APPENDIX 3.4

Biological Resources Technical Report

DRAFT Biological Resources Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for The Southern California Association of Governments

JULY 2019

PREPARED FOR

Impact Sciences

PREPARED BY

SWCA Environmental Consultants

DRAFT BIOLOGICAL RESOURCES REPORT FOR THE 2020–2045 REGIONAL TRANSPORTATION PLAN AND SUSTAINABLE COMMUNITIES STRATEGY FOR THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT

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INTRODUCTION

The Southern California Association of Governments (SCAG) is the lead California Environmental Quality Act (CEQA) agency for the proposed 2020–2045 Regional Transportation Plan and Sustainable Communities Strategy (2020 RTP/SCS or, the Plan). As the lead agency, SCAG has committed to prepare a Program Environmental Impact Report (PEIR) for the 2020 RTP/SCS.

SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC.) 134(d)(1). The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. The 2020 RTP/SCS is a regional planning document updated every four years for the SCAG region. The 2020 RTP/SCS will outline the region's goals and policies for meeting current and future mobility needs and provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The 2020 RTP/SCS will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement the 2020 RTP/SCS. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies. SCAG has already initiated the development of the 2020 RTP/SCS and is working closely with county transportation commission (CTCs) to compile a regional transportation project list that will build upon the list identified in the 2016 RTP/SCS [1].

This report describes the current biological resources within the region and evaluates the significance of the changes in biological resources that would result from implementation of the proposed 2020 RTP/SCS. In addition, this report provides a framework of mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies to reduce identified impacts. Information sources utilized in this discussion include the U.S. Fish and Wildlife Service (USFWS), the California Native Plant Society (CNPS), the California Natural Diversity Database (CNDDB), and the California Department of Fish and Wildlife (CDFW).

REGULATORY FRAMEWORK

Federal

Federal Endangered Species Act

The USFWS, under the auspices of the Federal Endangered Species Act of 1973 (ESA), 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

1 Southern California Association of Governments. 2016. 2016-2040 RTP/SCS. April. Available at: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf, accessed July 12, 2019.

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 ESA.

Candidate species do not have the full protection of the ESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

The USFWS administers the ESA, 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 U.S. Army Corps of Engineers (USACE) must be obtained for construction of a structure in or over, or alteration (e.g., dredge or fill) of, any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 USC 401, 403, 407). Authorization is also needed for structures built near 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. Geographic jurisdiction includes those waters subject to ebb and flow of the tide.

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.

Fish and Wildlife Coordination Act (FWCA), 1956

The objective of the FWCA of 1956 (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.

Section 404 of the Federal Clean Water Act (CWA)

Section 404 of the federal CWA (33 USC 1251), which is administered by the USACE, regulates the discharge of dredged and fill material into waters of the United States. USACE 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, USACE 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. USACE also has regional conditions which may apply to these nationwide permits depending upon the resources present, e.g., anadromous fish use. USACE 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.

Section 401 of the Federal CWA (1972)

Section 401 of the federal CWA (33 USC 1251) is administered by the State Water Resources Control Board (SWRCB) 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. The SWRCB has conditionally certified 14 nationwide permits and denied 38 without prejudice. This certification ensures that the proposed activity does not violate federal water quality standards. The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin
- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), otarids (seals and sea lions), phocids (true seals), odobenids (walruses; *Odobenus rosmarus*), sirenians (manatees and dugongs), sea otters (*Enhydra lutra*), and polar bears (*Ursus maritimus*) 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, sea otters, and polar bears.

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 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 USACE, using the U.S. Environmental Protection Agency's (EPA) environmental criteria and subject to EPA's concurrence.

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:

- 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 (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), their nests, eggs, and parts.[2] 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.

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.[3] 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. The procedures require the determination of whether or not the proposed project will be in or will affect wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. 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.

2 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.

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

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.

National Environmental Policy Act

NEPA is implemented by regulations (40 Code of Federal Regulations [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 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.

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 California Fish and Game Code (FGC) and require preparation of a Streambed Alteration Agreement. Pursuant to 14 CCR § 1.72, 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. This includes watercourses having a surface or subsurface flow that supports or has supported

riparian vegetation." 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.

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.

Pursuant to Section 2081 of the California FGC, 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:

- 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.

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.

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 ESA. 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.

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*). Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State FGC.

California Porter-Cologne Water Quality Control Act (1969, amended 2019)

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 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.

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, together with their immediate environments, which possess extraordinary scenic, recreational, 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.

California Coastal Act (1976, amended 2019)

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 zone generally extends three miles seaward and about 1,000 yards inland. However, 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.

California Native Plant Protection Act (1977)

The California 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.

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 be in 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 is subject to county-designated fees.

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991 (NCCP), 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 plan 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 NCCP plans are consistent with the state ESA.

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. 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.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (STWG) program in 2000, recognizing the need to fund programs for the conservation of wildlife diversity.4 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 STWG program. California's first SWAP was completed by the California Department of Fish and Game (now the CDFW) and approved by the 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 STWG program requires SWAP updates at least every 10 years. CDFW has recently prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.5 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 both 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.

Local

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

4 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.

5 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.

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.6 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.7 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.

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.8 The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants, and vegetation communities.

6 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.

7 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.

8 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.

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.9 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 Habitat Conservation Program (MSHCP) and the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) Habitat Conservation Plan (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.10 The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and 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.[11] 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

9 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.

10 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.

11 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.

cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

EXISTING CONDITIONS

Environmental Setting

The SCAG region encompasses an area of varied topography and diverse ecosystems. An ecosystem is the dynamic complex of plant and animal communities and their associated non-living environment. 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 -266 to more than 11,500 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 five United States Department of Agriculture (USDA) regionally defined Ecological Sections.12 These include:

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 immediately 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 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.

12 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 July 8, 2019.

Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for biological resources are provided.

Critical Habitat: A designated area defined by the United States Fish and Wildlife Services (USFWS) as being important for the survival of species listed pursuant to the federal 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 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 USACE and the 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."13

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 EIR, 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 : 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.

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 those that are federally or state-listed as endangered, threatened, or candidate species pursuant to the federal ESA, the California ESA, or other regulations enforced by a federal or

13 U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS.

state agency; or those species considered by the scientific community to be rare. For the purposes of this analysis, special status species include listed, sensitive, and locally important species.

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 statethreatened 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 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 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.

State Wetlands: Defined by the SWRCB as an 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 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.14

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

14 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.

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 ESA; (2) species considered rare or endangered under the CEQA; (3) plants considered "Rare, Threatened, or Endangered in California" by CNPS (Lists 1B and 2); (4) animal listed as "species of special concern" by the state; and (5) animals fully protected in California FGC.

Critical habitat is a specific geographic area(s) 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 ESA 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 may be needed for its recovery.

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS Endangered and Threatened species list. The background search was regional in scope and focused on the documented occurrences within the boundaries of the SCAG region. There are 63 federally or state-listed wildlife and 72 listed plant species with historical records located within the six counties of the SCAG region as well as over 5.5 million acres of designated critical habitat (Table 1).

Table 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 1). Critical habitat for 46 of these ferally listed species has been established within the SCAG region (Table 2). 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 species, the most of any SCAG counties. Over 86% (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 (*Polioptila californica californica*) has the largest critical habitat in Orange County (with 19,000 acres, or nearly 67% of the designated lands in the County). California Condor (*Gymnogyps californianus*) has nearly 180,000 acres designated in Ventra County, or almost 50% 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.

Figure 1. Designated Critical Habitat in the SCAG Region.

Table 2. Critical Habitat in the SCAG Region

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Imperial				
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	12,104.9	Plants
Xyrauchen texanus	Razorback sucker	FE, SE	3,643.6	Fish
Gopherus agassizii	Desert tortoise	FT, ST,	340,495.5	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE,	16,925.3	Birds
Ovis canadensis nelsoni	Peninsular bighorn sheep	FE, ST,	49,896.2	Mammals
Total			423,065.4	
Los Angeles				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	1,205.7	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	205.6	Plants
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	176.2	Plants
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	1,085.3	Plants
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	FE	90.6	Insects
Catostomus santaanae	Santa Ana sucker	FT	2,233.5	Fish
Eucyclogobius newberryi	Tidewater goby	FE	73.4	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	12.4	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	4,800.3	Amphibians
Rana draytonii	California red-legged frog	FT	7,715.3	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	4,482.5	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	36,488.0	Reptiles
Charadrius nivosus nivosus	Western snowy plover	FT	100.4	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	3,408.9	Birds
Gymnogyps californianus	California condor	FE, SE	7,747.7	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	36,128.0	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	2,620.5	Birds
Total			108,574.3	
Orange				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	832.4	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	1,038.6	Plants
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	202.3	Crustaceans
Streptocephalus woottoni	Riverside fairy shrimp	FE	718.6	Crustaceans

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Catostomus santaanae	Santa Ana sucker	FT	653.2	Fish
Eucyclogobius newberryi	Tidewater goby	FE	10.5	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	6.7	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	5,035.7	Amphibians
Charadrius nivosus nivosus	Western snowy plover	FT	513.3	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	18,821.9	Birds
Total			27,833.2	
Riverside				
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1	98.4	Plants
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	306.8	Plants
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE, CRPR: 1B.2	9,670.5	Plants
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	5.3	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	1,493.8	Plants
Ceanothus ophiochilus	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	197.3	Plants
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	6,342.3	Plants
Streptocephalus woottoni	Riverside fairy shrimp	FE	864.7	Crustaceans
Dinacoma caseyi	Casey's June Beetle	FE	594.0	Insects
Euphydryas editha quino (=E. e. wrighti)	Quino checkerspot butterfly	FE	22,023.4	Insects
Catostomus santaanae	Santa Ana sucker	FT	4,108.9	Fish
Xyrauchen texanus	Razorback sucker	FE, SE	3,759.0	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	8,517.3	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	1,512.3	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	748,600.6	Reptiles
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	11,789.0	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE	16,296.3	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	1,471.1	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	21,779.2	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	7,845.4	Birds
Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat	FE	5,565.2	Mammals
Ovis canadensis nelsoni	Peninsular bighorn sheep	FE, ST	65,948.3	Mammals
Total			938,789.0	
San Bernardino				

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Arenaria ursina	Bear Valley sandwort	FT, CRPR: 1B.2	1,411.2	Plants
Astragalus albens	Cushenbury milk-vetch	FE, CRPR: 1B.1	4,366.3	Plants
Astragalus jaegerianus	Lane Mountain milk-vetch	FE, CRPR: 1B.1	14,166.8	Plants
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, CRPR: 1B.1	61.3	Plants
Castilleja cinerea	Ash-grey paintbrush	FT, CRPR: 1B.2	1,766.5	Plants
Erigeron parishii	Parish's daisy	FT, CRPR: 1B.1	4,420.7	Plants
Eriogonum kennedyi var. austromontanum	Southern mountain wild-buckwheat	FT, CRPR: 1B.2	902.7	Plants
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	FE, CRPR: 1B.1	6,953.4	Plants
Lesquerella kingii ssp. bernardina	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	1,025.5	Plants
Poa atropurpurea	San Bernardino bluegrass	FE, CRPR: 1B.2	1,414.5	Plants
Taraxacum californicum	California taraxacum	FE, CRPR: 1B.1	1,954.9	Plants
Catostomus santaanae	Santa Ana sucker	FT	2,335.4	Fish
Gila elegans	Bonytail chub	FE, SE	10,113.1	Fish
Xyrauchen texanus	Razorback sucker	FE, SE	1,763.5	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	7,377.7	Amphibians
Rana muscosa	Mountain yellow-legged frog	FE, SE	2,288.2	Amphibians
Gopherus agassizii	Desert tortoise	FT, ST	3,559,794.7	Reptiles
Coccyzus americanus	Yellow-billed Cuckoo	FT, SE	5,793.3	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	9,005.0	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	7,274.6	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	2,047.8	Birds
Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat	FE	27,725.3	Mammals
Total			3,673,962.6	
Ventura				
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	1,259.9	Plants
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh Milk-vetch	FE, SE, CRPR: 1B.1	219.6	Plants
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	2,309.5	Plants
Branchinecta conservatio	Conservancy fairy shrimp	FE	46,425.9	Crustaceans
Branchinecta lynchi	Vernal pool fairy shrimp	FT	46,425.9	Crustaceans
Streptocephalus woottoni	Riverside fairy shrimp	FE	466.4	Crustaceans
Eucyclogobius newberryi	Tidewater goby	FE	363.7	Fish
Oncorhynchus (=Salmo) mykiss	Steelhead	FE	273.3	Fish
Anaxyrus californicus	Arroyo (=arroyo southwestern) toad	FE	5,073.0	Amphibians
Rana draytonii	California red-legged frog	FT	25,563.8	Amphibians

Scientific Name	Common Name	Status	Acres	TAXONGROUP
Charadrius nivosus nivosus	Western snowy plover	FT	847.8	Birds
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	11,024.0	Birds
Gymnogyps californianus	California condor	FE, SE	179,810.6	Birds
Polioptila californica californica	Coastal California gnatcatcher	FT	36,887.3	Birds
Vireo bellii pusillus	Least Bell's vireo	FE, SE	1,788.6	Birds
Total			358,739.3	
Total All Counties			5,530,963.7	

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 federally and state-listed species that could potentially occur in the SCAG region (Table 3; Figure 2) Literature and database records reviewed were:

- CNDDB (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.

