</i>	desert mountain thistle	1B.2	SB

3.4 Biological Resources

Scientific Name	Common Name	Status	Counties Where Reported
<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle	1B.2	LA
<i>Cladium californicum</i>	California saw-grass	2B.2	LA, RIV, SB
<i>Clarkia xantiana</i> ssp. <i>parviflora</i>	Kern Canyon clarkia	4.2	LA
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	Peirson's spring beauty	3.1	SB
<i>Clinopodium chandleri</i>	San Miguel savory	1B.2	OR, RIV
<i>Colubrina californica</i>	Las Animas colubrina	2B.3	IMP, RIV
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	1B.2	OR
<i>Constancea nevinii</i>	Nevin's woolly sunflower	1B.3	LA
<i>Cordylanthus parviflorus</i>	small-flowered bird's-beak	2B.3	SB
<i>Coryphantha alversonii</i>	Alverson's foxtail cactus	4.3	RIV, SB
<i>Coryphantha chlorantha</i>	desert pincushion	2B.1	SB
<i>Coryphantha vivipara</i> var. <i>rosea</i>	viviparous foxtail cactus	2B.2	SB
<i>Crossosoma californicum</i>	Catalina crossosoma	1B.2	LA
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	1B.2	LA, SB
<i>Cryptantha traskiae</i>	Trask's cryptantha	1B.1	LA, VEN
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	1B.2	LA, RIV
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	2B.2	LA, SB
<i>Cylindropuntia munzii</i>	Munz's cholla	1B.3	IMP, RIV
<i>Cymopterus deserticola</i>	desert cymopterus	1B.2	LA, SB
<i>Cymopterus gilmanii</i>	Gilman's cymopterus	2B.3	SB
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	2B.2	RIV, SB
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	1B.2	VEN
<i>Delphinium scaposum</i>	bare-stem larkspur	2B.3	SB
<i>Delphinium umbraculorum</i>	umbrella larkspur	1B.3	VEN
<i>Delphinium variegatum</i> ssp. <i>thornei</i>	Thorne's royal larkspur	1B.1	LA
<i>Dendromecon harfordii</i> var. <i>rhamnoides</i>	south island bush-poppy	3.1	LA
<i>Dieteria canescens</i> var. <i>ziegleri</i>	Ziegler's aster	1B.2	RIV
<i>Digitaria californica</i> var. <i>californica</i>	Arizona cottontop	2B.3	IMP, SB
<i>Diplacus mohavensis</i>	Mojave monkeyflower	1B.2	SB
<i>Diplacus traskiae</i>	Santa Catalina Island monkeyflower	1A	LA
<i>Dissanthelium californicum</i>	California dissanthelium	1B.2	LA

3.4 Biological Resources

Scientific Name	Common Name	Status	Counties Where Reported
<i>Ditaxis claryana</i>	glandular ditaxis	2B.2	IMP, RIV, SB
<i>Ditaxis serrata var. californica</i>	California ditaxis	3.2	RIV
<i>Draba saxosa</i>	Southern California rock draba	1B.3	RIV
<i>Drymocallis cuneifolia var. cuneifolia</i>	wedgeleaf woodbeauty	1B.1	SB
<i>Drymocallis cuneifolia var. ewanii</i>	Ewan's woodbeauty	1B.3	LA
<i>Dryopteris filix-mas</i>	male fern	2B.3	SB
<i>Dudleya abramsii ssp. affinis</i>	San Bernardino Mountains dudleya	1B.2	SB
<i>Dudleya blochmaniae ssp. blochmaniae</i>	Blochman's dudleya	1B.1	LA, OR, VEN
<i>Dudleya cymosa ssp. crebrifolia</i>	San Gabriel River dudleya	1B.2	LA
<i>Dudleya densiflora</i>	San Gabriel Mountains dudleya	1B.1	LA
<i>Dudleya multicaulis</i>	many-stemmed dudleya	1B.2	LA, OR, RIV, SB
<i>Dudleya virens ssp. hassei</i>	Catalina Island dudleya	1B.2	LA
<i>Dudleya virens ssp. insularis</i>	island green dudleya	1B.2	LA, VEN
<i>Dudleya virens ssp. virens</i>	bright green dudleya	1B.2	LA
<i>Dudleya viscida</i>	sticky dudleya	1B.2	OR, RIV
<i>Echinocereus engelmannii var. howei</i>	Howe's hedgehog cactus	1B.1	SB
<i>Elymus salina</i>	Salina Pass wild-rye	2B.3	SB
<i>Enneapogon desvauxii</i>	nine-awned pappus grass	2B.2	SB
<i>Eremogone congesta var. charlestonensis</i>	Charleston sandwort	1B.3	SB
<i>Eremothera boothii ssp. boothii</i>	Booth's evening-primrose	2B.3	RIV, SB
<i>Eremothera boothii ssp. intermedia</i>	Booth's hairy evening-primrose	2B.3	SB
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	1B.2	IMP, RIV, SB
<i>Eriastrum rosamondense</i>	Rosamond eriastrum	1B.1	LA
<i>Erigeron oxyphyllus</i>	wand-like fleabane daisy	2B.3	SB
<i>Erigeron uncialis var. uncialis</i>	limestone daisy	1B.2	SB
<i>Erigeron utahensis</i>	Utah daisy	2B.3	SB
<i>Eriodictyon angustifolium</i>	narrow-leaved yerba santa	2B.3	SB
<i>Eriogonum bifurcatum</i>	forked buckwheat	1B.2	SB
<i>Eriogonum contiguum</i>	Reveal's buckwheat	2B.3	SB
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	1B.1	RIV, SB
<i>Eriogonum giganteum var. formosum</i>	San Clemente Island buckwheat	1B.2	LA

Scientific Name	Common Name	Status	Counties Where Reported
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	southern alpine buckwheat	1B.3	LA, SB, VEN
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	1B.3	LA, SB
<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	Bear Lake buckwheat	1B.1	SB
<i>Eriogonum umbellatum</i> var. <i>juniporinum</i>	juniper sulphur-flowered buckwheat	2B.3	SB
<i>Erioneuron pilosum</i>	hairy erioneuron	2B.3	SB
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	1B.2	LA, SB
<i>Erysimum insulare</i>	island wallflower	1B.3	VEN
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	1B.2	SB
<i>Erythranthe purpurea</i>	little purple monkeyflower	1B.2	SB
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	Red Rock poppy	1B.2	SB
<i>Eucnide rupestris</i>	annual rock-nettle	2B.2	IMP
<i>Euphorbia abramsiana</i>	Abrams' spurge	2B.2	IMP, RIV, SB
<i>Euphorbia arizonica</i>	Arizona spurge	2B.3	IMP, RIV
<i>Euphorbia exstipulata</i> var. <i>exstipulata</i>	Clark Mountain spurge	2B.1	SB
<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	1B.1	RIV, SB
<i>Euphorbia misera</i>	cliff spurge	2B.2	LA, OR, RIV
<i>Euphorbia parryi</i>	Parry's spurge	2B.3	SB
<i>Euphorbia platysperma</i>	flat-seeded spurge	1B.2	IMP, RIV, SB
<i>Fimbristylis thermalis</i>	hot springs fimbristylis	2B.2	LA, SB
<i>Frasera albomarginata</i> var. <i>albomarginata</i>	desert green-gentian	2B.2	SB
<i>Frasera albomarginata</i> var. <i>induta</i>	Clark Mountain green-gentian	1B.2	SB
<i>Fritillaria ojaiensis</i>	Ojai fritillary	1B.2	VEN
<i>Funastrum crispum</i>	wavyleaf twinvine	2B.2	RIV
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	San Jacinto Mountains bedstraw	1B.3	RIV
<i>Galium californicum</i> ssp. <i>primum</i>	Alvin Meadow bedstraw	1B.2	RIV, SB
<i>Galium catalinense</i> ssp. <i>catalinense</i>	Santa Catalina Island bedstraw	1B.3	LA
<i>Galium grande</i>	San Gabriel bedstraw	1B.2	LA
<i>Galium hilendiae</i> ssp. <i>kingstonense</i>	Kingston Mountains bedstraw	1B.3	SB
<i>Galium proliferum</i>	desert bedstraw	2B.2	SB
<i>Galium wrightii</i>	Wright's bedstraw	2B.3	SB

3.4 Biological Resources

Scientific Name	Common Name	Status	Counties Where Reported
<i>Gambelia speciosa</i>	showy island snapdragon	1B.2	LA
<i>Gentiana fremontii</i>	Fremont's gentian	2B.3	SB
<i>Geothallus tuberosus</i>	Campbell's liverwort	1B.1	RIV
<i>Geraea viscida</i>	sticky geraea	2B.2	IMP
<i>Gilia leptantha ssp. leptantha</i>	San Bernardino gilia	1B.3	SB
<i>Githopsis diffusa ssp. filicaulis</i>	Mission Canyon bluecup	3.1	RIV
<i>Glossopetalon pungens</i>	pungent glossopetalon	1B.2	SB
<i>Graphis saxorum</i>	Baja rock lichen	3	LA
<i>Grimmia vaginulata</i>	vaginulate grimmia	1B.1	SB
<i>Grusonia parishii</i>	Parish's club-cholla	2B.2	RIV, SB
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	4.2	LA, OR, RIV
<i>Hazardia cana</i>	San Clemente Island hazardia	1B.2	LA
<i>Hedeoma drummondii</i>	Drummond's false pennyroyal	2B.2	SB
<i>Helianthus inexpectatus</i>	Newhall sunflower	1B.1	LA
<i>Helianthus nuttallii ssp. parishii</i>	Los Angeles sunflower	1A	LA, OR, SB
<i>Herissantia crispa</i>	curly herissantia	2B.3	IMP
<i>Hesperocyparis forbesii</i>	Tecate cypress	1B.1	OR, RIV
<i>Heuchera hirsutissima</i>	shaggy-haired alumroot	1B.3	RIV
<i>Heuchera maxima</i>	island alumroot	1B.2	VEN
<i>Heuchera parishii</i>	Parish's alumroot	1B.3	RIV, SB
<i>Horkelia cuneata var. puberula</i>	mesa horkelia	1B.1	LA, OR, RIV, SB, VEN
<i>Horkelia wilderae</i>	Barton Flats horkelia	1B.1	SB
<i>Hulsea californica</i>	San Diego sunflower	1B.3	RIV
<i>Hulsea mexicana</i>	Mexican hulsea	2B.3	IMP
<i>Hulsea vestita ssp. pygmaea</i>	pygmy hulsea	1B.3	SB
<i>Hymenopappus filifolius var. eriopodus</i>	hairy-podded fine-leaf hymenopappus	2B.3	SB
<i>Hymenoxys odorata</i>	bitter hymenoxys	2B.1	IMP, RIV, SB
<i>Imperata brevifolia</i>	California satintail	2B.1	IMP, LA, OR, RIV, SB, VEN
<i>Ipomopsis effusa</i>	Baja California ipomopsis	2B.1	IMP
<i>Ipomopsis tenuifolia</i>	slender-leaved ipomopsis	2B.3	IMP
<i>Isocoma menziesii var. decumbens</i>	decumbent goldenbush	1B.2	LA, OR, VEN
<i>Ivesia argyrocoma var. argyrocoma</i>	silver-haired ivesia	1B.2	SB
<i>Ivesia jaegeri</i>	Jaeger's ivesia	1B.3	SB
<i>Ivesia patellifera</i>	Kingston Mountains ivesia	1B.3	SB
<i>Jaffueliobryum raui</i>	Rau's jaffueliobryum moss	2B.3	RIV, SB

Scientific Name	Common Name	Status	Counties Where Reported
<i>Jaffuelobryum wrightii</i>	Wright's jaffuelobryum moss	2B.3	RIV, SB
<i>Juncus interior</i>	inland rush	2B.2	SB
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	1B.2	RIV
<i>Juncus nodosus</i>	knotted rush	2B.3	SB
<i>Koerberlinia spinosa var. tenuispina</i>	slender-spined all thorn	2B.2	IMP, RIV
<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields	1B.1	LA, OR, RIV, SB, VEN
<i>Lavatera assurgentiflora ssp. assurgentiflora</i>	island mallow	1B.1	VEN
<i>Lavatera assurgentiflora ssp. glabra</i>	southern island mallow	1B.1	LA
<i>Layia heterotricha</i>	pale-yellow layia	1B.1	VEN
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	1B.2	OR, RIV
<i>Lepechinia rossii</i>	Ross' pitcher sage	1B.2	LA, VEN
<i>Lepidium virginicum var. robinsonii</i>	Robinson's pepper-grass	4.3	LA, OR, RIV, SB, VEN
<i>Leptosiphon floribundus ssp. hallii</i>	Santa Rosa Mountains leptosiphon	1B.3	RIV
<i>Leptosiphon pygmaeus ssp. pygmaeus</i>	pygmy leptosiphon	1B.2	LA
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	2B.2	LA, SB
<i>Lilium parryi</i>	lemon lily	1B.2	LA, RIV, SB
<i>Linanthus bernardinus</i>	Pioneertown linanthus	1B.2	SB
<i>Linanthus concinnus</i>	San Gabriel linanthus	1B.2	LA, SB
<i>Linanthus jaegeri</i>	San Jacinto linanthus	1B.2	RIV
<i>Linanthus killipii</i>	Baldwin Lake linanthus	1B.2	SB
<i>Linanthus maculatus ssp. emaculatus</i>	Jacumba Mountains linanthus	1B.1	IMP
<i>Linanthus maculatus ssp. maculatus</i>	Little San Bernardino Mtns. linanthus	1B.2	RIV, SB
<i>Linanthus orcuttii</i>	Orcutt's linanthus	1B.3	RIV, SB
<i>Linum puberulum</i>	plains flax	2B.3	SB
<i>Lithospermum incisum</i>	plains stoneseed	2B.3	SB
<i>Loeflingia squarrosa var. artemisiarum</i>	sagebrush loeflingia	2B.2	LA, SB
<i>Lomatium insulare</i>	San Nicolas Island lomatium	1B.2	LA, VEN
<i>Lonicera subspicata var. subspicata</i>	Santa Barbara honeysuckle	1B.2	LA
<i>Lupinus albifrons var. medius</i>	Mountain Springs bush lupine	1B.3	IMP
<i>Lupinus guadalupensis</i>	Guadalupe Island lupine	4.2	LA
<i>Lupinus paynei</i>	Payne's bush lupine	1B.1	LA, VEN
<i>Lupinus peirsonii</i>	Peirson's lupine	1B.3	LA
<i>Lycium brevipes var. hassei</i>	Santa Catalina Island desert-thorn	3.1	LA, OR
<i>Lycium exsertum</i>	Arizona desert-thorn	2B.1	SB
<i>Lycium parishii</i>	Parish's desert-thorn	2B.3	IMP, SB
<i>Lycium verrucosum</i>	San Nicolas Island desert-thorn	1A	VEN
<i>Lyonothamnus floribundus ssp. asplenifolius</i>	Santa Cruz Island ironwood	1B.2	LA
<i>Lyonothamnus floribundus ssp. floribundus</i>	Santa Catalina Island ironwood	1B.2	LA
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	1B.2	LA, VEN
<i>Malacothamnus parishii</i>	Parish's bush-mallow	1A	SB
<i>Malacothrix foliosa ssp. crispifolia</i>	wavy-leaved malacothrix	1B.2	VEN