There are 135 listed species recorded in the region. 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 70. The smallest County, Orange, had the lowest number of species with 34.

Figure 2. State and Federally Listed Species in the SCAG Region

Table 3. Federally and State Listed Species Reported in the SCAG Region.

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
Acanthoscyphus parishii var. goodmanian	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
Acmispon argophyllus var. adsurgens	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
Acmispon dendroideus var. traskiae	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
Allium munzii	Munz's onion	FE, ST, CRPR: 1B.1	RIV	98
Ambrosia pumila	San Diego ambrosia	FE, CRPR: 1B.1	RIV	307
Arenaria paludicola	Marsh sandwort	FE, SE ,CRPR: 1B.1	LA, RIV, SB	ND
Astragalus albens	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
Astragalus brauntonii	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR	3298
Astragalus jaegerianus	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	14167
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	9671
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	12105
Astragalus pyncnostachyus var. lanosissimus	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
Astragalus tener var. titi	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND
Astragalus traskiae	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
Astragalus tricarinatus	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
Atriplex coronata var. notatior	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND
Berberis nevinii	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	5.3
Berberis pinnata ssp. insularis	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
Boechera hoffmannii	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
Brodiaea filifolia	Thread-leaved brodiaea		LA, OR, RIV, SB	2799
Castilleja cinerea	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	1767
Castilleja gleasoni	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
Castilleja grisea	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
Ceanothus ophiochilus	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
Cercocarpus traskiae	Catalina Island mountain-mohagany	FE, SE, CRPR: 1B.1	LA	ND
Chloropyron maritimum ssp. Maritimum	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	FPT, SE, CRPR: 1B.1	LA, OR, VEN	ND
Crocanthemum greenei	Island rush-rose	FT, CRPR: 1B.2	LA	ND
Croton wigginsii	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Deinandra minthornii	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
Deinandra mohavensis	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
Delphinium hesperium ssp. Cuyamacae	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
Delphinium variegatum ssp. Kinkiense	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
Dithyrea maritima	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
Dodecahema leptoceras	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
Dudleya cymosa ssp. Agourensis	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Marcescens	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
Dudleya cymosa ssp. Ovatifolia	Santa Monica dudleya	FT, CRPR: 1B.1	LA	ND
Dudleya parva	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
Dudleya stolonifera	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
Dudleya verityi	Verity''s dudleya	FT, CRPR: 1B.1	VEN	ND
Eremalche parryi ssp. Kernensis	Kern mallow	FE, CRPR: 1B.22	VEN	ND
Eremogone ursina	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	1411
Eriastrum densifolium ssp. Sanctorum	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
Erigeron parishii	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
Eriogonum crocatum	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
Eriogonum grande var. timorum	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
Eriogonum kennedyi var. austromontanum	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB	ND
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
Eriogonum thornei	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
Eryngium aristulatum var. parishii	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND
Galium angustifolium ssp. Borregoense	Borrego bedstraw	SR, CRPR: 1B.3	IMP	ND
Galium catalinense ssp. Acrispum	San Clemente Island bedstraw	SE, CRPR: 1B.3	LA	ND
Helianthus niveus ssp. Tephrodes	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
Ivesia callida	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
Lithophragma maximum	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
Malacothamnus clementinus	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
Malacothrix squalida	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
Nasturtium gambelii	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
Navarretia fossalis	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	6,519

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Orcuttia californica	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN, OR	ND
Packera ganderi	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
Pentachaeta lyonii	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
Physaria kingii ssp. Bernardina	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,026
Poa atropurpurea	San Bernardino blue grass	FE, CRPR: 1B.2	SB	1,415
Sibara filifolia	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND
Sidalcea pedata	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
Taraxacum californicum	California dandelion	FE, CRPR: 1B.1	SB	1,955
Thelypodium stenopetalum	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
Verbesina dissita	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
Branchinecta conservation	Conservancy fairy shrimp	FE	VEN	46,430
Branchinecta lynchi	Vernal pool fairy shrimp	FT	LA, RIV	46,430
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	RIV, OR	200
Streptocephalus woottoni	Riverside fairy shrimp	FE	LA, OR, RIV	2,050
Insects				
Dinacoma caseyi	Casey's June beetle	FE	RIV	594
Euphilotes battoides allyni	El Segundo blue butterfly	FE	LA	
Euphydryas editha quino	Quino checkerspot butterfly	FE	SB, LA, RIV, OR	22,023
Euproserpinus euterpe	Kern primrose sphinx moth	FT	VEN	ND
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	FE	LA	91
Rhaphiomidas terminatus abdominalis	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				
Catostomus santaanae	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
Cyprinodon macularius	Desert pupfish	FE, SE	IMP, RIV	ND
Eucyclogobius newberryi	Tidewater goby	FE	LA, OR, VEN	448
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
Gila elegans	Bonytail	FE, SE	IMP, SB	10,113
Oncorhynchus mykiss irideus	Southern steelhead – southern California DPS	FE	LA, OC, VEN, RIV	292
Ptychocheilus lucius	Colorado pikeminnow	FE,SE	IMP, SB	ND
Siphateles bicolor mohavensis	Mohave tui chub	FE,SE	SB, LA	ND
Xyrauchen texanus	Razorback sucker	FE,SE	IMP, RIV, SB	9,166

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Amphibians				
Anaxyrus californicus	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
Batrachoseps major aridus	Desert slender salamander	FE, SE	RIV	ND
Rana boylii	Foothill yellow-legged frog	SCT	VEN, LA, SB	
Rana draytonii	California red-legged frog	FT	LA, RIV, SB, VEN	33,279
Rana muscosa	Southern mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
Charina umbratica	Southern rubber boa	ST	VEN, RIV, SB	ND
Chelonia mydas	Green turtle	FT	LA, OR	ND
Coleonyx switaki	Barefoot gecko	ST	IMP	ND
Gambelia sila	Blunt-nosed leopard lizard	FE, SE	VEN	ND
Gopherus agassizii	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
Birds				
Agelaius tricolor	Tricolored blackbird	ST	LA, OR, RIV, SB, VEN	ND
Artemisiospiza belli clementeae	San Clemente sage sparrow	FT	LA	ND
Buteo swainsoni	Swainson's hawk	ST	LA, OR, RIV, SB	ND
Charadrius alexandrinus nivosus	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN, OR	39,015
Colaptes chrysoides	Gilded flicker	SE	IMP, RIV, SB	ND
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
Gymnogyps californianus	California condor	FE, SE	VEN, LA	187,558
Haliaeetus leucocephalus	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND
Lanius ludovicianus mearnsi	San Clemente loggerhead shrike	FE	LA	ND
Laterallus jamaicensis coturniculus	California black rail	ST	IMP, LA, OR, RIV, SB, VEN	ND
Melanerpes uropygialis	Gila woodpecker	SE	IMP, RIV, SB	ND
Micrathene whitneyi	Elf owl	SE	IMP, RIV, SB	ND
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE	LA, OR, VEN	ND
Polioptila californica californica	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	120,891
Rallus obsoletus levipes	Light-footed Ridegway's clapper rail	FE, SE	OR, VEN	ND
Rallus obsoletus yumanensis	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND

Scientific Name	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Riparia riparia	Bank swallow	ST	LA, OR, VEN	ND
Sterna antillarum browni	California least tern	FE, SE	LA, OR, VEN	ND
Synthliboramphus scrippsi	Scripps's murrelet	FC, ST	LA	ND
Vireo bellii arizonae	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
Vireo bellii pusillus	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
Ammospermophilus nelsoni	Nelson's antelope squirrel	ST	LA, VEN	ND
Arctocephalus townsendi	Guadalupe fur-seal	FT, ST	VEN	ND
Canis lupus	Gray wolf	FE, SE	SB	ND
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
Dipodomys stephensi	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
Enhydra lutris nereis	Southern sea otter	FT	VEN	ND
Ovis canadensis nelson pop. 2	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	115,845
Perognathus longimembris pacificus	Pacific pocket mouse	FE	LA, OR	ND
Urocyon littoralis catalinae	Santa Catalina Island fox	FT, ST	LA	ND
Urocyon littoralis clementae	San Clemente Island fox	ST	LA	ND
Urocyon littoralis dickeyi	San Nicolas Island fox	ST	VEN	ND
Xerospermophilus mohavensis	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 = Fedreal 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 CNDDB was performed to develop a list of sensitive wildlife species recognized by the CDFW as California SSC, or species that are tracked by the CNDDB 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 4; Figure 3).15 Of these sensitive wildlife species, Riverside and San Bernardino Counties had the highest diversity of species observed (both with over 21% of the total recorded for the SCAG region), followed closely by Los Angeles County (with over 20% of the wildlife recorded), and then Imperial, Orange, and Ventura Counties (with a range of 12–13% of the recorded observations).

15 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. Available online at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 9, 2019.

Figure 3. Sensitive Wildlife Species Reported in the SCAG Region

Table 4. Sensitive Wildlife Species Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
Assiminea infima	Badwater snail	CSA	SB
Eremarionta immaculata	white desertsnail	CSA	RIV
Eremarionta morongoana	Morongo (=Colorado) desertsnail	CSA	RIV, SB
Eremarionta rowelli bakerensis	Baker's desertsnail	CSA	SB
Eremarionta rowelli mccoiana	California Mccoy snail	CSA	RIV
Haplotrema catalinense	Santa Catalina lancetooth	CSA	LA
Helminthoglypta ayresiana sanctaecrucis	Ayer's snail	CSA	VEN
Helminthoglypta mohaveana	Victorville shoulderband	CSA	SB
Helminthoglypta taylori	Westfork shoulderband	CSA	SB
Helminthoglypta traskii traskii	Trask shoulderband	CSA	VEN
Micrarionta feralis	San Nicolas islandsnail	CSA	VEN
Micrarionta gabbi	San Clemente islandsnail	CSA	LA
Micrarionta opuntia	Pricklypear islandsnail	CSA	VEN
Pristiloma shepardae	Shepard's snail	CSA	LA
Radiocentrum avalonense	Catalina mountainsnail	CSA	LA
Sterkia clementina	San Clemente Island blunt-top snail	CSA	LA, VEN
Tryonia imitator	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
Xerarionta intercisa	Horseshoe snail	CSA	LA
Xerarionta redimita	Wreathed cactussnail	CSA	LA
Arachnids			
Calileptoneta oasa	Andreas Canyon leptonetid spider	CSA	RIV
Socalchemmis gertschi	Gertsch's socalchemmis spider	CSA	LA
Socalchemmis icenoglei	Icenogle's socalchemmis spider	CSA	RIV
Texella kokoweef	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
Aglaothorax longipennis	Santa Monica shieldback katydid	CSA	LA
Ammopelmatus kelsoensis	Kelso jerusalem cricket	CSA	SB
Anomala carlsoni	Carlson's dune beetle	CSA	IMP
Anomala hardyorum	Hardy's dune beetle	CSA	IMP

Scientific Name	Common Name	Status	Counties Reported
Belostoma saratogae	Saratoga Springs belostoman bug	CSA	SB
Bombus caliginosus	obscure bumble bee	CSA	RIV, SB
Bombus crotchii	Crotch bumble bee	CSA	IMP, LA, OR, RIV, SB, VEN
Bombus morrisoni	Morrison bumble bee	CSA	LA, SB
Bombus occidentalis	western bumble bee	CSA	IMP, SB
Brennania belkini	Belkin's dune tabanid fly	CSA	LA
Callophrys mossii hidakupa	San Gabriel Mountains elfin butterfly	CSA	LA, SB
Carolella busckana	Busck's gallmoth	CSA	LA, RIV, SB
Ceratochrysis bradleyi	Bradley's cuckoo wasp	CSA	RIV
Ceratochrysis longimala	Desert cuckoo wasp	CSA	RIV, VEN
Cicindela gabbii	western tidal-flat tiger beetle	CSA	LA, OR
Cicindela hirticollis gravida	sandy beach tiger beetle	CSA	LA, OR, VEN
Cicindela latesignata latesignata	western beach tiger beetle	CSA	LA, OR
Cicindela senilis frosti	senile tiger beetle	CSA	LA, OR, RIV, VEN
Cicindela tranquebarica viridissima	greenest tiger beetle	CSA	RIV
Coelus globosus	globose dune beetle	CSA	LA, OR, VEN
Danaus plexippus pop. 1	monarch - California overwintering population	CSA	LA, OR, VEN
Diplectrona californica	California diplectronan caddisfly	CSA	LA, SB
Euchloe hyantis andrewsi	Andrew's marble butterfly	CSA	SB
Eucosma hennei	Henne's eucosman moth	CSA	LA
Glaresis arenata	Kelso Dunes scarab glaresis beetle	CSA	SB
Halictus harmonius	haromonius halictid bee	CSA	RIV, SB
Hedychridium argenteum	Riverside cuckoo wasp	CSA	RIV
Hydroporus simplex	simple hydroporus diving beetle	CSA	SB
Lepismadora algodones	Algodones sand jewel beetle	CSA	IMP
Macrobaenetes kelsoensis	Kelso giant sand treader cricket	CSA	SB
Macrobaenetes valgum	Coachella giant sand treader cricket	CSA	RIV
Melitta californica	California mellitid bee	CSA	IMP, RIV
Miloderes nelsoni	Nelson's miloderes weevil	CSA	SB
Minymischa ventura	Ventura cuckoo wasp	CSA	VEN
Oliarces clara	cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
Onychobaris langei	Lange's El Segundo Dune weevil	CSA	LA

Scientific Name	Common Name	Status	Counties Reported
Panoquina errans	wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
Paranomada californica	California cuckoo bee	CSA	SB
Parnopes borregoensis	Borrego parnopes cuckoo wasp	CSA	SB
Pelocoris shoshone	Amargosa naucorid bug	CSA	SB
Plebejus saepiolus aureolus	San Gabriel Mountains blue butterfly	CSA	LA, SB
Plebulina emigdionis	San Emigdio blue butterfly	CSA	LA, SB
Polyphylla erratica	Death Valley June beetle	CSA	SB
Pseudocotalpa andrewsi	Andrew's dune scarab beetle	CSA	IMP
Psychomastax deserticola	desert monkey grasshopper	CSA	SB
Rhaphiomidas terminatus terminatus	El Segundo flower-loving fly	CSA	LA
Rhopalolemma robertsi	Roberts' rhopalolemma bee	CSA	RIV, SB
Stenopelmatus cahuilaensis	Coachella Valley jerusalem cricket	CSA	RIV
Trigonoscuta brunnotesselata	brown tassel trigonoscuta weevil	CSA	SB
Trigonoscuta dorothea dorothea	Dorothy's El Segundo Dune weevil	CSA	LA, OR
Trimerotropis occidentiloides	Santa Monica grasshopper	CSA	LA, VEN
Euproserpinus euterpe	Kern primrose sphinx moth	CSA	VEN
Fish			
Catostomus latipinnis	flannelmouth sucker	CSA	SB
Cyprinodon nevadensis amargosae	Amargosa pupfish	SSC	SB
Cyprinodon nevadensis nevadensis	Saratoga Springs pupfish	SSC	SB
Gila orcuttii	arroyo chub	SSC	LA, OR, RIV, SB, VEN
Rhinichthys osculus ssp. 1	Amargosa Canyon speckled dace	SSC	SB
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	SSC	LA, OR, RIV, SB
Amphibians			
Rana boylii	foothill yellow-legged frog	SSC	LA, SB, VEN
Batrachoseps gabrieli	San Gabriel slender salamander	CSA	LA, SB
Batrachoseps pacificus	Channel Islands slender salamander	CSA	VEN
Ensatina eschscholtzii croceater	yellow-blotched salamander	CSA	LA
Ensatina eschscholtzii klauberi	large-blotched salamander	CSA	LA, RIV, SB
Incilius alvarius	Sonoran desert toad	SSC	IMP, SB
Lithobates pipiens	northern leopard frog	SSC	IMP, OR, RIV
Lithobates yavapaiensis	lowland leopard frog	SSC	IMP, RIV
Scaphiopus couchii	Couch's spadefoot	SSC	IMP, RIV

Scientific Name	Common Name	Status		Counties Reported
Spea hammondii	western spadefoot		SSC	LA, OR, RIV, SB, VEN
Taricha torosa	Coast Range newt		SSC	LA, OR, RIV, VEN, SB
Reptiles				
Anniella pulchra	northern California legless lizard		SSC	LA, VEN
Anniella sp.	California legless lizard		SSC	LA, VEN
Anniella stebbinsi	southern California legless lizard		SSC	LA, OR, RIV, SB, VEN
Arizona elegans occidentalis	California glossy snake		SSC	IMP, LA, OR, RIV, SB, VEN
Aspidoscelis hyperythra	orange-throated whiptail		CSA	OR, RIV, SB
Aspidoscelis tigris stejnegeri	coastal whiptail		SSC	LA, OR, RIV, SB, VEN
Coleonyx variegatus abbotti	San Diego banded gecko		SSC	RIV, SB
Crotalus ruber	red-diamond rattlesnake		SSC	IMP, LA, OR, RIV, SB
Diadophis punctatus modestus	San Bernardino ringneck snake		CSA	LA, RIV, SB, VEN
Diadophis punctatus regalis	regal ringneck snake		SSC	SB
Emys marmorata	western pond turtle		SSC	LA, OR, RIV, SB, VEN
Heloderma suspectum cinctum	banded Gila monster		SSC	IMP, RIV, SB
Kinosternon sonoriense	Sonoran mud turtle	SSC		IMP, RIV
Lampropeltis zonata (parvirubra)	California mountain kingsnake (San Bernardino population)	CSA		LA, RIV, SB
Lampropeltis zonata (pulchra)	California mountain kingsnake (San Diego population)	CSA		LA, OR
Phrynosoma blainvillii	coast horned lizard	SSC		LA, OR, RIV, SB, VEN
Phrynosoma mcallii	flat-tailed horned lizard	SSC		IMP, RIV
Plestiodon skiltonianus interparietalis	Coronado skink	CSA		RIV
Salvadora hexalepis virgultea	coast patch-nosed snake	SSC		OR, RIV, SB, VEN
Thamnophis hammondii	two-striped gartersnake	SSC		LA, OR, RIV, SB, VEN
Thamnophis sirtalis pop. 1	south coast gartersnake	SSC		VEN
Uma notata	Colorado Desert fringe-toed lizard	SSC		IMP
Uma scoparia	Mojave fringe-toed lizard	SSC		RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Birds			
Accipiter cooperii	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	CSA	LA, OR, RIV, SB, VEN
Ammodramus savannarum	grasshopper sparrow	SSC	LA, OR
Aquila chrysaetos	golden eagle	CFP	IMP, LA, OR, RIV, SB, VEN
Ardea alba	great egret	CSA	IMP, RIV
Ardea herodias	great blue heron	CSA	IMP, OR, RIV
Artemisiospiza belli belli	Bell's sage sparrow	CSA	LA, RIV, SB, VEN
Asio flammeus	short-eared owl	SSC	IMP, LA
Asio otus	long-eared owl	SSC	OR, RIV, SB
Athene cunicularia	burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
Baeolophus inornatus	oak titmouse	CSA	SB
Buteo regalis	ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC	LA, OR, RIV
Cardinalis cardinalis	northern cardinal	CSA	RIV, SB
Charadrius montanus	mountain plover	SSC	IMP, LA, RIV, SB
Circus hudsonius	northern harrier	SSC	OR, RIV
Coturnicops noveboracensis	yellow rail	SSC	LA, OR, RIV, SB
Cypseloides niger	black swift	SSC	LA, RIV, SB
Dendragapus fuliginosus howardi	Mount Pinos sooty grouse	SSC	VEN
Egretta thula	snowy egret	CSA	RIV
Elanus leucurus	white-tailed kite	CFP	LA, OR, RIV, SB, VEN
Eremophila alpestris actia	California horned lark	CSA	LA, OR, RIV, SB, VEN
Falco columbarius	merlin	CSA	IMP, LA, RIV, SB
Falco mexicanus	prairie falcon	CSA	IMP, LA, RIV, SB, VEN
Falco peregrinus anatum	American peregrine falcon	CFP	LA, OR, VEN
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC	LA, OR, RIV
Gelochelidon nilotica	gull-billed tern	SSC	IMP, RIV
Hydroprogne caspia	Caspian tern	CSA	IMP
Icteria virens	yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
Ixobrychus exilis	least bittern	SSC	IMP, RIV

Scientific Name	Common Name	Status	Counties Reported
Junco hyemalis caniceps	gray-headed junco	CSA	IMP, RIV, SB
Lanius ludovicianus	loggerhead shrike	SSC	IMP, LA, RIV, SB
Larus californicus	California gull	CSA	IMP
Melospiza melodia graminea	Channel Island song sparrow	SSC	LA
Myiarchus tyrannulus	brown-crested flycatcher	CSA	IMP, RIV, SB
Nycticorax nycticorax	black-crowned night heron	CSA	RIV
Oceanodroma homochroa	ashy storm-petrel	SSC	LA, VEN
Oreothlypis luciae	Lucy's warbler	SSC	IMP, SB
Oreothlypis virginiae	Virginia's warbler	CSA	SB
Pandion haliaetus	osprey	CSA	OR, RIV, SB
Pelecanus occidentalis californicus	California brown pelican	CFP	IMP, VEN
Phalacrocorax auritus	double-crested cormorant	CSA	VEN
Piranga flava	hepatic tanager	CSA	SB
Piranga rubra	summer tanager	SSC	IMP, RIV, SB
Plegadis chihi	white-faced ibis	CSA	IMP, LA, RIV
Polioptila melanura	black-tailed gnatcatcher	CSA	IMP, RIV, SB
Progne subis	purple martin	SSC	RIV
Psiloscops flammeolus	flammulated owl	CSA	RIV
Pyrocephalus rubinus	vermilion flycatcher	SSC	IMP, RIV, SB
Rynchops niger	black skimmer	SSC	IMP, OR, RIV
Setophaga petechia	yellow warbler	SSC	IMP, LA, OR, RIV, SB, VEN
Setophaga petechia sonorana	Sonoran yellow warbler	SSC	IMP, RIV, SB
Spinus lawrencei	Lawrence's goldfinch	CSA	RIV
Toxostoma bendirei	Bendire's thrasher	SSC	RIV, SB
Toxostoma crissale	Crissal thrasher	SSC	IMP, RIV, SB
Toxostoma lecontei	Le Conte's thrasher	SSC	IMP, LA, RIV, SB
Vireo vicinior	gray vireo	SSC	SB
Xanthocephalus xanthocephalus	yellow-headed blackbird	SSC	RIV
Mammals			
Antrozous pallidus	pallid bat	SSC	IMP, LA, OR, RIV, SB, VEN
Chaetodipus californicus femoralis	Dulzura pocket mouse	SSC	OR, RIV, VEN
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	SSC	LA, OR, RIV, SB
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	SSC	IMP, LA, RIV, SB
Choeronycteris mexicana	Mexican long-tongued bat	j	OR, VEN