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<i>Malacothrix junakii</i>	Junak's malacothrix	1B.1	VEN
<i>Malacothrix similis</i>	Mexican malacothrix	2A	VEN
<i>Malaxis monophyllos var. brachypoda</i>	white bog adder's-mouth	2B.1	RIV, SB
<i>Malperia tenuis</i>	brown turbans	2B.3	IMP
<i>Mammillaria grahamii var. grahamii</i>	Graham fishhook cactus	2B.2	SB
<i>Marina orcuttii var. orcuttii</i>	California marina	1B.3	RIV
<i>Matelea parvifolia</i>	spear-leaf matelea	2B.3	IMP, RIV, SB
<i>Maurandella antirrhiniflora</i>	violet twining snapdragon	2B.3	SB
<i>Meesia uliginosa</i>	broad-nerved hump moss	2B.2	RIV
<i>Menodora scabra var. scabra</i>	rough menodora	2B.3	SB
<i>Menodora spinescens var. mohavensis</i>	Mojave menodora	1B.2	SB
<i>Mentzelia hirsutissima</i>	hairy stickleaf	2B.3	IMP
<i>Mentzelia polita</i>	polished blazing star	1B.2	SB
<i>Mentzelia pterosperma</i>	wing-seed blazing star	2B.2	SB
<i>Mentzelia puberula</i>	Darlington's blazing star	2B.2	IMP, RIV, SB
<i>Mentzelia tricuspis</i>	spiny-hair blazing star	2B.1	IMP, RIV, SB
<i>Mentzelia tridentata</i>	creamy blazing star	1B.3	SB
<i>Mielichhoferia shevockii</i>	Shevock's copper moss	1B.2	RIV
<i>Mirabilis coccinea</i>	red four o'clock	2B.3	SB
<i>Monarda pectinata</i>	plains bee balm	2B.3	SB
<i>Monardella australis ssp. jokerstii</i>	Jokerst's monardella	1B.1	RIV, SB
<i>Monardella boydii</i>	Boyd's monardella	1B.2	SB
<i>Monardella eremicola</i>	Clark Mountain monardella	1B.3	SB
<i>Monardella hypoleuca ssp. hypoleuca</i>	white-veined monardella	1B.3	LA, VEN
<i>Monardella hypoleuca ssp. intermedia</i>	intermediate monardella	1B.3	OR, RIV
<i>Monardella linoides ssp. oblonga</i>	Tehachapi monardella	1B.3	LA, VEN
<i>Monardella macrantha ssp. hallii</i>	Hall's monardella	1B.3	LA, OR, RIV, SB
<i>Monardella nana ssp. leptosiphon</i>	San Felipe monardella	1B.2	RIV
<i>Monardella pringlei</i>	Pringle's monardella	1A	RIV, SB
<i>Monardella robisonii</i>	Robison's monardella	1B.3	RIV, SB
<i>Monardella sinuata ssp. gerryi</i>	Gerry's curly-leaved monardella	1B.1	VEN
<i>Muhlenbergia alopecuroides</i>	wolftail	2B.2	SB
<i>Muhlenbergia appressa</i>	appressed muhly	2B.2	LA, RIV, SB
<i>Muhlenbergia arsenei</i>	tough muhly	2B.3	SB
<i>Muhlenbergia californica</i>	California muhly	4.3	LA, SB
<i>Muhlenbergia fragilis</i>	delicate muhly	2B.3	SB
<i>Muhlenbergia pauciflora</i>	few-flowered muhly	2B.3	SB
<i>Munroa squarrosa</i>	false buffalo-grass	2B.2	SB
<i>Munzothamnus blairii</i>	Blair's munzothamnus	1B.2	LA
<i>Myosurus minimus ssp. apus</i>	little mousetail	3.1	RIV
<i>Myriopteris wootonii</i>	Wooton's lace fern	2B.3	SB
<i>Nama demissa var. covillei</i>	Coville's purple mat	1B.3	SB
<i>Nama dichotoma var. dichotoma</i>	forked purple mat	2B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
<i>Nama stenocarpa</i>	mud nama	2B.2	IMP, LA, OR, RIV
<i>Navarretia ojaiensis</i>	Ojai navarretia	1B.1	LA, VEN
<i>Navarretia peninsularis</i>	Baja navarretia	1B.2	LA, SB, VEN
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	1B.1	LA, OR, RIV, SB
<i>Navarretia setiloba</i>	Piute Mountains navarretia	1B.1	LA
<i>Nemacaulis denudata var. denudata</i>	coast woolly-heads	1B.2	LA, OR
<i>Nemacaulis denudata var. gracilis</i>	slender cottonheads	2B.2	IMP, RIV, SB
<i>Nemacladus secundiflorus var. robbinsii</i>	Robbins' nemacladus	1B.2	LA, VEN
<i>Nolina cismontana</i>	chaparral nolina	1B.2	LA, OR, RIV, VEN
<i>Oenothera cavernae</i>	cave evening-primrose	2B.1	SB
<i>Oenothera longissima</i>	long-stem evening-primrose	2B.2	SB
<i>Opuntia basilaris var. brachyclada</i>	short-joint beavertail	1B.2	LA, SB
<i>Opuntia wigginsii</i>	Wiggins' cholla	3.3	IMP, SB
<i>Opuntia xcurvispina</i>	curved-spine beavertail	2B.2	SB
<i>Oreonana vestita</i>	woolly mountain-parsley	1B.3	LA, SB
<i>Orobanche parishii ssp. brachyloba</i>	short-lobed broomrape	4.2	LA, VEN
<i>Orobanche valida ssp. valida</i>	Rock Creek broomrape	1B.2	LA, SB, VEN
<i>Oxytropis oreophila var. oreophila</i>	rock-loving oxytrope	2B.3	LA, SB
<i>Packera bernardina</i>	San Bernardino ragwort	1B.2	SB
<i>Palafoxia arida var. gigantea</i>	giant spanish-needle	1B.3	IMP
<i>Panicum hirticaule ssp. hirticaule</i>	roughstalk witch grass	2B.1	IMP, RIV, SB
<i>Parnassia cirrata var. cirrata</i>	San Bernardino grass-of-Parnassus	1B.3	LA, SB
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	1B.2	SB
<i>Pellaea truncata</i>	spiny cliff-brake	2B.3	SB
<i>Penstemon albomarginatus</i>	white-margined beardtongue	1B.1	SB
<i>Penstemon bicolor ssp. roseus</i>	rosy two-toned beardtongue	1B.1	SB
<i>Penstemon calcareus</i>	limestone beardtongue	1B.3	SB
<i>Penstemon californicus</i>	California beardtongue	1B.2	OR, RIV
<i>Penstemon fruticiformis var. amargosae</i>	Amargosa beardtongue	1B.3	SB
<i>Penstemon pseudospectabilis ssp. pseudospectabilis</i>	desert beardtongue	2B.2	IMP, RIV, SB
<i>Penstemon stephensii</i>	Stephens' beardtongue	1B.3	SB
<i>Penstemon thompsoniae</i>	Thompson's beardtongue	2B.3	SB
<i>Penstemon utahensis</i>	Utah beardtongue	2B.3	SB
<i>Pentachaeta aurea ssp. allenii</i>	Allen's pentachaeta	1B.1	OR
<i>Perideridia parishii ssp. parishii</i>	Parish's yampah	2B.2	SB
<i>Petalonyx linearis</i>	narrow-leaf sandpaper-plant	2B.3	IMP, RIV, SB
<i>Petalonyx thurberi ssp. gilmanii</i>	Death Valley sandpaper-plant	1B.3	SB
<i>Phacelia anelsonii</i>	Aven Nelson's phacelia	2B.3	SB
<i>Phacelia barnebyana</i>	Barneby's phacelia	2B.3	SB
<i>Phacelia coerulea</i>	sky-blue phacelia	2B.3	SB
<i>Phacelia floribunda</i>	many-flowered phacelia	1B.2	LA
<i>Phacelia keckii</i>	Santiago Peak phacelia	1B.3	OR, RIV

Scientific Name	Common Name	Status	Counties Where Reported
<i>Phacelia mustelina</i>	Death Valley round-leaved phacelia	1B.3	SB
<i>Phacelia parishii</i>	Parish's phacelia	1B.1	SB
<i>Phacelia perityloides var. jaegeri</i>	Jaeger's phacelia	1B.3	SB
<i>Phacelia pulchella var. gooddingii</i>	Goodding's phacelia	2B.2	SB
<i>Phacelia stellaris</i>	Brand's star phacelia	1B.1	LA, OR, RIV, SB
<i>Phaseolus filiformis</i>	slender-stem bean	2B.1	RIV
<i>Phlox dolichantha</i>	Big Bear Valley phlox	1B.2	SB
<i>Pholisma sonorae</i>	sand food	1B.2	IMP
<i>Pholistoma auritum var. arizonicum</i>	Arizona pholistoma	2B.3	IMP, SB
<i>Physalis lobata</i>	lobed ground-cherry	2B.3	SB
<i>Physaria chambersii</i>	Chambers' physaria	2B.3	SB
<i>Pilostyles thurberi</i>	Thurber's pilostyles	4.3	IMP
<i>Plagiobothrys parishii</i>	Parish's popcornflower	1B.1	LA, SB
<i>Poliomintha incana</i>	frosted mint	2A	SB
<i>Polygala acanthoclada</i>	thorny milkwort	2B.3	RIV, SB
<i>Polygala intermontana</i>	intermountain milkwort	2B.1	SB
<i>Potentilla multijuga</i>	Ballona cinquefoil	1A	LA
<i>Potentilla rimicola</i>	cliff cinquefoil	2B.3	RIV
<i>Prunus eremophila</i>	Mojave Desert plum	1B.2	SB
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	2B.2	LA, OR, RIV, SB, VEN
<i>Pseudorontium cyathiferum</i>	Deep Canyon snapdragon	2B.3	RIV
<i>Psorothamnus fremontii var. attenuatus</i>	narrow-leaved psorothamnus	2B.3	SB
<i>Puccinellia parishii</i>	Parish's alkali grass	1B.1	SB
<i>Puccinellia simplex</i>	California alkali grass	1B.2	LA, SB
<i>Pyrrocoma uniflora var. gossypina</i>	Bear Valley pyrrocoma	1B.2	SB
<i>Quercus dumosa</i>	Nuttall's scrub oak	1B.1	LA, OR, VEN
<i>Ribes divaricatum var. parishii</i>	Parish's gooseberry	1A	LA, SB
<i>Ribes viburnifolium</i>	Santa Catalina Island currant	1B.2	LA
<i>Robinia neomexicana</i>	New Mexico locust	2B.3	SB
<i>Rosa woodsii var. glabrata</i>	Cushenbury rose	1B.1	SB
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	SB, VEN
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	1B.2	RIV, SB
<i>Salvia greatae</i>	Orocopia sage	1B.3	IMP, RIV
<i>Sanvitalia abertii</i>	Abert's sanvitalia	2B.2	SB
<i>Schoenus nigricans</i>	black bog-rush	2B.2	SB
<i>Sclerocactus johnsonii</i>	Johnson's bee-hive cactus	2B.2	SB
<i>Scleropogon brevifolius</i>	burro grass	2B.3	SB
<i>Scrophularia villosa</i>	Santa Catalina figwort	1B.2	LA
<i>Scutellaria bolanderi ssp. austromontana</i>	southern mountains skullcap	1B.2	LA, RIV, SB
<i>Selaginella eremophila</i>	desert spike-moss	2B.2	IMP, RIV
<i>Senecio aphanactis</i>	chaparral ragwort	2B.2	LA, OR, RIV, SB, VEN
<i>Senna covesii</i>	Cove's cassia	2B.2	IMP, RIV, SB
<i>Sibaropsis hammittii</i>	Hammitt's clay-cress	1B.2	RIV

3.4 Biological Resources

Scientific Name	Common Name	Status	Counties Where Reported
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	1B.2	SB
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	2B.2	LA, OR, RIV, SB, VEN
<i>Sidothea emarginata</i>	white-margined oxytheca	1B.3	RIV
<i>Silene krantzii</i>	Krantz's catchfly	1B.2	SB
<i>Sisyrinchium longipes</i>	timberland blue-eyed grass	2B.2	SB
<i>Solanum wallacei</i>	Wallace's nightshade	1B.1	LA
<i>Spermolepis gigantea</i>	desert scaleseed	2B.1	RIV
<i>Spermolepis lateriflora</i>	western bristly scaleseed	2A	LA
<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	Rusby's desert-mallow	1B.2	RIV, SB
<i>Sphaerocarpos dreweii</i>	bottle liverwort	1B.1	RIV
<i>Sphenopholis obtusata</i>	prairie wedge grass	2B.2	RIV, SB
<i>Stemodia durantifolia</i>	purple stemodia	2B.1	RIV
<i>Stipa arida</i>	Mormon needle grass	2B.3	SB
<i>Stipa divaricata</i>	small-flowered rice grass	2B.3	SB
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	4.3	RIV, SB
<i>Streptanthus campestris</i>	southern jewelflower	1B.3	IMP, LA, RIV, SB, VEN
<i>Stylocline masonii</i>	Mason's neststraw	1B.1	LA
<i>Stylocline sonorensis</i>	mesquite neststraw	2A	RIV
<i>Suaeda esteroa</i>	estuary seablite	1B.2	LA, OR, VEN
<i>Symphotrichum defoliatum</i>	San Bernardino aster	1B.2	IMP, LA, OR, RIV, SB
<i>Symphotrichum greatae</i>	Greata's aster	1B.3	LA, SB, VEN
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	1B.2	OR, RIV
<i>Teucrium cubense</i> ssp. <i>depressum</i>	dwarf germander	2B.2	IMP, RIV
<i>Teucrium glandulosum</i>	desert germander	2B.3	SB
<i>Texosporium sancti-jacobi</i>	woven-spored lichen	3	LA, RIV, VEN
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	2B.2	LA, RIV, SB
<i>Thysanocarpus rigidus</i>	rigid fringepod	1B.2	LA, RIV, SB
<i>Tidestromia eliassoniana</i>	Eliasson's woolly tidestromia	2B.2	IMP, SB
<i>Tortella alpicola</i>	alpine crisp-moss	2B.3	SB
<i>Tortula californica</i>	California screw moss	1B.2	LA, RIV, VEN
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	2B.1	RIV
<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	Hidden Lake bluecurls	1B.1	RIV
<i>Tripterocalyx micranthus</i>	small-flowered sand-verbena	2B.2	SB
<i>Triteleia clementina</i>	San Clemente Island triteleia	1B.2	LA
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	1B.3	LA, SB, VEN
<i>Wislizenia refracta</i> ssp. <i>palmeri</i>	Palmer's jackass clover	2B.2	RIV
<i>Wislizenia refracta</i> ssp. <i>refracta</i>	jackass-clover	2B.2	RIV, SB
<i>Woodsia plummerae</i>	Plummer's woodsia	2B.3	SB
<i>Xylorhiza cognata</i>	Mecca-aster	1B.2	RIV
<i>Xylorhiza orcuttii</i>	Orcutt's woody-aster	1B.2	IMP
<i>Astragalus traskiae</i>	Trask's milk-vetch	1B.2	VEN
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	1B.2	LA

Scientific Name	Common Name	Status	Counties Where Reported
<i>Croton wigginsii</i>	Wiggins' croton	2B.2	IMP
<i>Deinandra minthornii</i>	Santa Susana tarplant	1B.2	LA, VEN
<i>Delphinium hesperium ssp. cuyamaca</i>	Cuyamaca larkspur	1B.2	RIV
<i>Eriogonum crocatum</i>	conejo buckwheat	1B.2	VEN
<i>Galium angustifolium ssp. borregoense</i>	Borrego bedstraw	1B.3	IMP
<i>Ivesia callida</i>	Tahquitz ivesia	1B.3	RIV
<i>Packera ganderi</i>	Gander's ragwort	1B.2	RIV
<i>Sidalcea hickmanii ssp. parishii</i>	Parish's checkerbloom	1B.2	SB

Note:

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

Source:

California Department of Fish and Wildlife. 2018. CNDDDB QuickView Tool in BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Riparian and State Sensitive Plant Communities

The six counties within the SCAG region contain nearly 23 million acres of “open space” combined. These vacant lands include the region’s national forests, state parks, military installations, other public lands, and various private holdings. Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. The CNDDDB identifies approximately 318,000 acres as containing state-sensitive plant communities, those identified as critically imperiled, or vulnerable to extirpation. In addition, approximately 190,700 acres of riparian habitats have been included in the database. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW and improvements within or in the vicinity of these habitats would require compliance with Section 1600 of the State FGC under which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Historically, special-status natural communities have been recorded by the CNDDDB, which reported 45 special-status natural communities within the SCAG region, as shown in **Table 3.4-5, Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region**. Unfortunately, this CNDDDB information was last recorded in 1993, as the Natural Heritage Division of the CDFW is currently in the process of classifying and mapping vegetation in the state. Although there is no current comprehensive picture of state-sensitive plant communities and riparian habitat, it is highly likely that such communities exist within the SCAG region. Therefore, it is important that individual projects consider sensitive communities and carefully examine project sites on a case-by-case basis.