Scientific Name	Common Name	Status	Counties Reported
Corynorhinus townsendii	Townsend's big-eared bat	SSC	IMP, LA, RIV, SB, VEN
Dipodomys merriami collinus	Earthquake Merriam's kangaroo rat	CSA	RIV
Erethizon dorsatum	North American porcupine	CSA	SB
Euderma maculatum	spotted bat	SSC	LA, RIV, SB
Eumops perotis californicus	western mastiff bat	SSC	IMP, LA, OR, RIV, SB, VEN
Glaucomys oregonensis californicus	San Bernardino flying squirrel	SSC	RIV, SB
Lasionycteris noctivagans	silver-haired bat	CSA	LA, SB
Lasiurus blossevillii	western red bat	SSC	LA, OR
Lasiurus cinereus	hoary bat	CSA	IMP, LA, OR, RIV, SB, VEN
Lasiurus xanthinus	western yellow bat	SSC	IMP, LA, OR, RIV, SB
Leptonycteris yerbabuenae	lesser long-nosed bat	SSC	SB
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
Lontra canadensis sonora	southwestern river otter	SSC	SB
Macrotus californicus	California leaf-nosed bat	SSC	IMP, LA, RIV, SB, VEN
Microtus californicus mohavensis	Mohave river vole	SSC	SB
Microtus californicus stephensi	south coast marsh vole	SSC	LA, OR, VEN
Myotis ciliolabrum	western small-footed myotis	CSA	IMP, LA, SB, VEN
Myotis evotis	long-eared myotis	CSA	LA, SB
Myotis occultus	Arizona Myotis	SSC	IMP, RIV
Myotis thysanodes	fringed myotis	CSA	LA, RIV, SB, VEN
Myotis velifer	cave myotis	SSC	IMP, RIV, SB
Myotis volans	long-legged myotis	CSA	LA, SB, VEN
Myotis yumanensis	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
Neotamias panamintinus acrus	Kingston Mountain chipmunk	CSA	SB
Neotamias speciosus callipeplus	Mount Pinos chipmunk	CSA	VEN
Neotamias speciosus speciosus	lodgepole chipmunk	CSA	LA, RIV, SB
Neotoma albigula venusta	Colorado Valley woodrat	CSA	IMP, RIV, SB
Neotoma lepida intermedia	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB
Nyctinomops macrotis	big free-tailed bat	SSC	IMP, LA, OR, RIV
Onychomys torridus ramona	southern grasshopper mouse	SSC	IMP, LA, OR, RIV, SB
Ovis canadensis nelsoni	desert bighorn sheep	CFP	IMP, LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
Perognathus alticola alticola	white-eared pocket mouse	SSC	SB
Perognathus alticola inexpectatus	Tehachapi pocket mouse	SSC	LA, VEN
Perognathus inornatus	San Joaquin Pocket Mouse	CSA	LA, VEN
Perognathus longimembris bangsi	Palm Springs pocket mouse	SSC	IMP, RIV
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC	LA, RIV, SB
Perognathus longimembris internationalis	Jacumba pocket mouse	SSC	RIV
Peromyscus maniculatus anacapae	Anacapa Island deer mouse	SSC	VEN
Puma concolor browni	Yuma mountain lion	SSC	IMP
Sigmodon arizonae plenus	Colorado River cotton rat	SSC	IMP, RIV, SB
Sigmodon hispidus eremicus	Yuma hispid cotton rat	SSC	IMP
Sorex ornatus salicornicus	southern California saltmarsh shrew	SSC	LA, OR, VEN
Sorex ornatus willetti	Santa Catalina shrew	SSC	LA
Taxidea taxus	American badger	SSC	IMP, LA, OR, RIV, SB, VEN
Xerospermophilus tereticaudus chlorus	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 CNDDB 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. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Rare and Locally Important Plants

A search of the CNDDB and the CNPS Rare Plant Inventory was performed to develop a list of rare and locally important plants that could potentially occur in the SCAG region. 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 5, Figure 4).

The greatest number, representing over 36% of 449 species recorded, where found in San Bernardino County, with 20% in Los Angeles and Riverside Counties, and less than 10% of the diversity in Orange, Imperial and Ventura Counties.

Table 5. Rare and Locally Important Plants Reported in the SCAG Region

Scientific Name	Common Name	Status	Counties Where Reported
Abronia villosa var. aurita	chaparral sand-verbena	1B.1	IMP, OR, RIV, SB

Scientific Name	Common Name	Status	Counties Where Reported
Abutilon parvulum	dwarf abutilon	2B.3	SB
Acanthoscyphus parishii var. abramsii	Abrams' oxytheca	1B.2	VEN
Acanthoscyphus parishii var. cienegensis	Cienega Seca oxytheca	1B.3	SB
Acleisanthes longiflora	angel trumpets	2B.3	RIV
Acleisanthes nevadensis	desert wing-fruit	2B.1	SB
Acmispon argyraeus var. multicaulis	scrub lotus	1B.3	SB
Acmispon argyraeus var. notitius	Providence Mountains lotus	1B.3	SB
Acmispon haydonii	pygmy lotus	1B.3	IMP, RIV
Ageratina herbacea	desert ageratina	2B.3	SB
Aliciella ripleyi	Ripley's aliciella	2B.3	SB
Aliciella triodon	coyote gilia	2B.2	SB
Allium atrorubens var. atrorubens	Great Basin onion	2B.3	SB
Allium howellii var. clokeyi	Mt. Pinos onion	1B.3	LA, SB, VEN
Allium marvinii	Yucaipa onion	1B.2	RIV, SB
Allium nevadense	Nevada onion	2B.3	SB
Almutaster pauciflorus	alkali marsh aster	2B.2	RIV, SB
Ambrosia monogyra	singlewhorl burrobrush	2B.2	RIV, SB
Androstephium breviflorum	small-flowered androstephium	2B.2	RIV, SB
Anomobryum julaceum	slender silver moss	4.2	LA
Antennaria marginata	white-margined everlasting	2B.3	SB
Aphanisma blitoides	aphanisma	1B.2	LA, OR, VEN
Arctomecon merriamii	white bear poppy	2B.2	SB
Arctostaphylos catalinae	Santa Catalina Island manzanita	1B.2	LA
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	1B.2	LA, SB
Arctostaphylos rainbowensis	Rainbow manzanita	1B.1	RIV
Arenaria lanuginosa var. saxosa	rock sandwort	2B.3	SB
Argyrochosma limitanea ssp. limitanea	southwestern false cloak-fern	2B.1	SB
Asclepias nyctaginifolia	Mojave milkweed	2B.1	SB
Astragalus allochrous var. playanus	playa milk-vetch	2B.2	SB
Astragalus bernardinus	San Bernardino milk-vetch	1B.2	RIV, SB
Astragalus cimae var. cimae	Cima milk-vetch	1B.2	SB
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	1B.2	VEN

Scientific Name	Common Name	Status	Counties Where Reported
Astragalus hornii var. hornii	Horn's milk-vetch	1B.1	SB
Astragalus insularis var. harwoodii	Harwood's milk-vetch	2B.2	IMP, RIV, SB
Astragalus lentiginosus var. antonius	San Antonio milk-vetch	1B.3	LA, SB
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	1B.2	SB
Astragalus leucolobus	Big Bear Valley woollypod	1B.2	LA, RIV, SB
Astragalus nevinii	San Clemente Island milk-vetch	1B.2	LA
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	1B.1	RIV
Astragalus preussii var. laxiflorus	Lancaster milk-vetch	1B.1	LA, RIV
Astragalus preussii var. preussii	Preuss' milk-vetch	2B.1	SB
Astragalus sabulonum	gravel milk-vetch	2B.2	IMP, RIV
Astragalus tidestromii	Tidestrom's milk-vetch	2B.2	SB
Astrolepis cochisensis ssp. cochisensis	scaly cloak fern	2B.3	SB
Atriplex coulteri	Coulter's saltbush	1B.2	LA, OR, SB, VEN
Atriplex pacifica	south coast saltscale	1B.2	LA, OR, VEN
Atriplex parishii	Parish's brittlescale	1B.1	LA, OR, RIV, SB
Atriplex serenana var. davidsonii	Davidson's saltscale	1B.2	LA, OR, RIV, VEN
Ayenia compacta	California ayenia	2B.3	IMP, RIV, SB
Baccharis malibuensis	Malibu baccharis	1B.1	LA, OR, VEN
Bahia neomexicana	many-flowered bahia	2B.3	SB
Berberis fremontii	Fremont barberry	2B.3	SB
Berberis harrisoniana	Kofa Mountain barberry	1B.2	SB
Bergerocactus emoryi	golden-spined cereus	2B.2	LA
Blepharidachne kingii	King's eyelash grass	2B.3	SB
Boechera dispar	pinyon rockcress	2B.3	RIV, SB
Boechera johnstonii	Johnston's rockcress	1B.2	RIV
Boechera lincolnensis	Lincoln rockcress	2B.3	RIV, SB
Boechera parishii	Parish's rockcress	1B.2	SB
Boechera peirsonii	San Bernardino rockcress	1B.2	SB
Boechera shockleyi	Shockley's rockcress	2B.2	SB
Botrychium ascendens	upswept moonwort	2B.3	SB
Botrychium crenulatum	scalloped moonwort	2B.2	LA, SB