**Table 3.4-5
Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region**

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Active Desert Dunes	S2.2	IMP	2,233
Alkali Seep	S2.1	SB	5
Amargosa River	SNR	SB	560
Arizonan Woodland	S1.2	SB	337
California Walnut Woodland	S2.1	LA, OR, SB, VEN	16,540
Canyon Live Oak Ravine Forest	S3.3	LA, OR, RIV, SB, VEN	5,535
Cismontane Alkali Marsh	S1.1	VEN	31
Coastal and Valley Freshwater Marsh	S2.1	RIV, SB, VEN	551
Crucifixion Thorn Woodland	S1.2	IMP, SB	96
Desert Fan Palm Oasis Woodland	S3.2	IMP, RIV, SB	43,404
Island Cherry Forest	S2.1	LA	1,796
Island Ironwood Forest	S2.1	LA	2,319
Mainland Cherry Forest	S1.1	LA	73
Maritime Succulent Scrub	S1.1	LA, VEN	70
Mesquite Bosque	S2.1	IMP, RIV, SB	11,282
Mojave Mixed Steppe	S2.2	SB	18
Mojave Riparian Forest	S1.1	LA, SB	3,295
Mojave Yucca Scrub and Steppe	S3.2	SB	88
Open Engelmann Oak Woodland	S2.2	LA	870
Pebble Plains	S1.1	SB	3,836
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, OR, RIV, SB	27,827
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,822
Southern California Arroyo Chub/Santa Ana Sucker Stream	SNR	LA, OR, RIV, SB	5,837
Southern California Coastal Lagoon	SNR	LA, VEN	20
Southern California Steelhead Stream	SNR	LA, VEN	3,025
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,194
Southern Coast Live Oak Riparian Forest	S4	LA, OR, RIV, SB, VEN	22,981
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,029
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,961
Southern Cottonwood Willow Riparian Forest	S3.2	LA, OR, RIV, SB, VEN	18,390
Southern Dune Scrub	S1.1	LA, OR, VEN	9,483
Southern Foredunes	S2.1	LA, OR, VEN	1,203
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	587
Southern Interior Cypress Forest	S2.1	OR, RIV	2,978
Southern Mixed Riparian Forest	S2.1	LA, OR, RIV, SB, VEN	4,447
Southern Riparian Forest	S4	LA, RIV, SB, VEN	554

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Southern Riparian Scrub	S3.2	LA, OR, RIV, SB, VEN	11,378
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, RIV, SB, VEN	61,959
Southern Willow Scrub	S2.1	LA, OR, RIV, SB, VEN	5,697
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,233
Transmontane Alkali Marsh	S2.1	IMP, SB	243
Valley Needlegrass Grassland	S3.1	LA, OR, RIV, VEN	16,806
Valley Oak Woodland	S2.1	LA, VEN	12,400
Walnut Forest	S1.1	LA, VEN	402
Wildflower Field	S2.2	LA	6,592

Note:

S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors **Unranked** — State conservation status not yet assessed.

SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

Source:

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed July 8, 2019.

Since 1993 CDFW and CNPS, have been classifying vegetation types using the new state standards, as outlined in the Manual of California Vegetation, updated in the second edition of the Manual.¹² These new state standards are being utilized in the classification of Sensitive Natural Communities throughout California that are currently being evaluated using NatureServe’s Heritage Methodology, the same system used to assign state rarity ranks for sensitive plant communities in the CNDDDB.¹³ Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities that should be addressed during the CEQA process.

As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified. **Table 3.4-6** provides the Vegetation Classification and Mapping Program’s current list of vegetation Alliances with State Rarity Ranks of S1-S3 that occur within the USDA Ecological Sections (Southern California Coast, Southern California Mountains and Valleys, Mojave Desert, Colorado Desert, Sonoran Desert) found in the SCAG region. Some of these sections

¹² Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California NativePlantSociety, Sacramento, CA.

¹³ California Department of Fish and Wildlife. 2019. Natural Communities. Sacramento, CA. Available online at: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>, accessed June 28, 2019

overlap portions of counties outside of the SCAG region (primarily portions of San Diego and Santa Barbara Counties). Although this data is incomplete, it is highly likely that these or additional Sensitive Natural Communities may occur in the footprint of future projects in the SCAG region. Therefore, it is important that individual projects evaluate Sensitive Natural Communities in their analyses.

Table 3.4-6
Sensitive Natural Communities within the SCAG Region

Alliance Scientific Name	Common Name	State Rarity
<i>Abies concolor</i> Dry	Dry White Fir forest	S3
<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i>	Dune mat	S3
<i>Achnatherum hymenoides</i>	Indian rice grass grassland	S1.2
<i>Achnatherum speciosum</i>	Desert needlegrass grassland	S2.2
<i>Adenostoma fasciculatum</i> - <i>Salvia apiana</i>	Chamise - white sage chaparral	S3
<i>Agave deserti</i>	Desert agave scrub	S3.2
<i>Allenrolfea occidentalis</i>	Iodine bush scrub	S3.2
<i>Alopecurus geniculatus</i>	Water foxtail meadows	S3?
<i>Amphipappus fremontii</i> - <i>Salvia funerea</i>	Fremont's chaffbush - woolly sage scrub	S3
<i>Anemopsis californica</i> - <i>Helianthus nuttallii</i> - <i>Solidago spectabilis</i>	Yerba mansa - Nuttall's sunflower - Nevada goldenrod alkaline wet meadows	S2
<i>Arbutus menziesii</i>	Madrone forest	S3.2
<i>Arctostaphylos (crustacea, tomentosa)</i>	Brittle leaf - woolly leaf manzanita chaparral	S3
<i>Arctostaphylos pungens</i> - <i>Arctostaphylos pringlei</i>	Pointleaf manzanita - pink-bract manzanita chaparral	S3
<i>Arctostaphylos (purissima, rudis)</i>	Burton Mesa chaparral	S1.2
<i>Argentina egedii</i>	Pacific silverweed marshes	S2
<i>Aristida purpurea</i>	Purple three-awn meadows	S3?
<i>Artemisia nova</i>	Black sagebrush scrub	S3.2
<i>Artemisia rothrockii</i>	Rothrock's sagebrush	S3
<i>Arthrocnemum subterminale</i>	Parish's glasswort patches	S2
<i>Atriplex parryi</i>	Parry's saltbush scrub	S3
<i>Baccharis emoryi</i> - <i>Baccharis sergiloides</i>	Emory's and Broom baccharis scrub	S3
<i>Betula occidentalis</i>	Water birch thicket	S2.2
<i>Bolboschoenus maritimus</i>	Salt marsh bulrush marshes	S3
<i>Bromus carinatus</i> - <i>Elymus glaucus</i>	California brome - blue wildrye prairie	S3
<i>Bursera microphylla</i>	Elephant tree stands	S1.2
<i>Calocedrus decurrens</i>	Incense cedar forest	S3.2
<i>Carex douglasii</i>	Douglas's sedge meadows	S2?
<i>Carex heteroneura</i>	Different-nerve sedge patches	S3?
<i>Carex integra</i>	Small-fruited sedge meadows	S2?

3.4 Biological Resources

Alliance Scientific Name	Common Name	State Rarity
<i>Carex luzulina</i>	Woodland sedge fens	S2?
<i>Carex (pansa, praeegracilis)</i>	Sand dune sedge swaths	S3?
<i>Carnegiea gigantea - Parkinsonia microphylla - Prosopis velutina</i>	Saguaro - foothill palo verde - velvet mesquite desert scrub	S2.2
<i>Castela emoryi</i>	Crucifixion thorn stands	S1.1
<i>Ceanothus greggii</i>	Cup leaf ceanothus chaparral	S3
<i>Ceanothus (oliganthus, tomentosus)</i>	Hairy leaf - woolly leaf ceanothus chaparral	S3
<i>Ceanothus papillosus</i>	Wart leaf ceanothus chaparral	S3
<i>Ceanothus verrucosus</i>	Wart-stemmed ceanothus chaparral	S2
<i>Centromadia (pungens)</i>	Tar plant fields	S2
<i>Chilopsis linearis - Psorothamnus spinosus</i>	Desert-willow - smoketree wash woodland	S3
<i>Chrysolepis sempervirens</i>	Bush chinquapin chaparral	S3.3
<i>Coreopsis gigantea</i>	Giant coreopsis scrub	S3
<i>Cressa truxillensis - Distichlis spicata</i>	Alkali weed - salt grass playas and sinks	S2
<i>Cylindropuntia bigelovii</i>	Teddy bear cholla patches	S3
<i>Deinandra clementina - Eriogonum giganteum</i>	Island tar plant - Saint Catherine's lace scrub	S2
<i>Deinandra fasciculata</i>	Clustered tarweed fields	S2
<i>Dicoria canescens - Abronia villosa - Panicum urvilleanum</i>	Mojave-Sonoran desert dunes	S3.2
<i>Diplacus aurantiacus</i>	Bush monkeyflower scrub	S3?
<i>Dudleya greenei - Dudleya spp. Succulent Scrub</i>	Greene's live-forever - live-forever species succulent scrub	S1
<i>Encelia (actonii, virginensis) - Viguiera reticulata</i>	Acton's and Virgin River brittle brush - net-veined goldeneye scrub	S3
<i>Encelia californica - Eriogonum cinereum</i>	California brittle bush - Ashy buckwheat scrub	S3
<i>Ephedra funerea</i>	Death Valley joint fir scrub	S3
<i>Ericameria palmeri</i>	Palmer's goldenbush scrub	S3?
<i>Ericameria paniculata</i>	Black-stem rabbitbrush scrub	S3
<i>Eriodictyon crassifolium</i>	Thick leaf yerba santa scrub	S3
<i>Eriogonum arborescens - Eriogonum grande</i>	Island Buckwheat scrub	S3
<i>Eriogonum wrightii - Eriogonum heermannii - Buddleja utahensis</i>	Wright's buckwheat - Heermann's buckwheat - Utah butterfly- bush scrub	S3
<i>Fallugia paradoxa</i>	Apache plume scrub	S3
<i>Frankenia salina</i>	Alkali heath marsh	S3
<i>Grindelia (camporum, stricta)</i>	Gum plant patches	S2
<i>Gutierrezia sarothrae - Gutierrezia microcephala</i>	Snakeweed scrub	S3
<i>Hazardia squarrosa</i>	Sawtooth golden bush scrub	S3
<i>Hesperocyparis forbesii</i>	Tecate cypress stands	S2.2
<i>Hesperocyparis sargentii</i>	Sargent cypress woodland	S3.2
<i>Hesperocyparis stephensonii</i>	Cuyamaca cypress stands	S1

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Alliance Scientific Name	Common Name	State Rarity
<i>Hordeum brachyantherum</i>	Meadow barley patches	S2
<i>Isocoma menziesii</i>	Menzies's golden bush scrub	S3
<i>Juglans californica</i>	California walnut groves	S3.2
<i>Juncus (oxymyris, xiphioides)</i>	Iris-leaf rush seeps	S2?
<i>Juniperus osteosperma</i>	Utah juniper woodland	S3.2
<i>Keckiella antirrhinoides</i>	Bush penstemon scrub	S3
<i>Koeberlinia spinosa</i>	Crown-of-thorns stands	S1.1
<i>Krascheninnikovia lanata</i>	Winterfat scrubland	S3
<i>Lepidospartum squamatum</i>	Scale broom scrub	S3
<i>Leymus cinereus - Leymus triticoides</i>	Ashy ryegrass - creeping ryegrass turfs	S3
<i>Leymus condensatus</i>	Giant wild rye grassland	S3
<i>Leymus mollis</i>	Sea lyme grass patches	S2
<i>Lupinus chamissonis - Ericameria ericoides</i>	Silver dune lupine - mock heather scrub	S3
<i>Lycium californicum</i>	California desert-thorn scrub	S3
<i>Menodora spinescens</i>	Spiny menodora scrub	S3
<i>Monolopia (lanceolata) - Coreopsis (calliopsidea)</i>	Monolopia - leafy-stemmed tickseed fields	S3
<i>Muhlenbergia rigens</i>	Deer grass beds	S2?
<i>Nolina (bigelovii, parryi)</i>	Nolina scrub	S2.2
<i>Opuntia littoralis - Opuntia oricola - Cylindropuntia prolifera</i>	Coast prickly pear scrub	S3
<i>Pinus edulis</i>	Two-needle pinyon stands	S2?
<i>Pinus flexilis</i>	Limber pine woodland	S3.2
<i>Pinus muricata - Pinus radiata</i>	Bishop pine - Monterey pine forest	S3.2
<i>Pinus quadrifolia</i>	Parry pinyon woodland	S2
<i>Pinus torreyana</i>	Torrey pine woodland	S1.2
<i>Platanus racemosa</i>	California sycamore woodlands	S3
<i>Pleuraphis jamesii</i>	James's galleta shrub-steppe	S2.2
<i>Pleuraphis rigida</i>	Big galleta shrub-steppe	S2.2
<i>Pluchea sericea</i>	Arrow weed thickets	S3.3
<i>Poa secunda</i>	Curly blue grass grassland	S3?
<i>Populus fremontii</i>	Fremont cottonwood forest	S3.2
<i>Populus tremuloides</i>	Aspen groves	S3.2
<i>Populus trichocarpa</i>	Black cottonwood forest	S3
<i>Prosopis glandulosa - Prosopis velutina - Prosopis pubescens</i>	Mesquite thickets	S3
<i>Prunus fremontii</i>	Desert apricot scrub	S3
<i>Prunus virginiana</i>	Choke cherry thickets	S2?
<i>Pseudotsuga macrocarpa</i>	Bigcone Douglas fir forest	S3.2
<i>Purshia stansburiana</i>	Stansbury cliff rose scrub	S3.2
<i>Purshia tridentata</i>	Bitter brush scrub	S3

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Alliance Scientific Name	Common Name	State Rarity
<i>Quercus chrysolepis</i> (shrub)	Canyon live oak chaparral	S3
<i>Quercus dumosa</i> - <i>Quercus pacifica</i>	Coastal sage and Island scrub oak chaparral	S3
<i>Quercus engelmannii</i>	Engelmann oak woodland	S3
<i>Quercus lobata</i>	Valley oak woodland	S3
<i>Quercus palmeri</i>	Palmer oak chaparral	S2?
<i>Quercus tomentella</i> - <i>Lyonothamnus floribundus</i>	Island live oak - Catalina ironwood woodland	S3
<i>Quercus turbinella</i>	Sonoran live oak scrub	S1.3
<i>Rhus integrifolia</i>	Lemonade berry scrub	S3
<i>Rhus trilobata</i> - <i>Crataegus rivularis</i> - <i>Forestiera pubescens</i>	Basket bush - river hawthorn - desert olive patches	S3.2?
<i>Ribes quercetorum</i>	Oak gooseberry thickets	S2?
<i>Rosa californica</i>	California rose briar patches	S3
<i>Ruppia (cirrhosa, maritima)</i>	Ditch-grass or widgeon-grass mats	S2
<i>Salix gooddingii</i>	Black willow thickets	S3
<i>Salix laevigata</i>	Red willow thickets	S3
<i>Salix lucida</i>	Shining willow groves	S3.2
<i>Salvia apiana</i>	White sage scrub	S3
<i>Sambucus nigra</i>	Blue elderberry stands	S3
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>)	Pickleweed mats	S3
<i>Schoenoplectus (acutus, californicus)</i>	Hardstem and California bulrush marshes	S3
<i>Schoenoplectus americanus</i>	American bulrush marsh	S3.2
<i>Selaginella bigelovii</i>	Bushy spikemoss mats	S3
<i>Sesuvium verrucosum</i>	Western sea-purslane marshes	S2.2?
<i>Simmondsia chinensis</i>	Jojoba scrub	S3?
<i>Spartina foliosa</i>	California cordgrass marsh	S3.2
<i>Sporobolus airoides</i> - <i>Muhlenbergia asperifolia</i> - <i>Spartina gracilis</i>	Alkali sacaton - scratchgrass - alkali cordgrass alkaline wet meadow	S2
<i>Stuckenia (pectinata) - Potamogeton spp.</i>	Pondweed mats	S3?
<i>Suaeda moquinii</i>	Bush seepweed scrub	S3
<i>Tetracoccus hallii</i>	Hall's™ shrubby-spurge patches	S1.1
<i>Umbellularia californica</i>	California bay forest	S3
<i>Venegasia carpesioides</i>	Canyon sunflower scrub	S3
<i>Vitis arizonica</i> - <i>Vitis girdiana</i>	Wild grape shrubland	S3
<i>Washingtonia filifera</i>	California fan palm oasis	S3.2
<i>Xylococcus bicolor</i>	Mission manzanita chaparral	S3

Alliance Scientific Name	Common Name	State Rarity
<i>Yucca brevifolia</i>	Joshua tree woodland	S3.2
<i>Ziziphus obtusifolia</i>	Graythorn patches	S2?

S1 *Critically Imperiled* — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 *Imperiled* — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 *Vulnerable* — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Entries marked with “?” indicate preliminary or more information required

Source: CNPS. 2019. *A Manual of California Vegetation On-line*. Available at: <http://vegetation.cnps.org/search> Accessed June 25, 2019

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory maps¹⁴ and USGS National Hydrography Dataset of surface waters (rivers, streams, ephemeral streams, canals, lakes, ponds, and other hydrologic features) for the SCAG region were reviewed to identify the extent of potential wetlands and waterways subject to protection under Section 404 of the CWA and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the USACE, CDFW, and RWQCB’s were determined to be present within each of the six counties in the SCAG region (**Table 3.4-7, Federally Protected Wetlands and Waterways Reported in the SCAG Region**, and **Table 3.4-8, Federally Protected Surface Water Features in the SCAG Region**).