Scientific Name	Common Name	Status	Counties Where Reported
Bouteloua trifida	three-awned grama	2B.3	SB
Brodiaea kinkiensis	San Clemente Island brodiaea	1B.2	LA
Brodiaea orcuttii	Orcutt's brodiaea	1B.1	RIV
Brodiaea santarosae	Santa Rosa Basalt brodiaea	1B.2	RIV
Bursera microphylla	little-leaf elephant tree	2B.3	IMP, RIV
Calliandra eriophylla	pink fairy-duster	2B.3	IMP, RIV
Calochortus clavatus var. gracilis	slender mariposa-lily	1B.2	LA, VEN
Calochortus fimbriatus	late-flowered mariposa-lily	1B.3	LA, VEN
Calochortus palmeri var. munzii	San Jacinto mariposa-lily	1B.2	RIV
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	1B.2	LA, RIV, SB, VEN
Calochortus plummerae	Plummer's mariposa-lily	4.2	LA, OR, RIV, SB, VEN
Calochortus striatus	alkali mariposa-lily	1B.2	LA, SB
Calochortus weedii var. intermedius	intermediate mariposa-lily	1B.2	LA, OR, RIV, SB
Calyptridium pygmaeum	pygmy pussypaws	1B.2	SB
Calystegia felix	lucky morning-glory	1B.1	LA, RIV, SB
Calystegia peirsonii	Peirson's morning-glory	4.2	LA
Camissoniopsis guadalupensis ssp. clementina	San Clemente Island evening-primrose	1B.2	LA
Canbya candida	white pygmy-poppy	4.2	LA, SB
Carex comosa	bristly sedge	2B.1	SB
Carex occidentalis	western sedge	2B.3	LA, RIV, SB
Carnegiea gigantea	saguaro	2B.2	IMP, SB
Castela emoryi	Emory's crucifixion-thorn	2B.2	IMP, RIV, SB
Castilleja hololeuca	island white-felted paintbrush	1B.2	VEN
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	1B.2	RIV, SB
Caulanthus lemmonii	Lemmon's jewelflower	1B.2	VEN
Caulanthus simulans	Payson's jewelflower	4.2	RIV
Centromadia parryi ssp. australis	southern tarplant	1B.1	LA, OR, VEN
Centromadia pungens ssp. laevis	smooth tarplant	1B.1	LA, RIV, SB
Chaenactis carphoclinia var. peirsonii	Peirson's pincushion	1B.3	IMP
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	1B.1	LA, OR, VEN
Chaenactis parishii	Parish's chaenactis	1B.3	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Chenopodium littoreum	coastal goosefoot	1B.2	LA
Chloropyron tecopense	Tecopa bird's-beak	1B.2	SB
Chorizanthe blakleyi	Blakley's spineflower	1B.3	VEN
Chorizanthe parryi var. parryi	Parry's spineflower	1B.1	LA, RIV, SB
Chorizanthe polygonoides var. longispina	long-spined spineflower	1B.2	OR, RIV
Chorizanthe xanti var. leucotheca	white-bracted spineflower	1B.2	RIV, SB
Chylismia arenaria	sand evening-primrose	2B.2	IMP, RIV, SB
Cirsium arizonicum var. tenuisectum	desert mountain thistle	1B.2	SB
Cirsium occidentale var. compactum	compact cobwebby thistle	1B.2	LA
Cladium californicum	California saw-grass	2B.2	LA, RIV, SB
Clarkia xantiana ssp. parviflora	Kern Canyon clarkia	4.2	LA
Claytonia lanceolata var. peirsonii	Peirson's spring beauty	3.1	SB
Clinopodium chandleri	San Miguel savory	1B.2	OR, RIV
Colubrina californica	Las Animas colubrina	2B.3	IMP, RIV
Comarostaphylis diversifolia ssp. diversifolia	summer holly	1B.2	OR
Constancea nevinii	Nevin's woolly sunflower	1B.3	LA
Cordylanthus parviflorus	small-flowered bird's-beak	2B.3	SB
Coryphantha alversonii	Alverson's foxtail cactus	4.3	RIV, SB
Coryphantha chlorantha	desert pincushion	2B.1	SB
Coryphantha vivipara var. rosea	viviparous foxtail cactus	2B.2	SB
Crossosoma californicum	Catalina crossosoma	1B.2	LA
Cryptantha clokeyi	Clokey's cryptantha	1B.2	LA, SB
Cryptantha traskiae	Trask's cryptantha	1B.1	LA, VEN
Cryptantha wigginsii	Wiggins' cryptantha	1B.2	LA, RIV
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	2B.2	LA, SB
Cylindropuntia munzii	Munz's cholla	1B.3	IMP, RIV
Cymopterus deserticola	desert cymopterus	1B.2	LA, SB
Cymopterus gilmanii	Gilman's cymopterus	2B.3	SB
Cymopterus multinervatus	purple-nerve cymopterus	2B.2	RIV, SB
Delphinium parryi ssp. blochmaniae	dune larkspur	1B.2	VEN
Delphinium scaposum	bare-stem larkspur	2B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
Delphinium umbraculorum	umbrella larkspur	1B.3	VEN
Delphinium variegatum ssp. thornei	Thorne's royal larkspur	1B.1	LA
Dendromecon harfordii var. rhamnoides	south island bush-poppy	3.1	LA
Dieteria canescens var. ziegleri	Ziegler's aster	1B.2	RIV
Digitaria californica var. californica	Arizona cottontop	2B.3	IMP, SB
Diplacus mohavensis	Mojave monkeyflower	1B.2	SB
Diplacus traskiae	Santa Catalina Island monkeyflower	1A	LA
Dissanthelium californicum	California dissanthelium	1B.2	LA
Ditaxis claryana	glandular ditaxis	2B.2	IMP, RIV, SB
Ditaxis serrata var. californica	California ditaxis	3.2	RIV
Draba saxosa	Southern California rock draba	1B.3	RIV
Drymocallis cuneifolia var. cuneifolia	wedgeleaf woodbeauty	1B.1	SB
Drymocallis cuneifolia var. ewanii	Ewan's woodbeauty	1B.3	LA
Dryopteris filix-mas	male fern	2B.3	SB
Dudleya abramsii ssp. affinis	San Bernardino Mountains dudleya	1B.2	SB
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	1B.1	LA, OR, VEN
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	1B.2	LA
Dudleya densiflora	San Gabriel Mountains dudleya	1B.1	LA
Dudleya multicaulis	many-stemmed dudleya	1B.2	LA, OR, RIV, SB
Dudleya virens ssp. hassei	Catalina Island dudleya	1B.2	LA
Dudleya virens ssp. insularis	island green dudleya	1B.2	LA, VEN
Dudleya virens ssp. virens	bright green dudleya	1B.2	LA
Dudleya viscida	sticky dudleya	1B.2	OR, RIV
Echinocereus engelmannii var. howei	Howe's hedgehog cactus	1B.1	SB
Elymus salina	Salina Pass wild-rye	2B.3	SB
Enneapogon desvauxii	nine-awned pappus grass	2B.2	SB
Eremogone congesta var. charlestonensis	Charleston sandwort	1B.3	SB
Eremothera boothii ssp. boothii	Booth's evening-primrose	2B.3	RIV, SB
Eremothera boothii ssp. intermedia	Booth's hairy evening-primrose	2B.3	SB
Eriastrum harwoodii	Harwood's eriastrum	1B.2	IMP, RIV, SB
Eriastrum rosamondense	Rosamond eriastrum	1B.1	LA

Scientific Name	Common Name	Status	Counties Where Reported
Erigeron oxyphyllus	wand-like fleabane daisy	2B.3	SB
Erigeron uncialis var. uncialis	limestone daisy	1B.2	SB
Erigeron utahensis	Utah daisy	2B.3	SB
Eriodictyon angustifolium	narrow-leaved yerba santa	2B.3	SB
Eriogonum bifurcatum	forked buckwheat	1B.2	SB
Eriogonum contiguum	Reveal's buckwheat	2B.3	SB
Eriogonum evanidum	vanishing wild buckwheat	1B.1	RIV, SB
Eriogonum giganteum var. formosum	San Clemente Island buckwheat	1B.2	LA
Eriogonum kennedyi var. alpigenum	southern alpine buckwheat	1B.3	LA, SB, VEN
Eriogonum microthecum var. johnstonii	Johnston's buckwheat	1B.3	LA, SB
Eriogonum microthecum var. lacus-ursi	Bear Lake buckwheat	1B.1	SB
Eriogonum umbellatum var. juniporinum	juniper sulphur-flowered buckwheat	2B.3	SB
Erioneuron pilosum	hairy erioneuron	2B.3	SB
Eriophyllum mohavense	Barstow woolly sunflower	1B.2	LA, SB
Erysimum insulare	island wallflower	1B.3	VEN
Erythranthe exigua	San Bernardino Mountains monkeyflower	1B.2	SB
Erythranthe purpurea	little purple monkeyflower	1B.2	SB
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	1B.2	SB
Eucnide rupestris	annual rock-nettle	2B.2	IMP
Euphorbia abramsiana	Abrams' spurge	2B.2	IMP, RIV, SB
Euphorbia arizonica	Arizona spurge	2B.3	IMP, RIV
Euphorbia exstipulata var. exstipulata	Clark Mountain spurge	2B.1	SB
Euphorbia jaegeri	Orocopia Mountains spurge	1B.1	RIV, SB
Euphorbia misera	cliff spurge	2B.2	LA, OR, RIV
Euphorbia parryi	Parry's spurge	2B.3	SB
Euphorbia platysperma	flat-seeded spurge	1B.2	IMP, RIV, SB
Fimbristylis thermalis	hot springs fimbristylis	2B.2	LA, SB
Frasera albomarginata var. albomarginata	desert green-gentian	2B.2	SB
Frasera albomarginata var. induta	Clark Mountain green-gentian	1B.2	SB
Fritillaria ojaiensis	Ojai fritillary	1B.2	VEN

Scientific Name	Common Name	Status	Counties Where Reported
Funastrum crispum	wavyleaf twinvine	2B.2	RIV
Galium angustifolium ssp. jacinticum	San Jacinto Mountains bedstraw	1B.3	RIV
Galium californicum ssp. primum	Alvin Meadow bedstraw	1B.2	RIV, SB
Galium catalinense ssp. catalinense	Santa Catalina Island bedstraw	1B.3	LA
Galium grande	San Gabriel bedstraw	1B.2	LA
Galium hilendiae ssp. kingstonense	Kingston Mountains bedstraw	1B.3	SB
Galium proliferum	desert bedstraw	2B.2	SB
Galium wrightii	Wright's bedstraw	2B.3	SB
Gambelia speciosa	showy island snapdragon	1B.2	LA
Gentiana fremontii	Fremont's gentian	2B.3	SB
Geothallus tuberosus	Campbell's liverwort	1B.1	RIV
Geraea viscida	sticky geraea	2B.2	IMP
Gilia leptantha ssp. leptantha	San Bernardino gilia	1B.3	SB
Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup	3.1	RIV
Glossopetalon pungens	pungent glossopetalon	1B.2	SB
Graphis saxorum	Baja rock lichen	3	LA
Grimmia vaginulata	vaginulate grimmia	1B.1	SB
Grusonia parishii	Parish's club-cholla	2B.2	RIV, SB
Harpagonella palmeri	Palmer's grapplinghook	4.2	LA, OR, RIV
Hazardia cana	San Clemente Island hazardia	1B.2	LA
Hedeoma drummondii	Drummond's false pennyroyal	2B.2	SB
Helianthus inexpectatus	Newhall sunflower	1B.1	LA
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	1A	LA, OR, SB
Herissantia crispa	curly herissantia	2B.3	IMP
Hesperocyparis forbesii	Tecate cypress	1B.1	OR, RIV
Heuchera hirsutissima	shaggy-haired alumroot	1B.3	RIV
Heuchera maxima	island alumroot	1B.2	VEN
Heuchera parishii	Parish's alumroot	1B.3	RIV, SB
Horkelia cuneata var. puberula	mesa horkelia	1B.1	LA, OR, RIV, SB, VEN
Horkelia wilderae	Barton Flats horkelia	1B.1	SB
Hulsea californica	San Diego sunflower	1B.3	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Hulsea mexicana	Mexican hulsea	2B.3	IMP
Hulsea vestita ssp. pygmaea	pygmy hulsea	1B.3	SB
Hymenopappus filifolius var. eriopodus	hairy-podded fine-leaf hymenopappus	2B.3	SB
Hymenoxys odorata	bitter hymenoxys	2B.1	IMP, RIV, SB
Imperata brevifolia	California satintail	2B.1	IMP, LA, OR, RIV, SB, VEN
Ipomopsis effusa	Baja California ipomopsis	2B.1	IMP
Ipomopsis tenuifolia	slender-leaved ipomopsis	2B.3	IMP
Isocoma menziesii var. decumbens	decumbent goldenbush	1B.2	LA, OR, VEN
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	1B.2	SB
Ivesia jaegeri	Jaeger's ivesia	1B.3	SB
Ivesia patellifera	Kingston Mountains ivesia	1B.3	SB
Jaffueliobryum raui	Rau's jaffueliobryum moss	2B.3	RIV, SB
Jaffueliobryum wrightii	Wright's jaffueliobryum moss	2B.3	RIV, SB
Juncus interior	inland rush	2B.2	SB
Juncus luciensis	Santa Lucia dwarf rush	1B.2	RIV
Juncus nodosus	knotted rush	2B.3	SB
Koeberlinia spinosa var. tenuispina	slender-spined all thorn	2B.2	IMP, RIV
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	1B.1	LA, OR, RIV, SB, VEN
Lavatera assurgentiflora ssp. assurgentiflora	island mallow	1B.1	VEN
Lavatera assurgentiflora ssp. glabra	southern island mallow	1B.1	LA
Layia heterotricha	pale-yellow layia	1B.1	VEN
Lepechinia cardiophylla	heart-leaved pitcher sage	1B.2	OR, RIV
Lepechinia rossii	Ross' pitcher sage	1B.2	LA, VEN
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	4.3	LA, OR, RIV, SB, VEN
Leptosiphon floribundus ssp. hallii	Santa Rosa Mountains leptosiphon	1B.3	RIV
Leptosiphon pygmaeus ssp. pygmaeus	pygmy leptosiphon	1B.2	LA
Lewisia brachycalyx	short-sepaled lewisia	2B.2	LA, SB
Lilium parryi	lemon lily	1B.2	LA, RIV, SB
Linanthus bernardinus	Pioneertown linanthus	1B.2	SB
Linanthus concinnus	San Gabriel linanthus	1B.2	LA, SB
Linanthus jaegeri	San Jacinto linanthus	1B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Linanthus killipii	Baldwin Lake linanthus	1B.2	SB
Linanthus maculatus ssp. emaculatus	Jacumba Mountains linanthus	1B.1	IMP
Linanthus maculatus ssp. maculatus	Little San Bernardino Mtns. linanthus	1B.2	RIV, SB
Linanthus orcuttii	Orcutt's linanthus	1B.3	RIV, SB
Linum puberulum	plains flax	2B.3	SB
Lithospermum incisum	plains stoneseed	2B.3	SB
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	2B.2	LA, SB
Lomatium insulare	San Nicolas Island lomatium	1B.2	LA, VEN
Lonicera subspicata var. subspicata	Santa Barbara honeysuckle	1B.2	LA
Lupinus albifrons var. medius	Mountain Springs bush lupine	1B.3	IMP
Lupinus guadalupensis	Guadalupe Island lupine	4.2	LA
Lupinus paynei	Payne's bush lupine	1B.1	LA, VEN
Lupinus peirsonii	Peirson's lupine	1B.3	LA
Lycium brevipes var. hassei	Santa Catalina Island desert-thorn	3.1	LA, OR
Lycium exsertum	Arizona desert-thorn	2B.1	SB
Lycium parishii	Parish's desert-thorn	2B.3	IMP, SB
Lycium verrucosum	San Nicolas Island desert-thorn	1A	VEN
Lyonothamnus floribundus ssp. aspleniifolius	Santa Cruz Island ironwood	1B.2	LA
Lyonothamnus floribundus ssp. floribundus	Santa Catalina Island ironwood	1B.2	LA
Malacothamnus davidsonii	Davidson's bush-mallow	1B.2	LA, VEN
Malacothamnus parishii	Parish's bush-mallow	1A	SB
Malacothrix foliosa ssp. crispifolia	wavy-leaved malacothrix	1B.2	VEN
Malacothrix junakii	Junak's malcothrix	1B.1	VEN
Malacothrix similis	Mexican malacothrix	2A	VEN
Malaxis monophyllos var. brachypoda	white bog adder's-mouth	2B.1	RIV, SB
Malperia tenuis	brown turbans	2B.3	IMP
Mammillaria grahamii var. grahamii	Graham fishhook cactus	2B.2	SB
Marina orcuttii var. orcuttii	California marina	1B.3	RIV
Matelea parvifolia	spear-leaf matelea	2B.3	IMP, RIV, SB
Maurandella antirrhiniflora	violet twining snapdragon	2B.3	SB
Meesia uliginosa	broad-nerved hump moss	2B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Menodora scabra var. scabra	rough menodora	2B.3	SB
Menodora spinescens var. mohavensis	Mojave menodora	1B.2	SB
Mentzelia hirsutissima	hairy stickleaf	2B.3	IMP
Mentzelia polita	polished blazing star	1B.2	SB
Mentzelia pterosperma	wing-seed blazing star	2B.2	SB
Mentzelia puberula	Darlington's blazing star	2B.2	IMP, RIV, SB
Mentzelia tricuspis	spiny-hair blazing star	2B.1	IMP, RIV, SB
Mentzelia tridentata	creamy blazing star	1B.3	SB
Mielichhoferia shevockii	Shevock's copper moss	1B.2	RIV
Mirabilis coccinea	red four o'clock	2B.3	SB
Monarda pectinata	plains bee balm	2B.3	SB
Monardella australis ssp. jokerstii	Jokerst's monardella	1B.1	RIV, SB
Monardella boydii	Boyd's monardella	1B.2	SB
Monardella eremicola	Clark Mountain monardella	1B.3	SB
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	1B.3	LA, VEN
Monardella hypoleuca ssp. intermedia	intermediate monardella	1B.3	OR, RIV
Monardella linoides ssp. oblonga	Tehachapi monardella	1B.3	LA, VEN
Monardella macrantha ssp. hallii	Hall's monardella	1B.3	LA, OR, RIV, SB
Monardella nana ssp. leptosiphon	San Felipe monardella	1B.2	RIV
Monardella pringlei	Pringle's monardella	1A	RIV, SB
Monardella robisonii	Robison's monardella	1B.3	RIV, SB
Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	1B.1	VEN
Muhlenbergia alopecuroides	wolftail	2B.2	SB
Muhlenbergia appressa	appressed muhly	2B.2	LA, RIV, SB
Muhlenbergia arsenei	tough muhly	2B.3	SB
Muhlenbergia californica	California muhly	4.3	LA, SB
Muhlenbergia fragilis	delicate muhly	2B.3	SB
Muhlenbergia pauciflora	few-flowered muhly	2B.3	SB
Munroa squarrosa	false buffalo-grass	2B.2	SB
Munzothamnus blairii	Blair's munzothamnus	1B.2	LA
Myosurus minimus ssp. apus	little mousetail	3.1	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Myriopteris wootonii	Wooton's lace fern	2B.3	SB
Nama demissa var. covillei	Coville's purple mat	1B.3	SB
Nama dichotoma var. dichotoma	forked purple mat	2B.3	SB
Nama stenocarpa	mud nama	2B.2	IMP, LA, OR, RIV
Navarretia ojaiensis	Ojai navarretia	1B.1	LA, VEN
Navarretia peninsularis	Baja navarretia	1B.2	LA, SB, VEN
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	LA, OR, RIV, SB
Navarretia setiloba	Piute Mountains navarretia	1B.1	LA
Nemacaulis denudata var. denudata	coast woolly-heads	1B.2	LA, OR
Nemacaulis denudata var. gracilis	slender cottonheads	2B.2	IMP, RIV, SB
Nemacladus secundiflorus var. robbinsii	Robbins' nemacladus	1B.2	LA, VEN
Nolina cismontana	chaparral nolina	1B.2	LA, OR, RIV, VEN
Oenothera cavernae	cave evening-primrose	2B.1	SB
Oenothera longissima	long-stem evening-primrose	2B.2	SB
Opuntia basilaris var. brachyclada	short-joint beavertail	1B.2	LA, SB
Opuntia wigginsii	Wiggins' cholla	3.3	IMP, SB
Opuntia xcurvispina	curved-spine beavertail	2B.2	SB
Oreonana vestita	woolly mountain-parsley	1B.3	LA, SB
Orobanche parishii ssp. brachyloba	short-lobed broomrape	4.2	LA, VEN
Orobanche valida ssp. valida	Rock Creek broomrape	1B.2	LA, SB, VEN
Oxytropis oreophila var. oreophila	rock-loving oxytrope	2B.3	LA, SB
Packera bernardina	San Bernardino ragwort	1B.2	SB
Palafoxia arida var. gigantea	giant spanish-needle	1B.3	IMP
Panicum hirticaule ssp. hirticaule	roughstalk witch grass	2B.1	IMP, RIV, SB
Parnassia cirrata var. cirrata	San Bernardino grass-of-Parnassus	1B.3	LA, SB
Pediomelum castoreum	Beaver Dam breadroot	1B.2	SB
Pellaea truncata	spiny cliff-brake	2B.3	SB
Penstemon albomarginatus	white-margined beardtongue	1B.1	SB
Penstemon bicolor ssp. roseus	rosy two-toned beardtongue	1B.1	SB
Penstemon calcareus	limestone beardtongue	1B.3	SB
Penstemon californicus	California beardtongue	1B.2	OR, RIV