**Table 3.4-7
Federally Protected Wetlands and Waterways Reported in the SCAG Region**

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	6,214
Freshwater Forested/Shrub Wetland	20,756
Freshwater Pond	6,982
Lake	200,180
Riverine	46,562
Total	280,693
Los Angeles County	
Estuarine and Marine Deepwater	3,421
Estuarine and Marine Wetland	839
Freshwater Emergent Wetland	2,503

¹⁴ U.S. Fish and Wildlife Service. *National Wetlands Inventory Map*. Available at: <https://www.fws.gov/wetlands/data/Mapper.html>, accessed January 14, 2019.

Wetland Type	National Wetlands Inventory (Acres)
Freshwater Forested/Shrub Wetland	11,874
Freshwater Pond	7,644
Lake	21,526
Riverine	28,995
Total	76,803
Orange County	
Estuarine and Marine Deepwater	2,015
Estuarine and Marine Wetland	1,556
Freshwater Emergent Wetland	988
Freshwater Forested/Shrub Wetland	4,124
Freshwater Pond	1,414
Lake	2,323
Riverine	5,777
Total	18,196
Riverside County	
Freshwater Emergent Wetland	8,225
Freshwater Forested/Shrub Wetland	14,594
Freshwater Pond	4,061
Lake	68,854
Riverine	68,676
Total	164,410
San Bernardino County	
Freshwater Emergent Wetland	4,696
Freshwater Forested/Shrub Wetland	10,233
Freshwater Pond	7,750
Lake	250,702
Riverine	188,525
Total	461,906
Ventura County	
Estuarine and Marine Deepwater	1,001
Estuarine and Marine Wetland	2,307
Freshwater Emergent Wetland	2,736
Freshwater Forested/Shrub Wetland	10,713
Freshwater Pond	2,173
Lake	4,136
Riverine	12,518
Total	35,584

Source: U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: <https://www.fws.gov/wetlands/data/Mapper.html>, accessed July 17, 2019.

**Table 3.4-8
Federally Protected Surface Water Features in the SCAG Region**

County	Miles of Hydrologic Drainages
Imperial County	11,081.5
Los Angeles	13,788.7
Orange	3,008.9
Riverside	22,609.6
San Bernardino	45,369.2
Ventura	8,642.5
Total	104,500.4

Source: U.S. Geological Survey. National Hydrography Dataset. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products>, accessed January 15, 2019.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.¹⁵

The presence of viable and sustainable wildlife corridor networks may also be critical to the survival of some species as habitat conditions and landscapes are altered due to climate change. Across the SCAG region's diverse habitat types, many native plant species are at risk because of from climate change effects.¹⁶ These effects include rising sea levels, increased temperatures, decreased water availability and/or altered precipitation patterns, and invasive species infestations. Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for survival. These impacts on plants change ecosystems and the wildlife they support. Maintaining existing connected habitat linkages and establishing new wildlife crossings is essential to the survival of California's diverse native species and unique ecosystems in the face of a

¹⁵ Ventura County Resource Management Agency (VCRMA). 2018. Habitat Connectivity and Wildlife Movement Corridors. Available online at: <https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors>, accessed January 15, 2019.

¹⁶ Native Plants and Climate Change. 2019. California Deptmnt of Fish and Wildlife. Available at: <https://www.wildlife.ca.gov/Conservation/Plants/Climate>

changing climate. As habitat conditions change in response to altered climate conditions, wildlife require an increased diversity of opportunities for movement and migration to a wide variety of landscapes.¹⁷

The California Department of Transportation (Caltrans) and CDFW commissioned the California Essential Habitat Connectivity Project to assess essential habitat connectivity across the state.¹⁸ As shown in **Figure 3.4-3, Essential Habitat Connectivity within the SCAG Region**,¹⁹ a large portion of the SCAG region includes many natural landscape blocks, accounting for nearly 12 million acres that support high native wildlife biodiversity with a significant wildlife connectivity network (**Figure 3.4-3; Table 3.4-9, Natural Landscape Blocks by County in the SCAG Region**).²⁰ These large and intact blocks are connected by over 4.5 million acres of corridors that are highly (Class 4 and 5) permeable (i.e., beneficial) to wildlife movement (**Table 3.4-10**). A large portion of these landscape blocks and essential connectivity areas are spread through eastern Imperial, Riverside, and San Bernardino Counties. Ventura County has the relatively largest proportion of landscape blocks and essential connectivity areas by county acreage. Large portions of the mountainous parts of Los Angeles County provide a critical linkage between habitat blocks from Riverside and Imperial County to the east and Ventura County to the west. Orange County has limited essential connectivity habitat and habitat blocks, located mostly in the eastern end of the county, but these provide connectivity to San Diego County to the south.

**Table 3.4-9
Natural Landscape Blocks by County in the SCAG Region**

County	Area (acres)
Imperial	970,349
Los Angeles	798,033
Orange	135,339
Riverside	2,511,657
San Bernardino	6,802,998
Ventura	701,830
Grand Total	11,920,206

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

- ¹⁷ California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fish and Wildlife. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>. Accessed October 30, 2019
- ¹⁸ California Department of Fish and Wildlife. 2019. BIOS Connectivity Viewer. Available online at: <https://apps.wildlife.ca.gov/bios/> accessed July 8, 2019.
- ¹⁹ California Department of Fish and Wildlife. *BIOS*. Available online at: <https://apps.wildlife.ca.gov/bios/>
- ²⁰ Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: <https://map.dfg.ca.gov/metadata/ds0621.html?5.77.14>, accessed July 9, 2019.

Table 3.4-10
Essential Connectivity Areas by County in the SCAG Region (acres)

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total
Class 5 - Most Permeable	394,207	111,066	-	557,892	1,242,680	212,235	2,518,081
Class 4	273,106	97,594	-	415,568	1,032,493	192,853	2,011,616
Class 3	240,108	90,913	-	359,093	836,737	164,840	1,691,691
Class 2	235,033	99,768	-	371,260	873,269	98,451	1,677,781
Class 1 - Least Permeable	187,009	103,135	1,382	351,703	880,552	74,106	1,597,888
Total	1,329,463	502,477	1,382	2,055,517	4,865,731	742,486	9,497,056

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement for migratory and resident species alike. These barriers can affect all species from large mammals to small insects and can lead to significant degradation of ecosystem function and plant community composition. Conservation, protection, and enhancement of these intact Natural Landscape Blocks and Essential Connectivity Areas should be considered in project development to maintain or improve the viability of wildlife movement networks' and natural community stability.

A notable example of wildlife corridor enhancement is the wildlife crossing planned through the State Route 101 Freeway at Liberty Canyon Road in Agoura Hills. The development of the Liberty Canyon Wildlife Crossing will help facilitate mountain lion and other terrestrial wildlife movement through a major regional freeway, opening a corridor and reducing the risk of motor vehicle collisions with wildlife. Managed by California Department of Transportation (Caltrans), the Liberty Canyon Wildlife Crossing is a regional partnership with many public and private entities, including the City of Agoura Hills, City of Thousand Oaks, Mountains Recreation and Conservation Authority, the Santa Monica Mountains Conservancy, the National Park Service, and the Resource Conservation District of the Santa Monica Mountains. This project is planned to break ground in 2021 and be completed in 2023²¹. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure that will rank as the largest wildlife crossing in the world. This crossing will reconnect currently fragmented ecosystems for the benefit of mountain lions and other wildlife.

²¹ National Wildlife Federation/SaveLACougars. 2019. Available online at: <https://savelacougars.org/> accessed November 22, 2019.

In addition to these essential corridors, major rivers, creeks, and streams often serve as nursery sites for fish, amphibian, and invertebrate species. These important features can facilitate movement between landscape blocks. Over 182,000 acres of these riparian wildlife connections have been mapped in the SCAG region (see **Table 3.4-11** and **Figure 3.4-3**).

Table 3.4-11
Potential Riparian Connections in the SCAG Region

County	Riparian Connections (Acres)
Imperial	33,546
Los Angeles	34,015
Orange	5,774
Riverside	21,526
San Bernardino	56,144
Ventura	31,359
Total	212,364

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

Habitat Conservation Plans and Natural Community Conservation Plans

A Habitat Conservation Plan (HCP) is a planning document required as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded. A Natural Community Conservation Plan (NCCP) is defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats. As described by **Table 3.4-12, HCPs and NCCPs in the SCAG Region**, below, more than 20 million acres of open space within the SCAG region are currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Data from CDFW and USFWS show 27 plans with durations of 16–80 years providing conservation efforts nearly three million acres in the SCAG region. As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance and practices, and preserving important wildlife linkages.

**Table 3.4-12
HCPs and NCCPs in the SCAG Region**

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
AgCon Oro Grande North Mine Pit					X	
Angelus Block					X	
Assessment District 161				X		
California Department of Corrections	X	X		X	X	
Statewide Electrified Fence Project						
Central Coastal NCCP/HCP			X			
City of Rancho Palos Verdes NCCP		X				
Coachella Valley Fringe-Toed Lizard				X		
Coachella Valley MSHCP				X		
Copper Mountain College HCP					X	
Cushenbury San & Gravel					X	
El Sobrante Landfill HCP				X		
High Desert Power Project					X	
Imperial Irrigation District NCCP/HCP	X					
Joshua Tree Campground					X	
Lower Colorado River Multiple Species Habitat Conservation Plan (MSHCP)	X			X		
Newhall Farms HCP		X				X
Orange County Central/Coastal NCCP/HCP			X			
Orange County Southern Subregion HCP			X			
Orange County Transportation Authority NCCP/HCP			X			
Palos Verdes Peninsula NCCP/HCP		X				
San Diego County Water Authority NCCP/HCP				X		
San Diego Gas and Electric Subregional			X			
Shell Oil Company/Metropolitan Water District of Southern California HCP			X			
Town of Apple Valley MSHCP					X	
West Valley HCP					X	
Western Riverside County MSHCP				X		

Source:

California Department of Fish and Wildlife. 2017. Summary of Natural Community Conservation Plans (NCCP). October. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>, accessed March 19, 2019.

US Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. Available online at <https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP>. Accessed July 8, 2019.

3.4.2 REGULATORY FRAMEWORK

3.4.2.1 Federal

Federal Endangered Species Act

The USFWS, under the auspices of the Federal Endangered Species Act of 1973 (FESA), manages and protects species listed as Endangered or Threatened. The USFWS can issue a permit for incidental “take” of listed species that can result from otherwise lawful activities. Take, under the federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of listed species and the mitigation measures that would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are set forth in Section 7 (for federal properties or where federal actions are involved) and Section 10 (for non-federal actions) of the FESA.²² Candidate species do not have the full protection of the FESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

USFWS administers the FESA, which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation’s fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.

Section 10 of Rivers and Harbors Appropriation Act of 1899

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 United States Code [USC] §§ 401, 403, 407). Authorization is also needed for structures built near

²² U.S. Fish and Wildlife Service. 1973. *Endangered Species Act of 1973*. Available online at: <https://www.fws.gov/endangered/esa-library/pdf/ESAall.pdf>, accessed August 26, 2019.

navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.²³

Migratory Bird Treaty Act of 1918 (MBTA)

The MBTA (16 USC §§ 703–712) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.²⁴

Fish and Wildlife Coordination Act, 1956

The objective of the Fish and Wildlife Coordination Act of 1956 (FWCA; 16 USC §§ 661–666c) is to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. Under the FWCA, Federal agencies shall consider the effect that water-related projects would have on fish and wildlife resources, prevent loss or damage and develop and improve fish and wildlife resources. The FWCA requires consultation with USFWS and state fish and wildlife agencies to develop measures to protect, develop and improve fish and wildlife resources.²⁵

Section 401 of the Federal Clean Water Act (CWA) (1972)

Section 401 of the federal CWA (33 USC § 1251) is administered by the State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs). Section 401 requires that prior to any federal permit or license, any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, must be certified by the applicable RWQCB. This certification ensures that the proposed activity does not violate federal water quality standards.²⁶ The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin

²³ U.S. Environmental Protection Agency. 2019. *Section 10 of the Rivers and Harbors Appropriation Act of 1899*. Available online at: <https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>, accessed August 26, 2019.

²⁴ U.S. Fish and Wildlife Services. *Migratory Bird Treaty Act*. Available online at: <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>, accessed August 26, 2019.

²⁵ U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Services*. Available online at: <https://www.fws.gov/laws/lawsdigest/FWACT.HTML>, accessed August 26, 2019.

²⁶ U.S. Environmental Protection Agency. *Clean Water Act Section 401: State Certification of Water Quality*. Available online at: <https://www.epa.gov/cwa-401/clean-water-act-section-401-state-certification-water-quality>, accessed August 26, 2019.

- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Section 404 of the Federal CWA

Section 404 of the federal CWA (33 USC § 1251), which is administered by the USACOE, regulates the discharge of dredged and fill material into waters of the United States. USACOE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. In general, USACOE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACOE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.²⁷

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC § 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the United States. The MMPA prohibits the “take” of marine mammals without a permit, with certain exceptions. The definition of “take” under the MMPA is consistent with that of the federal ESA. The MMPA is managed by the federal government. The National Marine Fisheries Service is responsible for managing cetaceans, otariids, and phocids. The USFWS is responsible for managing odobenids, sirenians, otters, and polar bears.²⁸

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)

The MPRSA (Public Law 92-532), also known as the Ocean Dumping Act, prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine

²⁷ U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: <https://www.epa.gov/cwa-404/overview-clean-water-act-section-404>, accessed August 26, 2019.

²⁸ U.S. Fish and Wildlife Service. *Marine Mammal Protection Act*. Available online at: <https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/marine-mammal-protection-act.html>, accessed August 26, 2019.

environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the USACOE, using EPA's environmental criteria and subject to EPA's concurrence.²⁹

Emergency Wetlands Resources Act of 1986 (EWRA)

The objective of the EWRA (16 USC §§ 3901–3932), dated November 10, 1986, is to promote the conservation of wetlands and help fulfill obligations contained in various migratory bird treaties. Under the EWRA, the USFWS must provide leadership and take action to:³⁰

- Intensify cooperative efforts to manage and conserve wetlands
- Intensify efforts to protect wetlands

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal BGEPA (16 USC §§ 668–668c, as amended) that is administered by the USFWS protects bald and golden eagles, their nests, eggs, and parts.³¹ The BGEPA states that no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest, or egg without a valid permit to do so. The BGEPA prohibits the “take” of bald and golden eagles unless pursuant to regulations. *Take* is defined by the BGEPA as an action “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.”

In addition to immediate impacts, this definition covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles were not present. Permits are issued to Native Americans to possess eagle feathers for religious purposes, and salvaged eagle carcasses can be sent to the National Eagle Repository in Colorado, where they are redistributed to Native Americans. Although the bald eagle was removed from the Endangered Species List in June 2007, it is still federally protected under the BGEPA and MBTA described above. In addition, the *National Bald Eagle Management Guidelines* were published in conjunction with delisting by the USFWS in May 2007 to provide provisions to continue to protect bald eagles from harmful actions and impacts.

²⁹ U.S. Environmental Protection Agency. *Summary of the Marine Protection, Research, and Sanctuaries Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act>, accessed August 26, 2019.

³⁰ U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, Emergency Wetlands Resources Act*. Available online at: <https://www.fws.gov/laws/lawsdigest/EMWET.HTML>, accessed August 26, 2019.

³¹ U.S. Fish and Wildlife Service (USFWS). 2007. *National Bald Eagle Management Guidelines*. May. Available at: <https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>, accessed January 23, 2019.

Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.³² The final rule also established a new permit category to provide expedited permits to entities authorized to take bald eagles through Section 7 Incidental Take Permits.

Wetlands – Executive Order Number 11990

Executive Order (EO) 11990 was issued in May 1977, as a furtherance of the National Environmental Policy Act (NEPA) providing protection of wetlands. Pursuant to the EO, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.³³

Invasive Species – Executive Order Number 13112

This EO was signed by President Clinton on February 3, 1999. It serves to prevent activities that may promote the introduction and spread of invasive species. The order states that federal agencies whose actions “may affect the status of invasive species shall ... use relevant programs and authorities to ... prevent the introduction of invasive species ... detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner...monitor invasive species populations accurately and reliably ... provide for restoration of native species and habitat conditions in ecosystems that have been invaded.” In order to implement EO 13112, the FHWA has established guidance to prevent the introduction and spread, and promote the control, of invasive plant species on highway rights-of-way. Under EO 13112, federal agencies are prohibited from authorizing, funding, or carrying out actions that are likely to promote or result in the introduction or spread of invasive species unless all feasible measures to minimize the impacts have been analyzed and considered.³⁴

³² Federal Register. 2008. *Notices*. 73(98): 29075–84. May.

³³ U.S. Environmental Protection Agency. *Protection of Wetlands (Executive Order 11990)*. Available online at: <https://www.epa.gov/cwa-404/protection-wetlands-executive-order-11990>, accessed August 26, 2019.

³⁴ Federal Register. 1999. *Executive Order 13112 of February 3, 1999*. Available online at: <https://www.govinfo.gov/content/pkg/FR-1999-02-08/pdf/99-3184.pdf>, accessed August 26, 2019.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) is implemented by regulations included in the Code of Federal Regulations (40 CFR § 1500 *et seq.*), which require careful consideration of the harmful effects of federal actions or plans, including projects that receive federal funds, if they may have a significant adverse effect on the environment. NEPA mandates that all federal agencies carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA encourages the protection of all aspects of the environment and requires federal agencies to utilize a systematic, interdisciplinary approach to agency decision-making that will ensure the integrated use of natural sciences such as geology. While NEPA compliance is not required for the Plan, NEPA compliance will be required for transportation improvement projects that will be financed using federal funds. Some development projects (such as low-income housing) also use federal funds and are subject to NEPA. The regulations also require projects requiring NEPA review to seek to avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The Council on Environmental Quality (CEQ) oversees NEPA, and the US EPA carries out administrative aspects of the NEPA process. NEPA mandates that the federal government shall give appropriate consideration to potential adverse environmental impacts of their major actions, including impacts to biological resources.³⁵

3.4.2.2 State

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW pursuant to Sections 1600 through 1603 of the Code and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events.³⁶

³⁵ U.S. Environmental Protection Agency. *Summary of the National Environmental Policy Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-national-environmental-policy-act>, accessed August 26, 2019.

³⁶ California Department of Fish and Wildlife. *Lake and Streambed Alteration Program*. Available online at: <https://www.wildlife.ca.gov/Conservation/LSA>, accessed August 26, 2019.

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA)

The California ESA prohibits the take of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes.³⁷

Pursuant to Section 2081 of the Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs if:³⁸

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The permit is consistent with any regulations adopted pursuant to any recovery plan for the species.
- The applicant ensures adequate funding to implement the measures required by CDFW.

CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act

Section 2800 through 2840 of the State Fish and Game Code provides a mechanism to conserve natural communities on an ecosystem level while accommodating compatible land use. Specifically, it is used to provide comprehensive management and conservation of multiple wildlife species and the natural communities in which they occur.³⁹

³⁷ California Department of Fish and Wildlife. *California's Endangered Species Act Listing Process*. Available online at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/list_proced.html, accessed August 26, 2019.

³⁸ California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085], Section 2081*.

³⁹ California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085]*.

The Natural Community Conservation Planning Act of 1991, as amended in 2003 established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the regulation of the taking of nests and eggs, unless otherwise provided for by the State Fish and Game Code. Specifically, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or destroy the nest or eggs of any bird of prey, except as otherwise provided.^{40,41}

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species

The classification of Fully Protected was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal Endangered Species Acts. Sections 3511, 4700, 5050 and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.^{42,43,44,45}

⁴⁰ California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503.*

⁴¹ California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503.5.*

⁴² California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3511.*

⁴³ California Legislative Information. *Chapter 8. Fully Protected Mammals [4700-4700].*

⁴⁴ California Legislative Information. *Chapter 2. Fully Protected Reptiles and Amphibians [5050-5050].*

⁴⁵ California Legislative Information. *Chapter 1. Miscellaneous [5500-5523], Section 5515.*

Title 14, § 460 of the California Code of Regulations

The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including, but not limited to, desert kit fox (*Vulpes macrotis arsipus*) and red fox (*Vulpes vulpes*).⁴⁶ Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State Fish and Game Code.^{47,48}

California Porter-Cologne Water Quality Control Act (1969)

Pursuant to the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7), the State Water Resources Control Board is granted ultimate authority over water quality policy for the State of California. The nine regional boards, the RWQCBs, oversee water quality at the local and regional levels, and regulate pollutant and nuisance discharges into waters of the state. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Before allowing discharges that may affect the quality of waters of the state, a Report of Waste Discharge must be filed with the RWQCB.⁴⁹

California Wild and Scenic Rivers Act (1972)

The objective of the California Wild and Scenic Rivers Act of 1972 (Public Resources Code [PRC] § 5093.50) is the preservation of certain rivers which possess extraordinary scenic, reaction, fishery, or wildlife values. The Act provides permanent protection for some of the state's most outstanding free flowing rivers and prohibits actions such as the construction of dams or other harmful instream activities, except to serve local needs.⁵⁰

California Coastal Act (1976)

Through the California Coastal Act (PRC Division 20), the California Coastal Commission has unusually broad authority to regulate development in the Coastal Zone. A permit is required for any project that might change the intensity of land use in the Coastal Zone including projects that would require a building or grading permit from the city or county, major vegetation clearing, or subdividing. The coastal

⁴⁶ California Code of Regulations. *Chapter 5. Furbearing Mammals*.

⁴⁷ California Legislative Information. *Article 1. Authority [200-219]*.

⁴⁸ California Legislative Information. *Article 1. Trapping Provisions [4000-4012]*.

⁴⁹ California State Water Resources Control Board. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 26, 2019.

⁵⁰ Water Education Foundation. *California Wild and Scenic Rivers Act*. Available online at: <https://www.watereducation.org/aquapedia/california-wild-and-scenic-rivers-act>, accessed August 26, 2019.

zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.⁵¹

California Native Plant Protection Act (1977)

The Native Plant Protection Act (Fish and Game Code Section 1900–1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations by stating “no person will import into this State, or take, possess, or sell within this State” any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.⁵²

California Desert Native Plant Act (1981)

The main purpose of the Desert Native Plant Act (Food and Agriculture Code Division 23) is to preserve and enhance desert native plants by protecting certain species from unlawful harvesting on both public and privately owned lands. The list of desert native plants afforded protection pursuant to the Desert Native Plant Act includes species within the Mojave Desert portions of Los Angeles, San Bernardino, and Riverside Counties. The Desert Native Plant Act provides limitations that no person will harvest, transport, or possession of certain native desert plants without authorization (i.e., valid permit or wood receipt). Authorization for take of native desert plants can be obtained through the sheriff or commissioner of the county where harvesting will occur and subject to county designated fees.⁵³

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state’s biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their

⁵¹ *Public Resources Code Division 20 California Coastal Act*. 2019.

⁵² California Legislative Information. *Chapter 10. Native Plan Protection [1900-1913]*.

⁵³ California Department of Fish and Wildlife. *California Desert Native Plants Act*. Available online at: <https://www.wildlife.ca.gov/Conservation/Plants/CA-Desert-Plant-Act>, accessed August 26, 2019.

habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.⁵⁴

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands

The State Senate Concurrent Resolution No. 17, filed with the Secretary of State on September 1, 1989, states that any state agencies having land use planning duties and responsibilities shall assess the effects of their land use decisions or actions within any oak woodlands containing blue oak (*Quercus douglasii*), Engelmann oak (*Q. engelmannii*), valley oak (*Q. lobata*), or coast live oak (*Q. agrifolia*). The State Senate defines “oak woodland” as a five-acre circular area containing five or more oak trees per acre. This resolution requires that state agencies must preserve and protect native oak woodlands to the maximum extent feasible or provide for replacement plantings where blue, Engelmann, valley, or coast live oak are removed from oak woodlands.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

The SWRCB adopted procedures as an amendment to the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to establish a statewide wetland definition and procedures for discharges on April 2, 2019.⁵⁵

The procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. In accordance with EO W-59-93, the procedures ensure that the SWRCB’s regulation of dredge or fill activities will be conducted in a manner “to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values.

⁵⁴ California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>, accessed August 26, 2019.

⁵⁵ California Water Boards. *Plan and Policies*. Available online at: https://www.waterboards.ca.gov/plans_policies/, accessed August 26, 2019.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (SWG) program in 2000, recognizing the need to fund programs for the conservation of wildlife diversity.⁵⁶ Congress mandated each state and territory to develop a SWAP by 2005 that provided a comprehensive wildlife conservation strategy to continue receiving federal funds through the SWG program. California's first SWAP was completed by the California Department of Fish and Game (now the CDFW) and approved by the U.S. Fish and Wildlife Services (USFWS) in 2005. California's SWAP 2005 identified and targeted Species of Greatest Conservation Need (SGCN) and the critical habitats on which they depend. The SWG program requires SWAP updates at least every 10 years. CDFW has recently prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.⁵⁷ Currently under USFWS review for approval, the SWAP 2015 focuses on conservation of the wildlife resources of the nation's most biologically diverse state using an approach that is in harmony with a growing human population and the need for resilience in the face of a changing climate. Employing an ecosystem approach to conserve and manage diverse habitats and species, SWAP 2015 provides a blueprint for actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources.

Assembly Bill 2087

This bill establishes a pilot project for the Regional Conservation Investment Strategy (RCIS) program that encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats. No more than eight regional strategies could be approved prior to January 1, 2020, the date the program sunsets.

Senate Bill 103

This bill changes Assembly Bill 2087 by: 1) removing the January 1, 2020 "sunset" provision; and 2) allowing a RCIS to be exempt from the "cap" (i.e., the limit of eight RCISs that may be approved by CDFW) if a state water or transportation infrastructure agency requests approval of the RCIS.

3.4.2.3 Local

In addition to federal, state, and county regulations described above, general plans and municipal codes

56 U.S. Fish & Wildlife Services. Accessed 29 October 2015. State Wildlife Grant Program – Overview. Available at: <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG.htm>, accessed January 10, 2019.

57 California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians. Available at: <https://www.wildlife.ca.gov/SWAP/Final>, accessed January 10, 2019.

of counties and cities in the SCAG region may include conservation elements that identify biological resources, including mature trees and locally important species that are afforded special consideration.

County General Plans and Ordinances

Per state general plan guidelines, county's general plan is required to contain a conservation element as well as an open space element. These elements are generally where discussions regarding biological resources can be found. Each county's general plan varies in level of detail and necessary measures to preserve biological resources. The counties within the SCAG area may each have individual codes or ordinances protecting biological resources. A commonly occurring ordinance is a native tree protection or oak tree protection ordinance. These codes and ordinances generally have a limited scope, in this case the removal of specific tree species, which are afforded some level of protection.

Imperial County

The Imperial County Code of Ordinances has established two codes related to biological resources (Chapter 12.44, Wildlife Protection, and Chapter 12.48 Wild Flowers and Trees). The Conservation and Open Space Element of the Imperial County General Plan has established one goal and two policies related to biological resources.⁵⁸ The County's two codes, one goal and two supporting policies relevant to the SCAG projects provide protection to wildlife, wild flowers and trees as well as preservation of native plant communities and best restoration practices.

Los Angeles County

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 Update has established two goals and 13 policies related to biological resources. Ten of the 13 policies are relevant to the SCAG projects.⁵⁹ The two goals and eight supporting policies that apply to SCAG activities provide protection to natural habitats, special status species, sensitive plant communities, wildlife corridors, watersheds and other sensitive biological resources. They also act to discourage development in natural or biologically sensitive areas. In addition, the Los Angeles County Code of Ordinances has established an ordinance to protect native oak trees.

⁵⁸ Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element*. Pp. 47, 54. Available at: <http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf>, accessed January 10, 2019.

⁵⁹ Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element*. P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf, accessed January 10, 2019.

Los Angeles County has designated several areas containing sensitive biological resources as Significant Ecological Areas (SEAs). SEAs are areas that warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of Los Angeles County Habitat Types; or serve as linkages. Any development within SEAs is subject to the discretion and policies of the Significant Ecological Areas Technical Advisory Committee (SEATAC).

Orange County

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.⁶⁰ The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants and vegetation communities.

Riverside County

The Riverside County Code of Ordinances has established one ordinance related to biological resources (No. 559, Section 1). The Open Space and Conservation Element of the Riverside County General Plan has established two objectives and eight policies related to biological resources.⁶¹ The one ordinance, two goals, and eight supporting policies relevant to the SCAG projects provide protection to native trees, native plant communities, critical habitat, sensitive habitats, sensitive species and wildlife corridors. They also ensure continued participation and compliance with the County's Multi-Species HCP Program and the San Bernardino kangaroo rat HCP.

San Bernardino County

The San Bernardino County Development Code has established one code related to biological resources (Chapter 88.01.010(c)). The Conservation Element of the San Bernardino County General Plan has established one goal and six policies related to biological resources.⁶² The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and

⁶⁰ Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element*. P. VI-32. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed January 10, 2019.

⁶¹ Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element*. P. OS-40. Available online at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf, accessed January 10, 2019.

⁶² San Bernardino County Land Use Services. 2007. *San Bernardino County General Plan: Chapter 5: Conservation Element*. P. V-13. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed January 10, 2019.

sensitive plant communities. They also warrant coordination with the appropriate resource management agencies and interested groups to maintain the County's biological resources.

Ventura County

The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources.⁶³ The one code, one goal and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors and locally important species/communities.

City General Plan and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. The conservation element provides goals and polices related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

Regional Conservation Investment Strategies

The RCIS Program encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats.⁶⁴ The RCIS was created when the Governor signed Assembly Bill 2087 (2016) to initiate the pilot program (Program). The Program went into effect on January 1, 2017, as amended by Senate Bill 103 (2017), and is

⁶³ Ventura County Planning and Development Services. 2016. *Ventura County General Plan: Goals, Policies And Programs*. P. 16. Available at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed January 10, 2019.

⁶⁴ Energy and Environmental Consulting and California Department of Fish and Wildlife. 2019. *Regional Conservation Investment Strategies*. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=134963&inline>

administered by CDFW's Habitat Conservation Planning Branch.⁶⁵ The goal of the RCIS is to achieve regional conservation outcomes through investments in conservation and mitigation that support regional conservation priorities. Public agencies and other entities can protect natural resources in their regions, for their ecological values and for the ecosystem services they provide to their communities. This is a non-regulatory and voluntary program.

The Program consists of regional conservation assessments (RCAs), RCISs, and mitigation credit agreements (MCAs):

- RCA's are a non-regulatory and non-binding conservation assessments that provide an analysis of species, ecosystems, protected areas, and habitat linkages. This information is intended to support the development/determination of long-term conservation priorities and to support the development of RCISs.
- RCIS include conservation and habitat enhancement strategies that advance the conservation of native species, habitat. These plans also provide nonbinding and voluntary guidance for the prioritization of conservation priorities, investments in ecological resource conservation sources, or identification of locations for compensatory mitigation.
- MCAs are mitigation credit agreements developed, in coordination with CDFW, to implement the conservation or habitat enhancement actions identified in an approved RCIS. These credits may be used as compensatory mitigation for impacts under CEQA, CESA, and the Lake and Streambed Alteration Program.

In the SCAG region there are two RCIS's currently in development: the Antelope Valley RCIS in northeastern Los Angeles County and the San Bernardino County RCIS in Southwestern San Bernardino County. These two draft plans are in process but may be finalized sometime after 2020. The Antelope Valley RCIS proponent is the Desert and Mountain Conservation Authority and the San Bernardino County RCIS proponent is the San Bernardino County Transportation Authority. Although these, nor any other plans, have been finalized in the region, RCIS should be considered as part of the mitigation strategy for transportation projects in the region.

⁶⁵ California Department of Fish and Wildlife. 2019. Regional Conservation Investment Strategies Program. Available at: <https://www.wildlife.ca.gov/Conservation/Planning/Regional-Conservatio>

3.4.3 ENVIRONMENTAL IMPACTS

3.4.3.1 Thresholds of Significance

In accordance with Appendix G of the *State CEQA Guidelines*, the Plan would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

3.4.3.2 Methodology

Impacts to biological resources were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Biological resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region; and a review of related literature germane to the SCAG region.

The impact assessment for biological resources focuses on the potentially significant direct effects of the Plan on biological resources within the SCAG region. To assess potential impacts to biological resources, existing geographic information system (GIS) spatial data for natural resources, as summarized in the

existing biological resource analysis were overlain with GIS data of major transportation projects proposed in the Plan.⁶⁶ The analysis considers the 2045 Plan conditions compared to existing conditions (generally 2019). This analysis includes major highway, rail, and transit projects to identify potential impacts near biological resources in each county that have the potential to result in significant direct impact to special status species or their habitats; have the potential to result in conversion of state-designated sensitive habitats, including those habitats afforded protection pursuant to Sections 401 and 404 of the Federal Clean Water Act, and/or Section 1600 of the State Fish and Game Code; or have the potential to disrupt migratory corridors, nursery sites, or lands designated for long-term regional conservation of species.