Scientific Name	Common Name	Status	Counties Where Reported
Penstemon fruticiformis var. amargosae	Amargosa beardtongue	1B.3	SB
Penstemon pseudospectabilis ssp. pseudospectabilis	desert beardtongue	2B.2	IMP, RIV, SB
Penstemon stephensii	Stephens' beardtongue	1B.3	SB
Penstemon thompsoniae	Thompson's beardtongue	2B.3	SB
Penstemon utahensis	Utah beardtongue	2B.3	SB
Pentachaeta aurea ssp. allenii	Allen's pentachaeta	1B.1	OR
Perideridia parishii ssp. parishii	Parish's yampah	2B.2	SB
Petalonyx linearis	narrow-leaf sandpaper-plant	2B.3	IMP, RIV, SB
Petalonyx thurberi ssp. gilmanii	Death Valley sandpaper-plant	1B.3	SB
Phacelia anelsonii	Aven Nelson's phacelia	2B.3	SB
Phacelia barnebyana	Barneby's phacelia	2B.3	SB
Phacelia coerulea	sky-blue phacelia	2B.3	SB
Phacelia floribunda	many-flowered phacelia	1B.2	LA
Phacelia keckii	Santiago Peak phacelia	1B.3	OR, RIV
Phacelia mustelina	Death Valley round-leaved phacelia	1B.3	SB
Phacelia parishii	Parish's phacelia	1B.1	SB
Phacelia perityloides var. jaegeri	Jaeger's phacelia	1B.3	SB
Phacelia pulchella var. gooddingii	Goodding's phacelia	2B.2	SB
Phacelia stellaris	Brand's star phacelia	1B.1	LA, OR, RIV, SB
Phaseolus filiformis	slender-stem bean	2B.1	RIV
Phlox dolichantha	Big Bear Valley phlox	1B.2	SB
Pholisma sonorae	sand food	1B.2	IMP
Pholistoma auritum var. arizonicum	Arizona pholistoma	2B.3	IMP, SB
Physalis lobata	lobed ground-cherry	2B.3	SB
Physaria chambersii	Chambers' physaria	2B.3	SB
Pilostyles thurberi	Thurber's pilostyles	4.3	IMP
Plagiobothrys parishii	Parish's popcornflower	1B.1	LA, SB
Poliomintha incana	frosted mint	2A	SB
Polygala acanthoclada	thorny milkwort	2B.3	RIV, SB
Polygala intermontana	intermountain milkwort	2B.1	SB
Potentilla multijuga	Ballona cinquefoil	1A	LA

Scientific Name	Common Name	Status	Counties Where Reported
Potentilla rimicola	cliff cinquefoil	2B.3	RIV
Prunus eremophila	Mojave Desert plum	1B.2	SB
Pseudognaphalium leucocephalum	white rabbit-tobacco	2B.2	LA, OR, RIV, SB, VEN
Pseudorontium cyathiferum	Deep Canyon snapdragon	2B.3	RIV
Psorothamnus fremontii var. attenuatus	narrow-leaved psorothamnus	2B.3	SB
Puccinellia parishii	Parish's alkali grass	1B.1	SB
Puccinellia simplex	California alkali grass	1B.2	LA, SB
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	1B.2	SB
Quercus dumosa	Nuttall's scrub oak	1B.1	LA, OR, VEN
Ribes divaricatum var. parishii	Parish's gooseberry	1A	LA, SB
Ribes viburnifolium	Santa Catalina Island currant	1B.2	LA
Robinia neomexicana	New Mexico locust	2B.3	SB
Rosa woodsii var. glabrata	Cushenbury rose	1B.1	SB
Sagittaria sanfordii	Sanford's arrowhead	1B.2	SB, VEN
Saltugilia latimeri	Latimer's woodland-gilia	1B.2	RIV, SB
Salvia greatae	Orocopia sage	1B.3	IMP, RIV
Sanvitalia abertii	Abert's sanvitalia	2B.2	SB
Schoenus nigricans	black bog-rush	2B.2	SB
Sclerocactus johnsonii	Johnson's bee-hive cactus	2B.2	SB
Scleropogon brevifolius	burro grass	2B.3	SB
Scrophularia villosa	Santa Catalina figwort	1B.2	LA
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	1B.2	LA, RIV, SB
Selaginella eremophila	desert spike-moss	2B.2	IMP, RIV
Senecio aphanactis	chaparral ragwort	2B.2	LA, OR, RIV, SB, VEN
Senna covesii	Cove's cassia	2B.2	IMP, RIV, SB
Sibaropsis hammittii	Hammitt's clay-cress	1B.2	RIV
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	1B.2	SB
Sidalcea neomexicana	salt spring checkerbloom	2B.2	LA, OR, RIV, SB, VEN
Sidotheca emarginata	white-margined oxytheca	1B.3	RIV
Silene krantzii	Krantz's catchfly	1B.2	SB
Sisyrinchium longipes	timberland blue-eyed grass	2B.2	SB