Using GIS spatial data, potential regional-level adverse effects were identified by adding a 500-foot buffer to major transportation projects included in the Plan and overlaying project impacts within each county in the SCAG region to identify intersections between transportation projects and known locations of biological resources, including natural vegetation, wetlands and water resources, special status species and communities, and natural lands. The analysis also includes a review of adopted HCPs NCCPs and RCIPs to identify potential conflicts with their provisions. The 500-foot buffer was added to account for any potential direct or indirect impacts that may occur to biological resources during construction and operation. The methodology for determining the significance of these impacts compares the future Plan conditions to baseline conditions.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.4.3.3 Impacts and Mitigation Measures

Impact BIO-1 Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special

⁶⁶ Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would affect biological resources. Direct impacts that could occur during construction of some projects include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Direct impacts may also occur through direct habitat loss and fragmentation during construction, displacement of sensitive species due to construction noise or during operation, accidental introduction of non-native plants by construction equipment or during maintenance and general operation, introduction of new lighting sources, and dust and noise during construction and operation.

Implementation of any new transportation projects or land use strategies in or adjacent to natural habitats would also increase the risk and frequency of fires that could degrade the function and value of habitats supporting sensitive species (impacts from wildfires are further discussed in **Section 3.20, Wildfire**). Further, indirect impacts could result from general development related to growth that is expected to occur with the Plan. Indirect impacts could also occur as a result of transportation projects if suitable habitat was encroached upon to the extent that it could no longer support sensitive species. Indirect impacts may include edge effects resulting from habitat fragmentation which can alter habitat structure and composition as well as negatively impact predator-prey dynamics.

Expected significant impacts include: direct loss of natural resource lands; disturbance and removal of natural vegetation used by sensitive species; barriers to wildlife movement, habitat fragmentation, and the associated decrease in habitat quality; litter, trampling, light pollution and road noise in previously undisturbed natural areas; increased noise levels related to construction and/or increased traffic volumes; temporal loss of habitat during construction; expansion of public access into previously remote lands; displacement of riparian and wetland habitat; incursion of invasive plants and animals spreading from new transportation corridors; siltation of streams and other water bodies during construction; and the loss of open space that provides habitat for native species.

Impacts to sensitive species may be further exacerbated by the effects of climate change.⁶⁷ Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for their survival. The combination of project impacts and climate

⁶⁷ Native Plants and Climate Change. 2019. California Deptmnt of Fish and Wildlfe. Available at: <https://www.wildlife.ca.gov/Conservation/Plants/Climate>

change can further reduce available habitat, reduce movement opportunities for wildlife, provide new corridors for invasive species infestations, and increase the risk of fires in open space to the detriment of special status species.

Regional land use and transportation strategies set forth in the Plan focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The Plan recognizes that as population continues to grow, there is increasing pressure on natural lands. One of the goals of the Plan (See **Chapter 2.0, Project Description**) is to promote conservation of natural and agricultural lands and restoration of critical habitats. The land use mix for the Plan assumes that 60 percent of new housing and 73 percent of new jobs will be in Growth Priority Areas and therefore would be directed away from sensitive habitat. The Plan also aims to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG's Sustainable Communities Program supports planning in local jurisdiction to advance the regional growth vision. In addition, SCAG new regional data tools, like the Regional Data Platform and Greenprint, would help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and lands with sensitive natural resources to be preserved.

The Plan also includes urban greening strategies. Urban Greening is a multi-benefit land use strategy that improves the relationship between the built and natural environment. Greening can support reduction in greenhouse gas emissions by sequestering carbon and reduce vehicle miles traveled by making the environment more appealing for people who are bicycling and walking. Benefits within urban, suburban and rural settings include:

- Improved traffic calming and safety;
- Increased active transportation
- Cooler street surfaces and communities
- Increased trail and greenway connectivity
- Improved water quality, groundwater recharge and watershed health
- Reduced urban runoff
- Reduced energy consumption and costs
- Expanded urban forest
- Provision of wildlife habitat and increased biodiversity
- Expanded recreation opportunities and beautification.

The Plan also includes greenbelts and community separators to serve as contiguous areas that support land conservation. Creating a sustainable, “green” region requires that the built environment and natural resource areas coexist in a well-balanced land use pattern that encourages mutual co-benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools. Paired with an emphasis on compact development, Connect SoCal’s conservation strategies promote the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for greenhouse gas reduction. New housing and employment development is emphasized in Growth Priority Areas, such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration of varied land uses. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per-capita greenhouse gas emissions. In addition, natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of GHG emissions. Natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Overall, these strategies support redirecting growth away from high value habitat areas to existing urbanized areas which would support the conservation of natural habitats capable of sustaining listed and sensitive species by including land use strategies.

Across the SCAG region there are records of and/or habitat for 63 federally or state-listed wildlife species and 72 federally or state-listed plant species, 233 sensitive wildlife species, 449 rare and locally important plant species, and over 5.5 million acres of designated critical habitat for 46 federally listed species. The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these species and their habitats. For example, major transportation improvement projects in San Bernardino County are anticipated to cross known habitat for the federally threatened desert tortoise, and major transportation improvement projects in Los Angeles, Orange, Riverside, and Ventura counties are anticipated to cross critical habitat for the coastal California gnatcatcher (**Table 3.4-13, Acres of Critical Habitat For Listed Species Potentially Within 500 Feet of Connect SoCal Transportation Projects**).

**Table 3.4-13
Acres of Critical Habitat for Listed Species Potentially Affected by
Connect SoCal Major Transportation Projects**

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
Acres of Critical Habitat within 500 Feet of Major Projects						
Arroyo toad	—	744	9	—	202	—
Ash-grey paintbrush	—	—	—	—	20	—
Braunton's milk-vetch	—	—	8	—	—	10
California red-legged frog	—	—	—	—	—	52
Casey's June Beetle	—	—	—	23	—	—
Coachella Valley milk-vetch	—	—	—	342	—	—
Coastal California gnatcatcher	—	2,382	911	56	96	310
Desert tortoise	—	—	—	898	4,161	—
Least Bell's vireo	—	273	—	369	148	—
Lyon's pentachaeta	—	—	—	—	—	71
Mountain yellow-legged frog	—	—	—	—	321	—
Palos Verdes blue butterfly	—	33	—	—	—	—
Riverside fairy shrimp	—	—	6	6	—	52
San Bernardino Merriam's kangaroo rat	—	—	—	142	1,936	—
San Diego ambrosia	—	—	—	23	—	—
Santa Ana sucker	—	141	212	260	190	—
Southwestern willow flycatcher	—	226	—	—	401	309
Spreading navarretia	—	—	—	244	—	—
Steelhead	—	1	4	—	—	—
Thread-leaved brodiaea	—	—	—	49	—	—
Tidewater goby	—	17	4	—	—	22
Western snowy plover	—	44	56	—	—	17
Yellow-billed Cuckoo	254	44	56	—	—	17

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Designated critical habitat contains known suitable habitat for federally listed species and typically is an indicator of suitable habitat for state- and/or non-listed sensitive species. More than 16,000 acres of critical habitat for 23 of the 26 species covered in the SCAG region are present within 500 feet of major project areas.

Of the 72 listed plant species with records in the SCAG region, 34 species, with nearly 1,500 recorded occurrences, have CNDDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-14, Records of Listed Plant Species within 500 Feet of Connect SoCal Projects**).

Of the 63 listed wildlife species with records in the SCAG region, 41 species, with nearly 6,600 occurrences, have CNDDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-15**). In addition to these listed species, impacts to rare, locally important, and sensitive plant and wildlife species would be expected to occur throughout the SCAG region where suitable habitat is present.

**Table 3.4-14
Records of Listed Plant Species within 500 Feet of Connect SoCal Projects**

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
ash-gray paintbrush					156		156
beach spectaclepod		41					41
Big Bear Valley sandwort					78		78
bird-foot checkerbloom					83		83
Braunton's milk-vetch		9	6			2	17
California dandelion					60		60
California Orcutt grass		76		29		3	108
Coachella Valley milk-vetch				49			49
coastal dunes milk-vetch		15					15
conejo buckwheat						3	3
Conejo dudleya						3	3
Gambel's water cress		1	7		11		19
Laguna Beach dudleya			4				4
Lyon's pentachaeta		13				3	16
marsh sandwort		1		5	72		78
Munz's onion				12			12
Nevin's barberry		9			1		10
salt marsh bird's-beak		20	24	5	72		121

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
San Bernardino blue grass					40		40
San Bernardino Mountains bladderpod					89		89
San Diego ambrosia				3			3
San Diego button-celery		1					1
San Fernando Valley spineflower		34					34
San Jacinto Valley crownscale				20			20
Santa Ana River woollystar			36	5	24		65
Santa Susana tarplant		10				5	15
slender-horned spineflower		23		15	12		50
slender-petaled thelypodium					15		15
southern mountain buckwheat					119		119
spreading navarretia		1		17			18
thread-leaved brodiaea			1	9	1		11
triple-ribbed milk-vetch				28	3		31
Ventura Marsh milk-vetch		16	11			42	69
Wiggins' croton	2						2
Grand Total	2	270	89	197	836	61	1455

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-15
Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
American peregrine falcon		46	25			9	80
arroyo toad		17			23		40
bald eagle					5		5
bank swallow		60	21			10	91
Belding's savannah sparrow			64				64
California black rail	3	18	15	1	37	1	75
California least tern		6	44				50
California red-legged frog					17	5	22

3.4 Biological Resources

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Casey's June beetle				3			3
Coachella Valley fringe-toed lizard				127			127
coastal California gnatcatcher		51	87	52	19	6	215
Delhi Sands flower-loving fly				386	1722		2108
desert tortoise	1	1			10		12
El Segundo blue butterfly		6					6
Gila woodpecker	3			1			4
gilded flicker	2						2
green turtle		6	7				13
least Bell's vireo		88	112	126	34	39	399
lesser long-nosed bat					2		2
light-footed Ridgway's rail			67				67
Mohave ground squirrel		7			20		27
Mohave tui chub					13		13
Pacific pocket mouse		47	2				49
Palos Verdes blue butterfly		77					77
quino checkerspot butterfly		16	1	18	21		56
razorback sucker	1			1			2
Riverside fairy shrimp		3		3			6
San Bernardino kangaroo rat				19	22		41
Santa Ana sucker		75	7	21	2	5	110
southern mountain yellow-legged frog		7		2	16		25
southern rubber boa					2060		2060
southwestern willow flycatcher		82		2	12		96
steelhead - southern California DPS		5	115	47	16	21	204
Stephens' kangaroo rat				99			99
Swainson's hawk		30		34	44		108
tidewater goby		5	17			6	28
tricolored blackbird		15	24	8	1		48
unarmored threespine stickleback		65					65
western snowy plover		3	14			3	20
western yellow-billed cuckoo	3	17	3	6	24	10	63

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Yuma Ridgway's rail	6						6
Grand Total	19	753	625	956	4120	115	6588

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.
 California Department of Fish and Wildlife. 2019. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.
 Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

While implementation of land use and transportation strategies may guide development toward areas that are already disturbed through the emphasis on compact development and the strategies listed above, some new transportation projects are still anticipated in areas where sensitive species are located. The level of impact to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing natural, previously undisturbed vegetation are anticipated to have a greater impact on threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat than a traffic signal synchronization or lane-restriping project located in an urban environment.

This analysis of impacts of the Plan to sensitive plant and wildlife species and their habitats and designated critical habitat is at the programmatic level, and conservatively assumes that species with critical habitat and/or CNDDDB records in a given area may be present in that area. However, the CNDDDB record is also incomplete and may not show all sensitive species present in a given area and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of the Federal and State ESAs, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Impacts to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat resulting from transportation improvement projects included in the Plan would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat.

Project Level Mitigation Measures

PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.
- b) Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include:
 - i. Impact minimization strategies
 - ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts
 - iii. Use of in-kind mitigation bank credits
 - iv. Funding of research and recovery efforts
 - v. Habitat restoration
 - vi. Establishment of conservation easements
 - vii. Permanent dedication of in-kind habitat
- c) Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.
- d) Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species
- e) Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources.
- f) Retain a qualified botanist to document the presence or absence of special status plants before project implementation.

- g) Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact.
- h) Appoint a qualified biologist to monitor implementation of mitigation measures.
- i) Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.
- j) Develop an invasive species control plan associated with project construction
- k) If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife
- l) Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance.
- m) Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on sensitive species could be significant and unavoidable even with implementation of mitigation.

Impact BIO-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Land use and transportation strategies in the Plan seek to minimize the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Some jurisdictions in the region have taken steps toward planning comprehensively for conserving natural lands and farmlands, while also meeting demands for growth. Proposed natural lands conservation strategies described in the Plan are built upon the conservation framework and complements an infill-based approach. While implementation of land use strategies may guide development projects toward areas that are already developed, some projects are still anticipated in areas where riparian habitats or other sensitive natural communities are located.

The level of impacts to riparian habitats and sensitive natural communities as a result of the Plan will differ on a project-by-project basis. For example, projects that have the potential to cross waterways or require conversion of natural open space to infrastructure, such as transit or rail projects, highway segment projects, land use development in open space areas, or have the potential to convert state-designated habitats including riparian habitats, would have the potential to have significant impacts on sensitive plant communities and riparian habitats. As described above, the Plan includes greenbelts and community separators to support land conservation and allow the built environment and natural resource areas to coexist. Transportation projects that are contained within the alignments of existing transportation corridors, such as bike lane projects and traffic demand management measures, as well as land use development within existing urbanized areas would generally not be expected to have significant impacts on sensitive plant communities and riparian habitats.

Of the nearly 23 million acres of open space in the SCAG region, 318,000 acres are currently identified by the CNDDDB as containing state-sensitive plant communities, including 190,700 acres of riparian habitats. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW. It is important to note that mapping of sensitive habitats and sensitive natural communities within the region is incomplete and the likelihood of additional state-sensitive plant communities and riparian habitat to exist within the six-county region is high. Therefore, due to large-scale ground disturbance, including grade separation

projects, mixed flow lane projects, and rail projects, and large residential subdivisions within the SCAG region, the Plan may result in significant impacts to these riparian habitats and sensitive plant communities.

It is also estimated that the Plan will result in the direct consumption of 41,546 acres of greenfield. Natural open space areas have a high potential to contain sensitive plant communities and riparian habitats, and projects constructed in these areas would require individual field analysis at the project-level to determine the level of impacts.

Impacts to CNDDDB documented sensitive plant communities and CDFW documented sensitive natural communities and riparian habitats within 500 feet of major transportation projects included in the Plan would occur within each county in the SCAG region (**Table 3.4-16, Acres of Sensitive and Riparian Habitats within 500 Feet of Connect SoCal Major Transportation Projects**). It is anticipated that impacts to sensitive and riparian habitats would occur in areas beyond those identified by the CNDDDB and CDFW. Of the more than 80,000 linear miles of blueline features in the SCAG region, 4,466 miles have the potential to be adversely affected within 500 feet of major transportation projects included in the Plan (**Table 3.4-17, Blueline Streams and Rivers within 500 Feet of Connect SoCal Major Transportation Projects**). These blueline features have the potential to contain riparian habitat.

Impacts associated with the conversion of sensitive and riparian habitats would include direct loss and fragmentation of sensitive communities and riparian habitats as projects are developed, temporal loss of habitat in temporary work areas, alteration of hydrology supporting these habitats, and the possible introduction of non-native plants that would degrade existing communities during construction, operation, and maintenance. Further, indirect impacts resulting from the development of transportation projects could include growth induced development of associated infrastructure to support population growth within surrounding areas which may impact sensitive plant communities and riparian habitats through the disturbance and removal of vegetation, alterations to supporting watersheds or changes (addition or removal) of up-stream water sources.

**Table 3.4-16
Acres of Sensitive and Riparian Habitats within 500 Feet of
Connect SoCal Major Transportation Projects**

Habitat Type	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
California Walnut Woodland		431					431
Desert Fan Palm Oasis Woodland				148	704		851
Mesquite Bosque				130			130
Open Engelmann Oak Woodland		308					308
Pebble Plains					111		111
Riversidian Alluvial Fan Sage Scrub		418			1475		1893
Sonoran Cottonwood Willow Riparian Forest	73						73
Southern California Arroyo Chub/Santa Ana Sucker Stream		32	379	158	13		582
Southern California Coastal Lagoon		8					8
Southern California Steelhead Stream		3				115	118
Southern California Threespine Stickleback Stream		515					515
Southern Coast Live Oak Riparian Forest		338	46			44	428
Southern Coastal Bluff Scrub		65					65
Southern Coastal Salt Marsh		48	242				290
Southern Cottonwood Willow Riparian Forest		551	333	487	46		1417
Southern Dune Scrub		407	51				459
Southern Foredunes			178				178
Southern Mixed Riparian Forest					158		158
Southern Riparian Forest					18		18
Southern Riparian Scrub		1271				184	1456
Southern Sycamore Alder Riparian Woodland		159	119	230	98	113	718
Southern Willow Scrub		98	90			162	350
Valley Oak Woodland		142				35	176
Walnut Forest		13					13
Grand Total	73	4808	1438	1153	2623	653	10747

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnndb/maps-and-data#43018410-cnndb-quickview-tool>.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-17
Blueline Streams and Rivers within 500 Feet of
Connect SoCal Major Transportation Projects

County	Miles of Blueline Streams/Rivers within 500 Feet of Major Transportation Projects
Imperial	158
Los Angeles	3399
Orange	223
Riverside	314
San Bernardino	274
Ventura	99
Grand Total	4466

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

U.S. Geological Survey. National Hydrography Dataset. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products>.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

This analysis of impacts of the Plan to sensitive plant communities and riparian habitats is at the programmatic level, and conservatively assumes that all natural open space areas have the potential to contain sensitive plant communities and all waterways have the potential to contain riparian habitat. However, the existing data record is also incomplete and much more sensitive habitat is likely present in the region and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the Plan would result in significant impacts to state-designated riparian and other sensitive plant communities, including areas subject to Section 1600 of the State Fish and Game Code, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2**.

Project Level Mitigation Measures

See **PMM BIO-1**.

PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA.
- b) Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.
- c) Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code.
- d) Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.
- e) Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the MBTA during the breeding season.

- f) Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities.
- g) Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible.
- h) Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required.
- i) Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities.
- j) Appoint a qualified wetland biologist to monitor implementation of mitigation measures.
- k) Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased.
- l) When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects.
- m) Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant to an adopted regional conservation plan.
- n) Install fencing and/or mark sensitive habitat to be avoided during construction activities.
- o) Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist.

- p) Revegetate with appropriate native vegetation following the completion of construction activities, as identified by the qualified wetland biologist.
- q) Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).
- r) Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on riparian habitats could be significant and unavoidable even with implementation of mitigation.

Impact BIO-3 Have a substantial adverse effect on State or Federally Protected Wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on wetlands. Transportation and land use strategies in the Plan (e.g., compact growth, TSM, etc.) seek to minimize impacts to federally protected wetlands and Waters of the United States as defined by Section 404 of the Clean Water Act by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Impacts would occur where dredge or fill would be required within wetlands or other waters of the United States, particularly where projects need to cross drainages where a clearspan to avoid impacts is infeasible. There is potential for comparable significant impacts in areas subject to Section 10 of the Rivers and Harbors Act. The level of impacts to federally protected wetlands and Waters of the United States would

vary on a project-by-project basis. For example, grade separation projects or transit/rail projects located in areas containing coastal habitats or close to the terminal locations of major rivers or stream systems, where the width of the stream is often largest would be anticipated to have a greater impact on federally protected wetlands and waters of the United States than those located in the upstream portion of the watershed, near the headwaters where drainages are typically more numerous and narrower.

More than 800,000 acres of federally protected wetlands and waterways potentially subject to the jurisdiction of the USACE were identified by the National Wetlands Inventory to be present in the SCAG region. In addition, the SCAG region includes more than 80,000 linear miles of USGS blue-line drainages that may contain waters of the United States.

While land use development projects may be focused in areas that are already developed as reflected under the Plan, some new projects are still anticipated in areas where wetlands are located.

Potential impacts to wetlands and waters of the United States within 500 feet of major transportation projects included in the Plan exist within all six counties in the SCAG region, ranging from 700 acres potentially affected in Imperial County to 5,000 acres potentially affected in Los Angeles County (**Table 3.4-18, Acres of Federally Protected Wetlands and Waterways within 500 Feet of Connect SoCal Major Transportation Projects**).

Table 3.4-18
Acres of Federally Protected Wetlands and Waterways within
500 Feet of Connect SoCal Major Transportation Projects.

Habitat	Acres
Imperial	694
Freshwater Emergent Wetland	26
Freshwater Forested/Shrub Wetland	142
Freshwater Pond	110
Lake	55
Riverine	361
Los Angeles	5014
Estuarine and Marine Deepwater	458
Estuarine and Marine Wetland	213
Freshwater Emergent Wetland	235
Freshwater Forested/Shrub Wetland	715
Freshwater Pond	531
Lake	203

Habitat	Acres
Riverine	2657
Orange	1935
Estuarine and Marine Deepwater	253
Estuarine and Marine Wetland	214
Freshwater Emergent Wetland	95
Freshwater Forested/Shrub Wetland	331
Freshwater Pond	179
Lake	325
Riverine	539
Riverside	1465
Freshwater Emergent Wetland	140
Freshwater Forested/Shrub Wetland	344
Freshwater Pond	153
Lake	47
Riverine	781
San Bernardino	1906
Freshwater Emergent Wetland	103
Freshwater Forested/Shrub Wetland	70
Freshwater Pond	231
Lake	606
Riverine	896
Ventura	865
Estuarine and Marine Deepwater	9
Estuarine and Marine Wetland	44
Freshwater Emergent Wetland	72
Freshwater Forested/Shrub Wetland	295
Freshwater Pond	80
Riverine	365
Grand Total	11,879

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019. U.S. Fish and Wildlife Service. *National Wetlands Inventory*. Available online at: <https://www.fws.gov/wetlands/data/Mapper.html>. Southern California Association of Governments GIS Data. 2019. *Major Highway Project PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Additionally, by evaluating a 500 foot buffer around major transportation projects in the Plan, it was determined that major transportation projects included in Connect SoCal are anticipated to intersect more than 75 linear miles of navigable waterways including waterways that are protected by Section 10 of the

Rivers and Harbors Appropriation Act (Table 3.4-19, Federally Protected Waterways Under Rivers and Harbors Act within 500 Feet of Connect SoCal Major Transportation Projects).

Table 3.4-19
Federally Protected Waterways under Rivers and Harbors Act
within 500 Feet of Connect SoCal Major Transportation Projects

Major River in the SCAG Region	Linear Miles Potentially Affected within 500 Feet of Major Transportation Projects
Los Angeles	59.0
Los Angeles River	32.3
San Gabriel River	12.3
Santa Clara River	14.4
Orange	10.5
San Gabriel River	0.0
Santa Ana River	10.5
Riverside	2.8
Santa Ana River	2.8
San Bernardino	2.2
Santa Ana River	2.2
Ventura	0.7
Santa Clara River	0.7
Grand Total	75.3

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Potential impacts include disruption of streams and wetlands as new projects are developed, and dredge and fill activities associated with development, operation, and maintenance. All projects within the SCAG region would be subject to the provisions of Section 404 of the Federal CWA. Dredge or fill in waters of the United States is subject to the regulatory authority of the USACE pursuant to Section 404 of the Federal CWA.

Therefore, the Plan would result in significant impacts to federally protected wetlands and Waters of the United States, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2**.

Project Level Mitigation Measures

See **PMM BIO-1** and **PMM BIO-2**.

PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands. Such measures may include the following or other comparable measures identified by the Lead Agency.

- a) Require project design to avoid federally protected aquatic resources consistent with the provisions of Sections 404 and 401 of the CWA, wherever practicable and feasible.
- b) Where the lead agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters, such as those considered Waters Of the State of California under the *State Wetland Definition and Procedures for Dischargers of Dredged or Fill Material to Waters of the State*, not protected under Section 404 or 401 of the CWA, seek comparable coverage for these wetlands and waters in consultation with the SWRCB, applicable RWQCB, and CDFW.
- c) Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federal and state protected aquatic resource to support issuance of a permit under Section 404 of the CWA as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE's Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and

area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation:

- Permittee-responsible mitigation
- Contribution of in-kind in-lieu fees
- Use of in-kind mitigation bank credits
- Where avoidance is determined to be infeasible and

d) Where avoidance is determined to be infeasible and proposed projects' impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities:

- Avoidance
- Impact Minimization
- On-site alternatives
- Off-site alternatives

e) Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether aquatic resources will be affected and, if necessary, perform formal wetland delineation

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level

mitigation measures, this PEIR finds impacts on wetlands could be significant and unavoidable even with implementation of mitigation..

Impact BIO-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would interfere substantially with the movement of native resident or migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites directly, as a result of habitat conversion to accommodate transportation projects and growth under the Plan, or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and adjacent projects that may result from improved transportation access. The Plan would result in the direct consumption of 41,546 greenfield acres and the degradation of approximately 15,800 acres of bird habitat.⁶⁸ Indicators of wildlife movement are present across the SCAG region. More than 18 million acres of natural open space in the region can be characterized as having the potential to be suitable for, or aid in, wildlife movement. Furthermore, many bird species breed and are expected to nest within the entire SCAG region, including urban areas. Within that open space is nearly 12 million acres of habitat blocks that support native wildlife biodiversity and a significant wildlife connectivity network. These large, intact blocks are connected by more than 4.5 million acres of corridors that are classified as highly beneficial to wildlife movement.

Potential impacts exist for 16,167 acres of intact natural landscape blocks and 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects included in the Plan (**Table 3.4-20, Areas Used for Wildlife Movement Areas Potentially Affected by Connect SoCal Major Transportation Projects by County**).

Projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, as well as large-scale land use development could result in significant impacts to the wildlife movement corridors and native wildlife nursery sites. Some projects may also have the potential to cross areas that currently support medium to high permeability to wildlife movement in Ventura, Los Angeles, San Bernardino, Riverside and Imperial Counties.

⁶⁸ SCAG Scenario Planning Model Output, October 2019

Table 3.4-20
Areas Used for Wildlife Movement Potentially Affected by
Connect SoCal Major Transportation Projects by County

	Acres of Natural Landscape Blocks within 500 feet of Major Transportation Projects	Acres of Potential Landscape Block Major Riparian Connectors within 500 feet of Major Transportation Projects	Grand Total
Imperial	654	666	1,321
Los Angeles	3,914	12,165	16,079
Orange	1,287	2,403	3,689
Riverside	2,862	2,210	5,072
San Bernardino	7,202	898	8,100
Ventura	248	374	622
Grand Total	16,167	18,716	34,883

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fish and Wildlife. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>.

Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: <https://map.dfg.ca.gov/metadata/ds0621.html>

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

These impacts include habitat removal and fragmentation that would disrupt wildlife corridor functionality as new projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery and nesting sites. Construction, operation and maintenance of transportation and development projects across or adjacent to existing wildlife corridors could introduce new barriers to wildlife movement or increase the impact of barriers to wildlife movement by widening the barriers and thus narrowing the corridor. The linear nature of transportation projects increases the potential extent and significance of this effect. Additionally, an increase in wildlife-roadway conflicts as a result of development could increase wildlife injury and fatalities.

One of the goals of the Plan is to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG is also developing a Regional Greenprint, a strategic web-based conservation tool to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and to conserve natural and farmlands, which has a focus on maintaining habitat connectivity. In addition, the Plan's natural lands strategies will improve natural corridor connectivity by encouraging and facilitating research, programs and policies that

identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries.

Projects will be encouraged to create wildlife crossings and corridors in cases where transportation or other related projects may interrupt the flow of wildlife or otherwise cause habitat fragmentation. An example project in the SCAG region, scheduled for ground-breaking in the early 2020's, is the Liberty Canyon Wildlife Crossing proposed for the 101 Freeway in the City of Agoura Hills. This project is the first of its kind in California. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure to facilitate mountain lion and other wildlife movement across currently fragmented habitat regions.⁶⁹

Indirect impacts to migratory corridors and nursery sites would occur when the functionality of a corridor is degraded after construction of the transportation project. The development of transportation projects through migratory corridors and/or construction on existing transportation facilities that serve as barriers through wildlife corridors would result in an increase in human disturbances locally including an increase in traffic, noise, and lighting. New projects through or adjacent to open space or natural areas could also increase the risk and frequency of wildland fires that would further degrade ecosystem functions that support diverse wildlife populations and corridor function. These projects may also impact pollinator populations or behavior that could further impact local plant community stability and function and degrade existing habitat or the permeability of corridors. Further, indirect impacts resulting from demographic growth associated with these projects may impact wildlife corridors and nursery sites.

Potential impacts from transportation projects and the related changes to land use and development that these projects facilitate may be heightened due to climate change. The changing climate is altering local ecosystems, causing increased stress on wildlife from changes in plant communities and their structure, decreasing pollinator populations, altering precipitation patterns, and many other factors that increase the risk of extinction for wildlife^{70,71}. In addition, the changing climate often results in conditions favorable to invasive species that further reduces the ecosystem functions necessary to support wildlife populations. Transportation corridors can act as conduits for invasive species and their adjacency to vehicle traffic can increase wildfire risk, further degrading communities and reducing wildlife corridor value. Therefore, the conversion of existing native nursery habitat and potential wildlife movement areas

⁶⁹ National Wildlife Federation/SaveLACougars. 2019. Available online at: <https://savelacougars.org/> accessed November 22, 2019.

⁷⁰ Pollinator Conservation Strategy, Yolo Natural Heritage Program (HCP/NCCP).2009. The Xerces Society for Invertebrate Conservation. Portland Or/Sacramento CA.

⁷¹ Warren, R., Price, J., Fischlin, A. et al. Climatic Change (2011) 106: 141. <https://doi.org/10.1007/s10584-010-9923-5>.

resulting from the Plan would result in a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See SMM BIO-1 and SMM BIO-2, SMM AG-1 through SMM AG-4, SMM GHG-1, SMM WF-1.

SMM BIO-3: SCAG shall encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.

Project Level Mitigation Measures

See PMM BIO-1 through PMM BIO-3.

PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.
- b) Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans.
- c) Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.

- d) Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.
- e) Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.
- f) Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season.
- g) When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors.
- h) Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site.
- i) Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor.
- j) Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation.
- k) Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).
- l) When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches.
- m) Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities.

- n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.
- o) Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in **MM-BIO-1(b)**, where applicable:
- Wildlife movement buffer zones
 - Corridor realignment
 - Appropriately spaced breaks in center barriers
 - Stream rerouting
 - Culverts
 - Creation of artificial movement corridors such as freeway under- or overpasses
 - Other comparable measures
- p) Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level

mitigation measures, this PEIR finds impacts on wildlife movement could be significant and unavoidable even with implementation of mitigation..

Impact BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects as well as land use and transportation strategies identified in the Plan have the potential to conflict with local policies and ordinances related to biological resources. Conflicts may arise when projects included in the Plan, or growth that occurs as a result of the Plan, involve the disturbance or removal of trees or other vegetation protected under city or county ordinances.

Strategies in the Plan focus growth in urban areas such as HQTAs, suburban town centers, and walkable communities. This type of compact development consumes less land and, therefore, results in less habitat loss and fewer conflicts with local policies or ordinances protecting biological resources. Nonetheless, impacts are expected to occur because many natural land areas near the edge of existing urbanized areas are vulnerable to development pressure, and transportation projects aimed to improve accessibility might require expansion in existing urbanized areas, or facilitate growth into urbanizing areas. Many urban areas have local ordinances to protect trees, as such the potential for conflicts with tree preservation policies exists not just in undeveloped area but can often occur in urban areas. As infill development increases, there may be pressure to develop on sites with protected trees. Similarly, as density increases, there may be pressure to develop more of a site, whereas previously a development project maybe could have been planned around protected trees. Although many tree preservation ordinances require planting of new trees (i.e., at one to one or greater ratios) to replace the removed trees, smaller infill sites do not always have sufficient space to accommodate more or larger trees. As such, impacts could occur.

Except for Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants. Impacts within 500 feet of major transportation projects included in the Plan occur in unincorporated areas of all six counties that would be subject to the jurisdiction of the individual county general plans and ordinances (**Table 3.4-21, Unincorporated Areas Subject to County General Plans Potentially Affected by the Connect SoCal Major Transportation Projects**). Any conversion of land from open space or removal of protected trees or vegetation in these areas has the potential to conflict with local plans and ordinances. Applicable policies to protect biological resources are articulated in general plans for each county as well as the 191 cities. Many of the general plans in the SCAG region have additional provisions for protection of mature native and landscape trees and requirements for revegetation of landscaped areas using native plants. Each project would be subject to, and have the

potential to conflict with, the policies and ordinances applicable to the local government with jurisdiction over the project location. As discussed in **Section 3.2, Agriculture and Forestry**, major transportation projects included in the Plan would occur within, and may result in impacts to, the Angeles National Forest and the San Bernardino National Forest and may conflict with the provisions of the Angeles Forest Plan and the San Bernardino National Forest Land Management Plan, respectively.

Table 3.4-21
Unincorporated Areas Subject to County General Plans Potentially Affected by the
Connect SoCal Major Transportation Projects.

County	Acres within Unincorporated County Boundaries Subject to County General Plans, Policies, and Ordinances
Imperial	598
Los Angeles	10,578
Orange	217
Riverside	6,909
San Bernardino	4,018
Ventura	377
Total	22,697

Source:

LAFCO City Boundaries, 2016 and County Boundaries 2016

Note: These data were reviewed by local jurisdictions and reflect each jurisdiction's input

The level of impact related to conflicts with local policies and ordinances protecting biological resources will vary on a project-by-project basis. For example, grade separation projects, rail projects or land use development located in areas with a high density of native trees protected by a local tree protection ordinance would be anticipated to have greater conflicts with local policies and ordinances protecting biological resources than a traffic signal synchronization or lane-restriping project located in an urban environment.