Scientific Name	Common Name	Status	Counties Where Reported
Solanum wallacei	Wallace's nightshade	1B.1	LA
Spermolepis gigantea	desert scaleseed	2B.1	RIV
Spermolepis lateriflora	western bristly scaleseed	2A	LA
Sphaeralcea rusbyi var. eremicola	Rusby's desert-mallow	1B.2	RIV, SB
Sphaerocarpos drewei	bottle liverwort	1B.1	RIV
Sphenopholis obtusata	prairie wedge grass	2B.2	RIV, SB
Stemodia durantifolia	purple stemodia	2B.1	RIV
Stipa arida	Mormon needle grass	2B.3	SB
Stipa divaricata	small-flowered rice grass	2B.3	SB
Streptanthus bernardinus	Laguna Mountains jewelflower	4.3	RIV, SB
Streptanthus campestris	southern jewelflower	1B.3	IMP, LA, RIV, SB, VEN
Stylocline masonii	Mason's neststraw	1B.1	LA
Stylocline sonorensis	mesquite neststraw	2A	RIV
Suaeda esteroa	estuary seablite	1B.2	LA, OR, VEN
Symphyotrichum defoliatum	San Bernardino aster	1B.2	IMP, LA, OR, RIV, SB
Symphyotrichum greatae	Greata's aster	1B.3	LA, SB, VEN
Tetracoccus dioicus	Parry's tetracoccus	1B.2	OR, RIV
Teucrium cubense ssp. depressum	dwarf germander	2B.2	IMP, RIV
Teucrium glandulosum	desert germander	2B.3	SB
Texosporium sancti-jacobi	woven-spored lichen	3	LA, RIV, VEN
Thelypteris puberula var. sonorensis	Sonoran maiden fern	2B.2	LA, RIV, SB
Thysanocarpus rigidus	rigid fringepod	1B.2	LA, RIV, SB
Tidestromia eliassoniana	Eliasson's woolly tidestromia	2B.2	IMP, SB
Tortella alpicola	alpine crisp-moss	2B.3	SB
Tortula californica	California screw moss	1B.2	LA, RIV, VEN
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	2B.1	RIV
Trichostema austromontanum ssp. compactum	Hidden Lake bluecurls	1B.1	RIV
Tripterocalyx micranthus	small-flowered sand-verbena	2B.2	SB
Triteleia clementina	San Clemente Island triteleia	1B.2	LA
Viola pinetorum ssp. grisea	grey-leaved violet	1B.3	LA, SB, VEN
Wislizenia refracta ssp. palmeri	Palmer's jackass clover	2B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
Wislizenia refracta ssp. refracta	jackass-clover	2B.2	RIV, SB
Woodsia plummerae	Plummer's woodsia	2B.3	SB
Xylorhiza cognata	Mecca-aster	1B.2	RIV
Xylorhiza orcuttii	Orcutt's woody-aster	1B.2	IMP
Astragalus traskiae	Trask's milk-vetch	1B.2	VEN
Castilleja gleasoni	Mt. Gleason paintbrush	1B.2	LA
Croton wigginsii	Wiggins' croton	2B.2	IMP
Deinandra minthornii	Santa Susana tarplant	1B.2	LA, VEN
Delphinium hesperium ssp. cuyamacae	Cuyamaca larkspur	1B.2	RIV
Eriogonum crocatum	conejo buckwheat	1B.2	VEN
Galium angustifolium ssp. borregoense	Borrego bedstraw	1B.3	IMP
Ivesia callida	Tahquitz ivesia	1B.3	RIV
Packera ganderi	Gander's ragwort	1B.2	RIV
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	1B.2	SB

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 Claifornia, 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:*Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

California Native Plant Society, Rare Plant Program. 2015. *Inventory of Rare and Endangered Plants*. Online edition, v8-02. Sacramento, CA.

Figure 4. Rare and Locally Important Plants Reported in the SCAG Region

Riparian and State Sensitive Plant Communities

The six counties within the SCAG region contain nearly 23 million acres of open space (Figure 5). 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 CNDDB 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.16

The CNDDB reported 45 special-status natural communities within the SCAG region (Table 6; Figure 6), however, this information was last recorded in 1993 and provides an incomplete picture of sensitive habitats in the SCAG region. Although there is no current comprehensive picture of state-sensitive plant communities and riparian habitat, it is highly likely that additional 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 6. 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	Type
Active Desert Dunes	S2.2	IMP	2,233.43	Dune
Alkali Seep	S2.1	SB	4.90	Herbaceous
Amargosa River	SNR	SB	559.60	Inland Waters
Arizonan Woodland	S1.2	SB	337.44	Woodland
California Walnut Woodland	S2.1	LA, OR, SB, VEN	16,539.64	Woodland
Canyon Live Oak Ravine Forest	S3.3	LA, OR, RIV, SB, VEN	5,535.07	Riparian
Cismontane Alkali Marsh	S1.1	VEN	30.77	Marsh
Coastal and Valley Freshwater Marsh	S2.1	RIV, SB, VEN	551.18	Marsh
Crucifixion Thorn Woodland	S1.2	IMP, SB	96.20	Woodland
Desert Fan Palm Oasis Woodland	S3.2	IMP, RIV, SB	43,404.16	Riparian
Island Cherry Forest	S2.1	LA	1,796.05	Forest
Island Ironwood Forest	S2.1	LA	2,318.79	Forest
Mainland Cherry Forest	S1.1	LA	72.97	Forest
Maritime Succulent Scrub	S1.1	LA, VEN	69.96	Scrub
Mesquite Bosque	S2.1	IMP, RIV, SB	11,282.02	Riparian
Mojave Mixed Steppe	S2.2	SB	18.47	Scrub
Mojave Riparian Forest	S1.1	LA, SB	3,295.07	Riparian

16 SCAG. 2015. 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) Draft Program Environmental Impact Report. December.

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region	Type
Mojave Yucca Scrub and Steppe	S3.2	SB	87.77	Scrub
Open Engelmann Oak Woodland	S2.2	LA	869.98	Woodland
Pebble Plains	S1.1	SB	3,835.93	Herbaceous
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, OR, RIV, SB	27,826.55	Scrub
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,822.44	Riparian
Southern California Arroyo Chub/Santa Ana Sucker Stream	SNR	LA, OR, RIV, SB	5,836.97	Inland Waters
Southern California Coastal Lagoon	SNR	LA, VEN	19.93	Inland Waters
Southern California Steelhead Stream	SNR	LA, VEN	3,024.59	Inland Waters
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,194.15	Inland Waters
Southern Coast Live Oak Riparian Forest	S4	LA, OR, RIV, SB, VEN	22,980.83	Riparian
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,029.44	Scrub
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,960.63	Marsh
Southern Cottonwood Willow Riparian Forest	S3.2	LA, OR, RIV, SB, VEN	18,389.95	Riparian
Southern Dune Scrub	S1.1	LA, OR, VEN	9,482.65	Dune
Southern Foredunes	S2.1	LA, OR, VEN	1,203.32	Dune
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	586.65	Herbaceous
Southern Interior Cypress Forest	S2.1	OR, RIV	2,977.96	Forest
Southern Mixed Riparian Forest	S2.1	LA, OR, RIV, SB, VEN	4,447.21	Riparian
Southern Riparian Forest	S4	LA, RIV, SB, VEN	554.03	Riparian
Southern Riparian Scrub	S3.2	LA, OR, RIV, SB, VEN	11,378.30	Riparian
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, RIV, SB, VEN	61,958.67	Riparian
Southern Willow Scrub	S2.1	LA, OR, RIV, SB, VEN	5,697.12	Riparian
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,233.43	Dune
Transmontane Alkali Marsh	S2.1	IMP, SB	243.06	Marsh
Valley Needlegrass Grassland	S3.1	LA, OR, RIV, VEN	16,805.86	Herbaceous
Valley Oak Woodland	S2.1	LA, VEN	12,399.50	Woodland
Walnut Forest	S1.1	LA, VEN	401.94	Forest
Wildflower Field	S2.2	LA	6,592.07	Herbaceous

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.
S4Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors
SNR **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.

Figure 5. Land Use Reported in the SCAG Region

Figure 6. Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region

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 Manual17. 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 CNDDB18. 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 7 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 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 7. Sensitive Natural Communities Within The SCAG Region

Alliance Scientific name	Common name	State rarity
Abies concolor Dry	Dry White Fir forest	S3
Abronia latifolia - Ambrosia chamissonis	Dune mat	S3
Achnatherum hymenoides	Indian rice grass grassland	S1.2
Achnatherum speciosum	Desert needlegrass grassland	S2.2
Adenostoma fasciculatum - Salvia apiana	Chamise - white sage chaparral	S3
Agave deserti	Desert agave scrub	S3.2
Allenrolfea occidentalis	Iodine bush scrub	S3.2
Alopecurus geniculatus	Water foxtail meadows	S3?
Amphipappus fremontii - Salvia funerea	Fremont's chaffbush - woolly sage scrub	S3
Anemopsis californica - Helianthus nuttallii - Solidago spectabilis	Yerba mansa - Nuttall's sunflower - Nevada goldenrod alkaline wet meadows	S2
Arbutus menziesii	Madrone forest	S3.2
Arctostaphylos (crustacea, tomentosa)	Brittle leaf - woolly leaf manzanita chaparral	S3
Arctostaphylos pungens - Arctostaphylos pringlei	Pointleaf manzanita - pink-bract manzanita chaparral	S3
Arctostaphylos (purissima, rudis)	Burton Mesa chaparral	S1.2
Argentina egedii	Pacific silverweed marshes	S2
Aristida purpurea	Purple three-awn meadows	S3?

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

18 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

Alliance Scientific name	Common name	State rarity
Artemisia nova	Black sagebrush scrub	S3.2
Artemisia rothrockii	Rothrockâ€™s sagebrush	S3
Arthrocnemum subterminale	Parishâ€™s glasswort patches	S2
Atriplex parryi	Parry's saltbush scrub	S3
Baccharis emoryi - Baccharis sergiloides	Emory's and Broom baccharis scrub	S3
Betula occidentalis	Water birch thicket	S2.2
Bolboschoenus maritimus	Salt marsh bulrush marshes	S3
Bromus carinatus - Elymus glaucus	California brome - blue wildrye prairie	S3
Bursera microphylla	Elephant tree stands	S1.2
Calocedrus decurrens	Incense cedar forest	S3.2
Carex douglasii	Douglasâ€™ sedge meadows	S2?
Carex heteroneura	Different-nerve sedge patches	S3?
Carex integra	Small-fruited sedge meadows	S2?
Carex luzulina	Woodland sedge fens	S2?
Carex (pansa, praegracilis)	Sand dune sedge swaths	S3?
Carnegiea gigantea - Parkinsonia microphylla - Prosopis velutina	Saguaro - foothill palo verde - velvet mesquite desert scrub	S2.2
Castela emoryi	Crucifixion thorn stands	S1.1
Ceanothus greggii	Cup leaf ceanothus chaparral	S3
Ceanothus (oliganthus, tomentosus)	Hairy leaf - woolly leaf ceanothus chaparral	S3
Ceanothus papillosus	Wart leaf ceanothus chaparral	S3
Ceanothus verrucosus	Wart-stemmed ceanothus chaparral	S2
Centromadia (pungens)	Tar plant fields	S2
Chilopsis linearis - Psorothamnus spinosus	Desert-willow - smoketree wash woodland	S3
Chrysolepis sempervirens	Bush chinquapin chaparral	S3.3
Coreopsis gigantea	Giant coreopsis scrub	S3
Cressa truxillensis - Distichlis spicata	Alkali weed - salt grass playas and sinks	S2
Cylindropuntia bigelovii	Teddy bear cholla patches	S3
Deinandra clementina - Eriogonum giganteum	Island tar plant - Saint Catherine's lace scrub	S2
Deinandra fasciculata	Clustered tarweed fields	S2
Dicoria canescens - Abronia villosa - Panicum urvilleanum	Mojave-Sonoran desert dunes	S3.2
Diplacus aurantiacus	Bush monkeyflower scrub	S3?
Dudleya greenei - Dudleya spp. Succulent Scrub	Greene's live-forever - live-forever species succulent scrub	S1
Encelia (actonii, virginensis) - Viguiera reticulata	Acton's and Virgin River brittle brush - net-veined goldeneye scrub	S3
Encelia californica - Eriogonum cinereum	California brittle bush - Ashy buckwheat scrub	S3
Ephedra funerea	Death Valley joint fir scrub	S3
Ericameria palmeri	Palmerâ€™s goldenbush scrub	S3?