The Plan would have the potential to result in significant impacts related to conflicts with local policies and ordinances protecting biological resources, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See SMM BIO-1, SMM BIO-2 and SMM BIO-3.

Project Level Mitigation Measures

See PMM BIO-1 through PMM BIO-4.

PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources. Such measures may include the following or other comparable measures identified by the Lead Agency.

- a) Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources.
- b) Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by an International Society of Arboriculture (ISA) certified arborist.
- c) If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species, as directed by a qualified biologist.
- d) Appoint an ISA certified arborist to monitor construction activities that may occur in areas with trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," to facilitate avoidance of resources not permitted for impact. Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed.

- e) Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree.
- f) Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree.
- g) Thoroughly spray the leaves of protected trees with water periodically during construction to prevent buildup of dust and other pollution that would inhibit leaf transpiration, as directed by the certified arborist.
- h) If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, as determined by the certified arborist, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. Design projects to avoid conflicts with local policies and ordinances protecting biological resources
- i) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such

as to support issuance of a tree removal permit. The consideration of conservation measures may include:

- Avoidance strategies
- Contribution of in-lieu fees
- Planting of replacement trees
- Re-landscaping areas with native vegetation post-construction
- Other comparable measures developed in consultation with local agency and certified arborist.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the number of transportation projects and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts arising out of conflicts with local policies and ordinances protecting biological resources could be significant and unavoidable even with implementation of mitigation..

Impact BIO-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a potential to result in conflicts with the provisions of applicable adopted HCPs and NCCPs because some planned major transportation projects and development projects may occur in or adjacent to lands protected under these plans, constituting a significant impact. Regional land use strategies identified in the Plan seek to reduce conflicts with the provisions of adopted HCPs and NCCPs by focusing new growth in existing urban areas, suburban town centers, and urban areas which are conducive to more compact, densified, infill and mixed-used development. Additionally,

land use strategies aim to preserve natural habitat areas and support redirecting growth away from high value habitat areas to these urbanized areas.

Major transportation projects included in the Plan have the potential to impact land within 13 HCPs/NCCPs in the SCAG region for which GIS data was publically available (**Table 3.4-22, HCP's and NCCP's Potentially Affected by the Connect SoCal Major Transportation Projects**).

Table 3.4-22
HCP's and NCCP's Potentially Affected by the
Connect SoCal Major Transportation Projects

HCP/NCCP	Imperial	Los Angeles	Orange	Riverside	San Bernardino
City of Rancho Palos Verdes		X			
Coachella Valley Multiple Species				X	
County of Orange Central/Coastal Subregion			X		
Desert Renewable Energy Conservation Plan	X	X		X	X
Imperial Irrigation District	X				
Lower Colorado River Multi-Species Conservation Program				X	
Orange County Southern Subregion			X		
Orange County Transportation Authority		X	X		
San Diego County Water Authority			X	X	
San Diego Gas and Electric Subregional			X		
Town of Apple Valley Multi-Species Conservation Plan					X
West Mojave Coordinated Management Plan		X			X
Western Riverside County Multiple Species				X	X

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2017. *Summary of Natural Community Conservation Plans (NCCP)*. October. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>.

US Fish and Wildlife Service. 2017. *ECOS Environmental Conservation Online System*. Available online at <https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP>.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Implementation of Plan projects within areas of adopted HCPs and NCCPs may result in significant impacts. Potential impacts include direct impacts to lands protected under these HCPs and NCCPs as

well as potential direct and indirect impacts to plant and animal species and their habitats and connectivity of these habitats afforded protection under these HCPs and NCCPs through conversion of habitat, introduction of invasive species, habitat fragmentation, increased noise, introduction of lighting and noise during construction and operation. At least four HCPs and NCCPs located within the SCAG region contain known provisions for the construction of transportation projects as part of plan-covered activities, acknowledging that such projects normally constitute significant impacts, and specifying the requirement for mitigation measures. These HCP/NCCPs (Coachella Valley MSHCP, Orange County Transportation Authority NCCP/HCP, West Mojave HCP, and Western Riverside County MSHCP) include considerations for the development of transportation projects as part of plan-covered activities and would be significantly impacted by transportation projects included in the Plan. Therefore, implementation of the Plan could result in significant impacts related to conflicts with the provisions of four adopted HCPs and NCCPs applicable to the SCAG region, and may conflict with other plans, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1, SMM BIO-2 and SMM BIO-3.

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-5**.

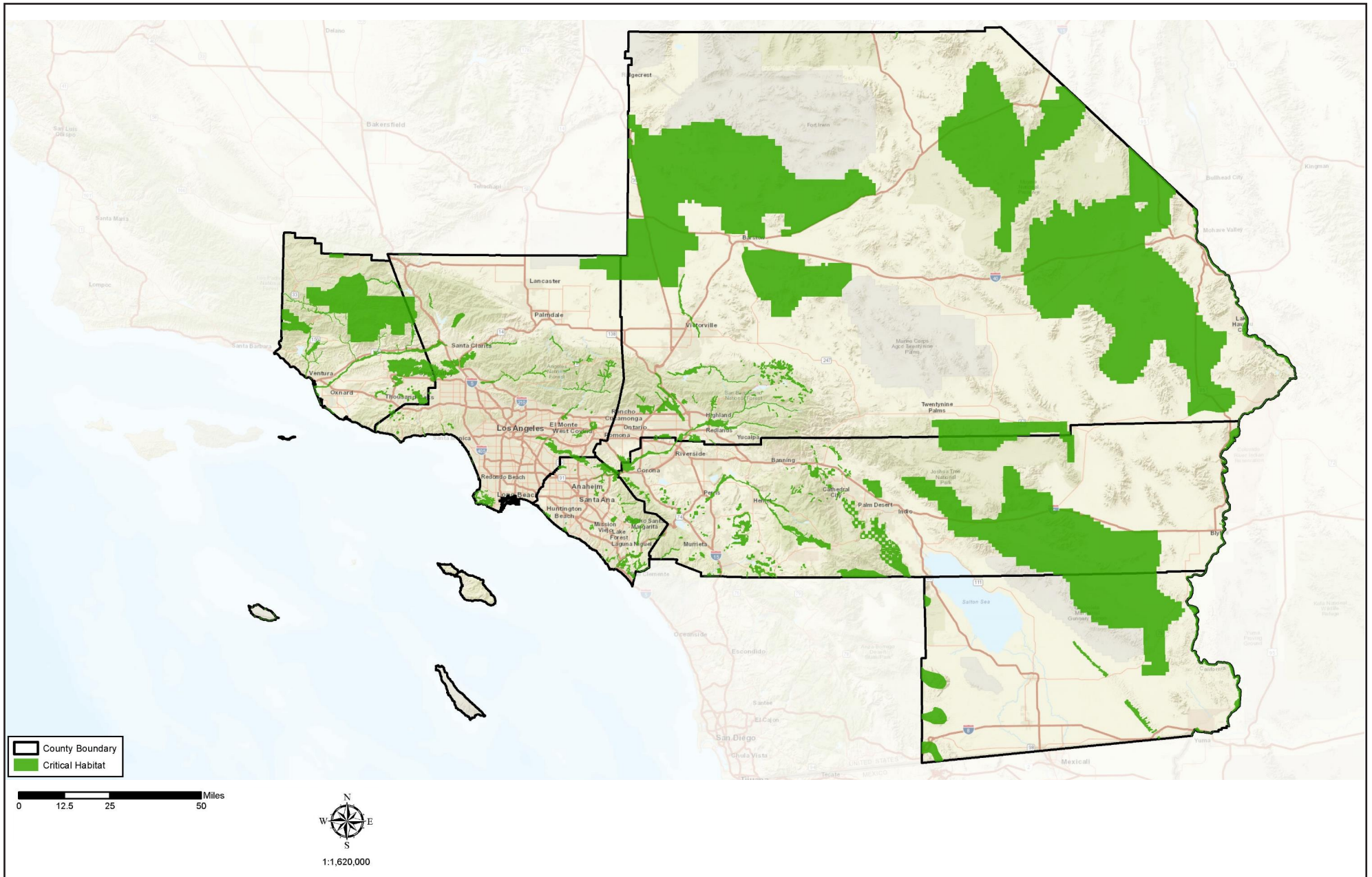
PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs.
- b) Wherever practicable and feasible, the project shall be designed to avoid lands preserved under the conditions of an HCP or NCCP.
- c) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California ESA, shall be

developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in SMM-BIO-2, where applicable.

Level of Significance after Mitigation

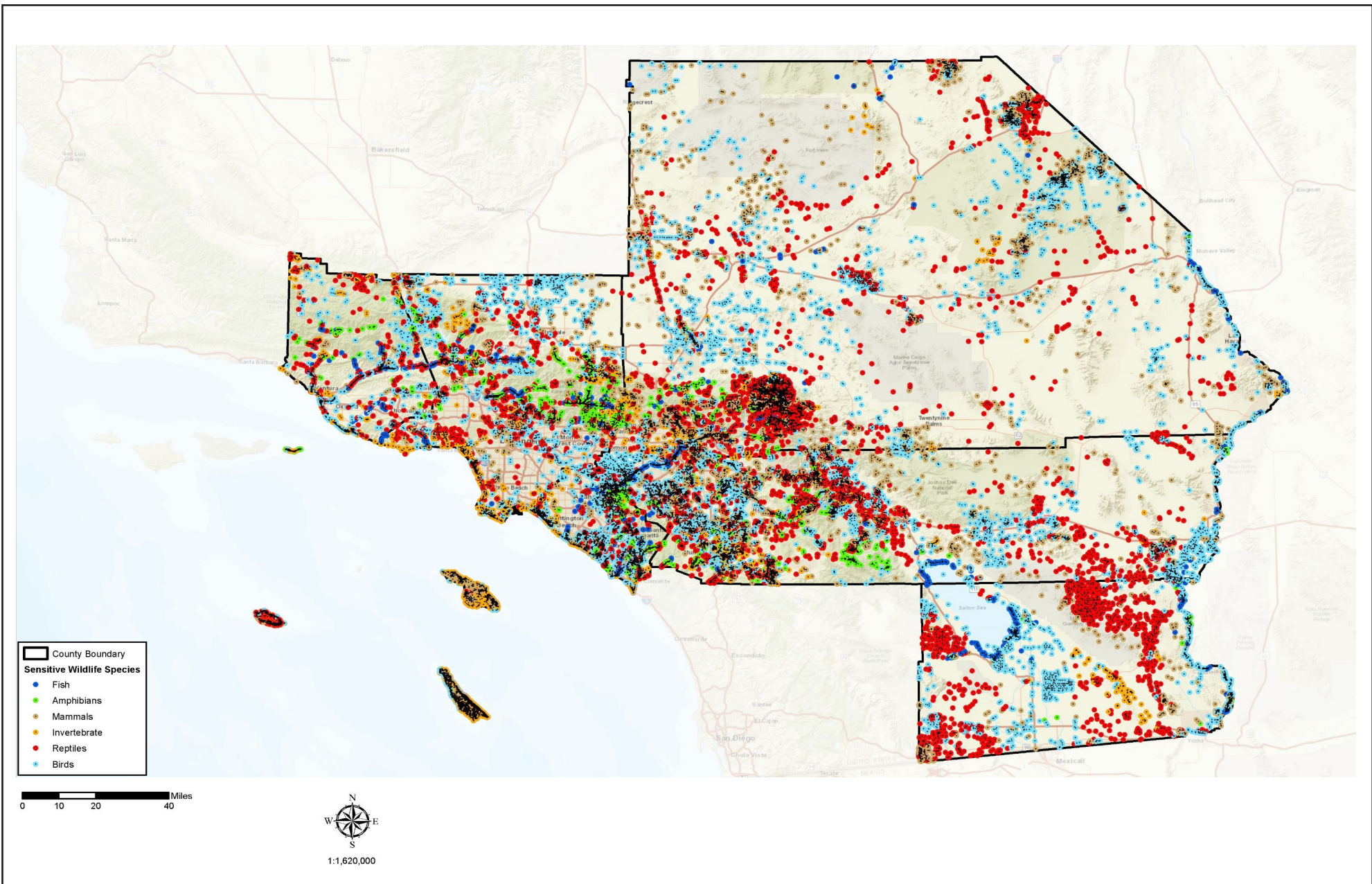
As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on HCPs and NCCPs could be significant and unavoidable even with implementation of mitigation..



SOURCE: US Fish and Wildlife Service, SWCA, 2019

FIGURE 3.4-1

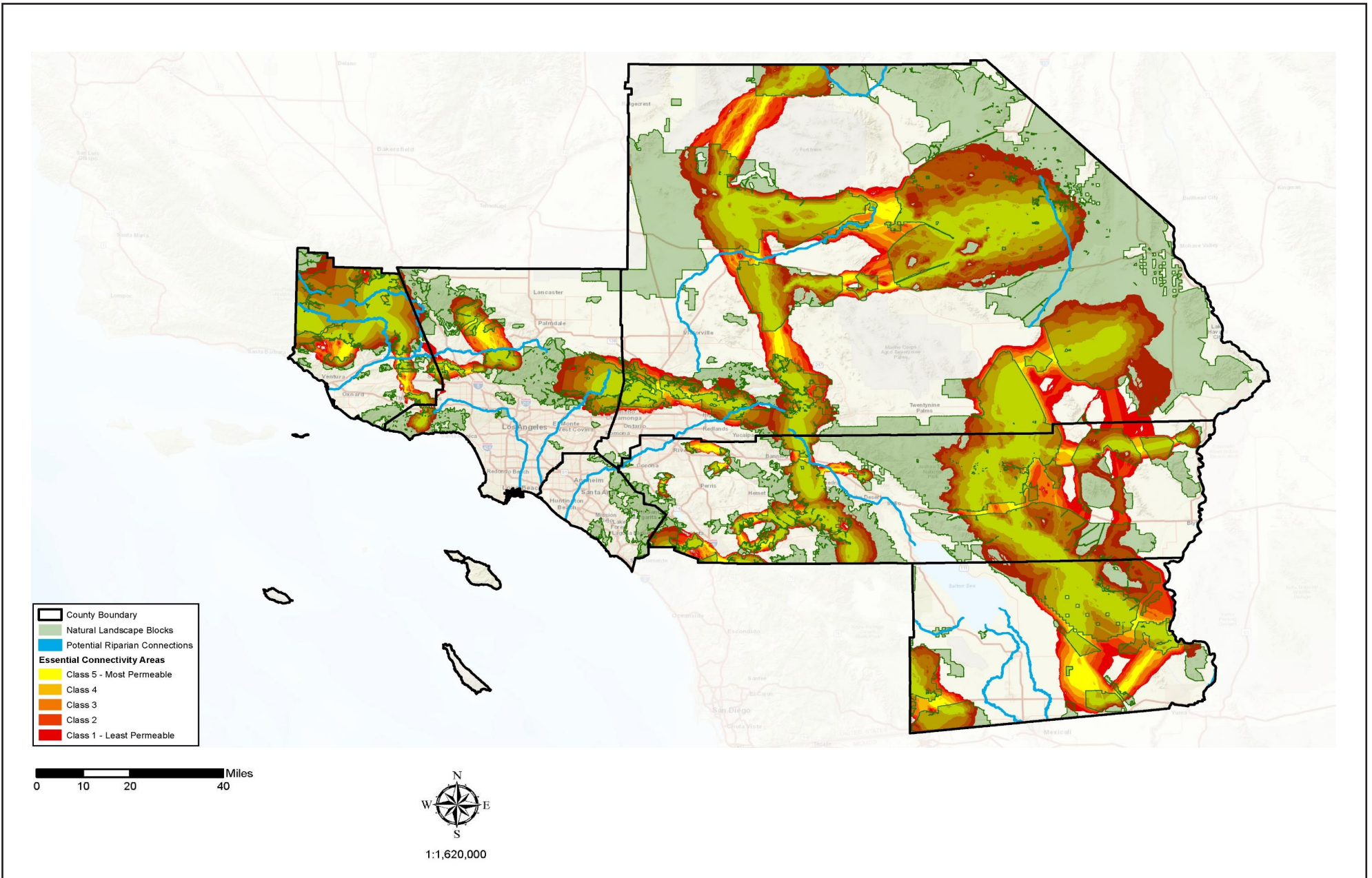
Designated Critical Habitat in the SCAG Region



SOURCE: SWCA, ESRI, 2018

FIGURE 3.4-2

Sensitive Wildlife Species Reported in the SCAG Region



SOURCE: SWCA, ESRI, 2018

FIGURE 3.4-2

Essential Habitat Connectivity within the SCAG Region

3.4.4 SOURCES

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- California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085]*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=FGC&division=3.&title=&part=&chapter=1.5.&article=3, accessed August 26, 2019.
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