Alliance Scientific name	Common name	State rarity
Ericameria paniculata	Black-stem rabbitbrush scrub	S3
Eriodictyon crassifolium	Thick leaf yerba santa scrub	S3
Eriogonum arborescens - Eriogonum grande	Island Buckwheat scrub	S3
Eriogonum wrightii - Eriogonum heermannii - Buddleja utahensis	Wright's buckwheat - Heermann's buckwheat - Utah butterfly-bush scrub	S3
Fallugia paradoxa	Apache plume scrub	S3
Frankenia salina	Alkali heath marsh	S3
Grindelia (camporum, stricta)	Gum plant patches	S2
Gutierrezia sarothrae - Gutierrezia microcephala	Snakeweed scrub	S3
Hazardia squarrosa	Sawtooth golden bush scrub	S3
Hesperocyparis forbesii	Tecate cypress stands	S2.2
Hesperocyparis sargentii	Sargent cypress woodland	S3.2
Hesperocyparis stephensonii	Cuyamaca cypress stands	S1
Hordeum brachyantherum	Meadow barley patches	S2
Isocoma menziesii	Menzies's golden bush scrub	S3
Juglans californica	California walnut groves	S3.2
Juncus (oxymeris, xiphioides)	Iris-leaf rush seeps	S2?
Juniperus osteosperma	Utah juniper woodland	S3.2
Keckiella antirrhinoides	Bush penstemon scrub	S3
Koeberlinia spinosa	Crown-of-thorns stands	S1.1
Krascheninnikovia lanata	Winterfat scrubland	S3
Lepidospartum squamatum	Scale broom scrub	S3
Leymus cinereus - Leymus triticoides	Ashy ryegrass - creeping ryegrass turfs	S3
Leymus condensatus	Giant wild rye grassland	S3
Leymus mollis	Sea lyme grass patches	S2
Lupinus chamissonis - Ericameria ericoides	Silver dune lupine - mock heather scrub	S3
Lycium californicum	California desert-thorn scrub	S3
Menodora spinescens	Spiny menodora scrub	S3
Monolopia (lanceolata) - Coreopsis (calliopsidea)	Monolopia - leafy-stemmed tickseed fields	S3
Muhlenbergia rigens	Deer grass beds	S2?
Nolina (bigelovii, parryi)	Nolina scrub	S2.2
Opuntia littoralis - Opuntia oricola - Cylindropuntia prolifera	Coast prickly pear scrub	S3
Pinus edulis	Two-needle pinyon stands	S2?
Pinus flexilis	Limber pine woodland	S3.2
Pinus muricata - Pinus radiata	Bishop pine - Monterey pine forest	S3.2
Pinus quadrifolia	Parry pinyon woodland	S2
Pinus torreyana	Torrey pine woodland	S1.2
Platanus racemosa	California sycamore woodlands	S3

Alliance Scientific name	Common name	State rarity
Pleuraphis jamesii	James's galleta shrub-steppe	S2.2
Pleuraphis rigida	Big galleta shrub-steppe	S2.2
Pluchea sericea	Arrow weed thickets	S3.3
Poa secunda	Curly blue grass grassland	S3?
Populus fremontii	Fremont cottonwood forest	S3.2
Populus tremuloides	Aspen groves	S3.2
Populus trichocarpa	Black cottonwood forest	S3
Prosopis glandulosa - Prosopis velutina - Prosopis pubescens	Mesquite thickets	S3
Prunus fremontii	Desert apricot scrub	S3
Prunus virginiana	Choke cherry thickets	S2?
Pseudotsuga macrocarpa	Bigcone Douglas fir forest	S3.2
Purshia stansburiana	Stansbury cliff rose scrub	S3.2
Purshia tridentata	Bitter brush scrub	S3
Quercus chrysolepis (shrub)	Canyon live oak chaparral	S3
Quercus dumosa - Quercus pacifica	Coastal sage and Island scrub oak chaparral	S3
Quercus engelmannii	Engelmann oak woodland	S3
Quercus lobata	Valley oak woodland	S3
Quercus palmeri	Palmer oak chaparral	S2?
Quercus tomentella - Lyonothamnus floribundus	Island live oak - Catalina ironwood woodland	S3
Quercus turbinella	Sonoran live oak scrub	S1.3
Rhus integrifolia	Lemonade berry scrub	S3
Rhus trilobata - Crataegus rivularis - Forestiera pubescens	Basket bush - river hawthorn - desert olive patches	S3.2?
Ribes quercetorum	Oak gooseberry thickets	S2?
Rosa californica	California rose briar patches	S3
Ruppia (cirrhosa, maritima)	Ditch-grass or widgeon-grass mats	S2
Salix gooddingii	Black willow thickets	S3
Salix laevigata	Red willow thickets	S3
Salix lucida	Shining willow groves	S3.2
Salvia apiana	White sage scrub	S3
Sambucus nigra	Blue elderberry stands	S3
Sarcocornia pacifica (Salicornia depressa)	Pickleweed mats	S3
Schoenoplectus (acutus, californicus)	Hardstem and California bulrush marshes	S3
Schoenoplectus americanus	American bulrush marsh	S3.2
Selaginella bigelovii	Bushy spikemoss mats	S3
Sesuvium verrucosum	Western sea-purslane marshes	S2.2?
Simmondsia chinensis	Jojoba scrub	S3?
Spartina foliosa	California cordgrass marsh	S3.2
Sporobolus airoides - Muhlenbergia asperifolia - Spartina gracilis	Alkali sacaton - scratchgrass - alkali cordgrass alkaline wet meadow	S2

Alliance Scientific name	Common name	State rarity
Stuckenia (pectinata) - Potamogeton spp.	Pondweed mats	S3?
Suaeda moquinii	Bush seepweed scrub	S3
Tetracoccus hallii	Hallâ€™s shrubby-spurge patches	S1.1
Umbellularia californica	California bay forest	S3
Venegasia carpesioides	Canyon sunflower scrub	S3
Vitis arizonica - Vitis girdiana	Wild grape shrubland	S3
Washingtonia filifera	California fan palm oasis	S3.2
Xylococcus bicolor	Mission manzanita chaparral	S3
Yucca brevifolia	Joshua tree woodland	S3.2
Ziziphus obtusifolia	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 reliminary 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 Inventory19 maps and U.S. Geological Service (USGS) blue-line drainage data for the six-county SCAG region were reviewed for 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 were determined to be present within each of the six counties in the SCAG region (Table 8; Table 9). The analysis of federally protected wetlands and waterways in this section is based on existing data; individual projects within the SCAG region would be required to complete a formal jurisdictional delineation pursuant to USACE Corps requirements.

Table 8. Federally Protected Wetlands and Waterways Reported n the SCAG Region.

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	4, 250
Freshwater Forested/Shrub Wetland	10, 560
Freshwater Pond	1, 720

19 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)
Lake	198, 250
Other	3, 890
Riverine	12, 270
Total	**230, 940**
Los Angeles County	
Estuarine and Marine Deepwater	840
Estuarine and Marine Wetland	1, 240
Freshwater Emergent Wetland	2, 200
Freshwater Forested/Shrub Wetland	10, 790
Freshwater Pond	4, 820
Lake	18, 870
Other	760
Riverine	21, 010
Total	**60, 550**
Orange County	
Estuarine and Marine Deepwater	560
Estuarine and Marine Wetland	1, 650
Freshwater Emergent Wetland	970
Freshwater Forested/Shrub Wetland	4, 110
Freshwater Pond	1, 420
Lake	2, 320
Other	<10
Riverine	5, 450
Total	**16, 490**
Riverside County	
Freshwater Emergent Wetland	7, 690
Freshwater Forested/Shrub Wetland	13, 850
Freshwater Pond	3, 140
Lake	67, 660
Other	640
Riverine	23, 650
Total	**116, 630**
San Bernardino County	
Freshwater Emergent Wetland	4, 870
Freshwater Forested/Shrub Wetland	9, 940
Freshwater Pond	5, 920
Lake	238, 780
Other	1, 580
Riverine	99, 200
Total	**360, 290**

Wetland Type	National Wetlands Inventory (Acres)
Ventura County	
Estuarine and Marine Deepwater	880
Estuarine and Marine Wetland	2, 730
Freshwater Emergent Wetland	2, 740
Freshwater Forested/Shrub Wetland	10, 280
Freshwater Pond	940
Lake	4, 130
Other	1, 240
Riverine	8, 850
Total	**31, 780**

Source: U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: https://www.fws.gov/wetlands/data/Mapper.html, accessed January 15, 2019.

Table 9. Federally Protected Waterways under Rivers and Harbors Act Report in the SCAG Region.

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Imperial County		
Salton Sea	190, 390	—
Los Angeles County		
Castaic Lake	2, 230	—
Morris Reservoir	280	—
Puddingstone Reservoir	240	—
Pyramid Lake	1, 180	—
San Gabriel Reservoir	520	—
Los Angeles River	—	50
San Gabriel River	—	60
Santa Clara River	—	40
Orange County		
Irvine Lake	450	—
San Gabriel River	—	<10
Santa Ana River	—	30
Riverside County		
Diamond Valley Lake	4, 060	—
Lake Elsinore	3, 310	—
Lake Matthews	2, 670	—

Major River or Lake in the SCAG Region	Acres in the SCAG Region	Linear Miles in the SCAG Region
Perris Reservoir	1, 920	—
Salton Sea	42, 540	—
Skinner Reservoir	790	—
Vail Lake	260	—
Santa Ana River	—	20
Santa Margarita River	—	<10
San Bernardino County		
Big Bear Lake	2, 690	—
Lake Arrowhead	740	—
Silverwood Lake	910	—
Santa Ana River	—	40
Ventura County		
Lake Casitas	2, 450	—
Lake Piru	1, 220	—
Santa Clara River	—	40
Total	**258, 840**	**294.00**

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 providing migratory paths from the ocean to the mountains. 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.20 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.

The California Department of Transportation (Caltrans) and CDFW commissioned the California Essential Habitat Connectivity Project to assess essential habitat connectivity across the state and show, at a course scale, large areas that are important to maintaining wildlife movement and ecological

20 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.

function.21. 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 7; Table 10) 22. 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 11). 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 10. Natural Landscap Blocks by County in the SCAG Regiosn

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**

Table 11. Essential Connectivity Areas by County in the SCAG Region

	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**

21 California Department of Fish and Wildlife. 2019. BIOS Connectivity Viewer. Available online at: https://apps.wildlife.ca.gov/bios/ accessed July 8, 2019

22 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.

Figure 7. Essential Habitat Connectivity and Natural Landscape Blocks within the SCAG Region

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 this 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.

In addition to these essential cooridors, 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 (Table 12; see Figure 7).

Table 12. Potential Riparian Connections in the SCAG Region

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

Habitat Conservation Plans and Natural Community Conservation Plans

An HCP is a planning document that is 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. An 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. The HCPs and NCCPs in the SCAG region range from county, multi-county or municipality-wide natural resource planning efforts, to land-owner specific plans (Table 13). Data from CDFW and USFWS show 26 plans with durations of 16–80 years providing conservation efforts over 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 13. HCP's and NCCP'S in the Region

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
AgCon Oro Grande North Mine Pit					X	

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
Angelus Block					X	
Assessment District 161				X		
California Department of Corrections Statewide Electrified Fence Project	X	X		X	X	
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		
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.

Regional Conservation Investment Strategies/Local Conservation Plans

The Regional Conservation Investment Strategy (RCIS) Program encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting,

restoring, creating, and reconnecting their habitats23 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.

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.

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 been finalized in the region, RCIS be considered as part of the mitigation strategy for transportation projects in the region.

Local Policies and Ordinances

The SCAG region spans six counties and 191 cities, each of which has a General Plan with policies related to biological resources. The State of California General Plan Guidelines dictate that all cities and counties in the state of California are required to include conservation and open-space elements within their general plans. With the exception of Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants (Table 14).

23 Regional Conservation Investment Strategies Program. 2018. California Department of Fish and Game, Sacramento, CA. Available online at: https://www.wildlife.ca.gov/conservation/planning/regional-conservation, accessed June 28, 2019.

Table 14. County Policies and Ordinanaces Relevant to the SCAG Region

County	County Policies and Ordinances
Imperial[1]	Imperial County Code of Ordinances Chapter 12.48 Wild Flowers and Trees, Imperial County General Plan
Los Angeles[2]	Los Angeles County Oak Tree Ordinance, Los Angeles County General Plan
Orange[3]	No applicable county tree ordinances exist, Orange County General Plan
Riverside[4]	Riverside County Ordinance No. 559 Regulating the Removal of Trees, County of Riverside General Plan
San Bernardino[5]	San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, County of San Bernardino General Plan
Ventura[6]	Ventura County Tree Protection Ordinance, Ventura County General Plan

SOURCE:

[1] 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

[2] 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

[3] Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element.* P. VI-32. Available at: http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235

[4] Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element.* P. OS-40. Available at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf

[5] San Bernardino County Land Use Services. 2007. San Bernardino County General Plan: Chapter 5: Conservation Element. P. V-13. Available at: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf

[6] Ventura County Planning and Development Services. March 2015. *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

In addition to the county regulations for the six counties described above, General Plans and municipal codes of each of the 191 individual cities in the SCAG region include Conservation Elements that identify biological resources, including mature trees and locally important species that are afforded special consideration. Conservation elements of city plans and municipal codes may also include requirements for permits and mitigation in the planning process for sensitive biological resources such as listed, sensitive or candidate species, riparian or State-sensitive natural communities, wetlands or waters of the United States, and wildlife corridors and native nursery sites. Any project within the SCAG region would need to demonstrate compliance with conservation elements of applicable city and county general plans.